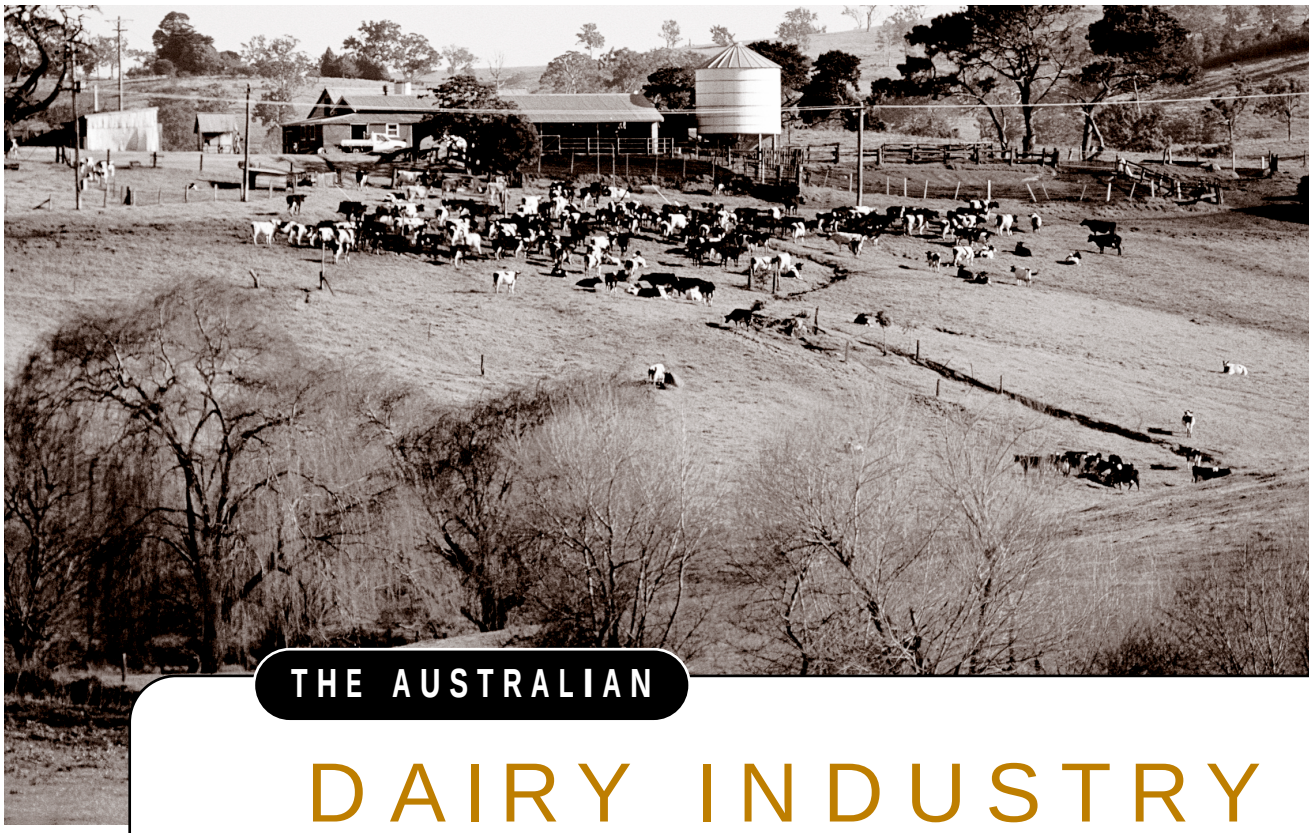

THE AUSTRALIAN

DAIRY INDUSTRY

IMPACT OF AN OPEN MARKET IN FLUID MILK SUPPLY

ABARE
Innovation in Economic Research

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State Forests of New South Wales

Uruguay XXI

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Western Australian Department of Resources Development

Woolmark Company

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ABARE Report to the
FEDERAL MINISTER FOR AGRICULTURE, FISHERIES AND FORESTRY

JANUARY 2001

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Australian Bureau of Agricultural and Resource Economics
GPO Box 1563 Canberra 2601

Telephone +61 2 6272 2000 Facsimile +61 2 6272 2001
Internet www.abareconomics.com

ABARE is a professionally independent government economic research agency.

Contents

Figures

Maps

Tables

Introduction

Significant changes to state and Commonwealth government regulations relating to the farm gate pricing and supply of milk took effect from 1 July 2000. A number of issues arising from the policy changes are assessed in this report, which was requested by the Commonwealth Minister for Agriculture, Fisheries and Forestry.

The specific terms of reference for the review were that ABARE investigate and report on:

1. The prices received by dairy producers, manufacturers and retailers pre and post deregulation.
2. The value of quota entitlements held by producers pre-deregulation and any compensation paid by state governments.
3. The amount of disbursements to state governments under the national competition policy for dairy deregulation.
4. Saving to consumers following deregulation.
5. The effect of deregulation on the dairy industries in each state.
6. The impact on the cost of production and profitability of dairy farmers.

Background

The Australian dairy industry is currently in the process of adjusting to major changes to its regulatory environment. On 30 June 2000 the state governments of Australia removed controls over the farm gate pricing and supply of fluid milk. At the same time the sunset clause was reached on the Commonwealth government's domestic market support scheme.

Before 1 July 2000 the dairy industry in Australia consisted of two sectors — the fluid milk or 'market milk' sector and the 'manufacturing milk' sector. The 'market milk' sector was further divided along state lines, although the statutory mechanisms used to set farm gate market milk prices and production quotas varied from state to state.

The regulations used by state governments resulted in substantially higher farm gate prices for market milk compared with the prices paid for nonregulated (manufacturing) milk, despite there being no fundamental difference between the two products.

In contrast the market for manufactured dairy products in Australia was (and remains) characterised by open access, with dairy products being freely traded within and between states. Up to 1 July 2000 the Commonwealth government's domestic market support scheme provided assistance to suppliers of manufacturing milk, although the scheme did not limit or constrain manufacturing milk production in any way. On a cents per litre basis, the level of assistance to farmers under the scheme was declining over time.

The removal of state government controls over the farm gate supply and pricing of milk from 1 July 2000 has introduced an open market for fluid milk in Australia. While the move to an open market in milk was widely publicised, the speed and scope of the resulting changes appear to have been further and faster than some industry stakeholders anticipated. The process of adjustment is proving challenging for many dairy farmers, particularly those in areas where a large proportion of milk production was traditionally sold to the fluid milk sector.

Impetus for change

The maintenance of price premiums for market milk depended on state governments successfully regulating access to their market milk sectors. The latter could only be guaranteed in the absence of interstate trade in fluid milk — an outcome largely achieved up to 1 July 2000 through a voluntary agreement between the dairy industries in each state. Under section 92 of the Constitution, however, actions that prevent free trade between the states are prohibited.

While the state marketing arrangements were not subjected to legal challenge, there was a significant likelihood that they would ultimately fail to withstand a legal challenge from within the industry to trade fluid milk interstate.

The pressure for making such a challenge was increasing, and may have been exacerbated by the widening gap between market and manufacturing milk prices in the late 1990s (see figure A on page 4). Moreover, Victorian dairy farmers and manufacturers, who account for the vast majority of milk produced in Australia, were committed to the reform of milk marketing arrangements in that state. It is highly unlikely that the remaining state governments could have maintained their existing milk marketing arrangements in the event that Victoria moved to an open market in fluid milk. Hence it may be appropriate to say that the changes to state government milk marketing arrangements brought forward an open market in fluid milk, and that such a change was inevitable.

Overview of report

The report begins with a review of the changes to statutory dairy marketing arrangements that took effect from 1 July 2000 and the impetus for those changes. The marketing environment of the dairy industry is then assessed in relation to three phases:

- the 'regulated market' phase,
- the current situation and
- the 'open market' phase.

Analytical approach and information sources

Information for this review is drawn from ABARE's annual survey of Australian dairy farmers — the Australian dairy industry survey (see ABARE 2000, p. 56). Data from the survey are used to examine farm performance up to 1999-2000, along with predictions of farm receipts, costs and incomes in 2000-01, the first full financial year following the move to an open market in milk.

The projections of dairy farm performance in 2000-01 are based on telephone interviews with around 180 dairy farmers across Australia conducted in mid-November 2000.

Farm gate price information was obtained directly from milk processing companies as well as from dairy farmers participating in ABARE's farm survey program. Other dairy farmers, dairy companies and stakeholders also provided ABARE with information on the impact of deregulation on their businesses and communities.

Information on retail milk prices was obtained from the Australian Bureau of Statistics and the Australian Competition and Consumer Commission. The latter are currently undertaking a major monitoring study of prices, costs and profits at all levels in the milk production chain. The results of the ACCC study are due to be published in April 2001.

Employment data from the Australian Bureau of Statistics are used to identify regions most reliant on the dairy industry. This information is combined with ABARE farm surveys data to identify regions that are likely to face the most significant reductions in dairy sector output and farm incomes following the move to an open market in milk.

State government departments of agriculture and the National Competition Council also provided important information relevant to the terms of reference of the review.

Timing issues

In assessing the current situation in the dairy industry it is important to bear in mind that only five months have passed since dairy marketing arrangements were changed.

While there have been immediate and obvious impacts — such as a decline in farm gate milk prices — the full impact of the move to an open market in fluid milk is likely to take longer to occur. In particular, key parameters such as farm numbers, milk production, and the seasonality of milk supply will continue to change over time as farmers and dairy processors adjust to the new marketing environment. At the same time, other factors are also affecting the dairy industry, not least of which is the level of the Australian dollar and world prices for dairy products.

Moreover, factors other than the most recent changes to dairy regulations will continue to have an impact on the dairy industry in the future, making it difficult to identify or quantify the impact of the move to an open market in milk in isolation.

The aim in this report is to focus on those questions and issues for which quantitative information is currently available, and to provide an assessment of the likely impact of the move to an open market in milk over the medium to longer term.

An open market in fluid milk

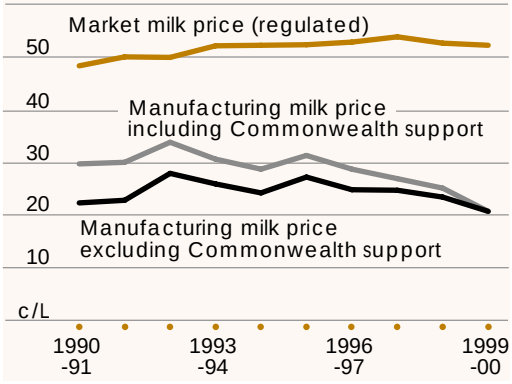
State government marketing arrangements

State government controls over the pricing and supply of milk for drinking (otherwise known as 'market milk') had been in place for twenty years or more in most states. The arrangements segregated raw milk according to end use and guaranteed eligible farmers a fixed price for regulated supplies of 'market milk'.

The guaranteed farm gate price for market milk was typically well above the average price paid for non regulated milk supplies. Figure A shows the average farm gate price paid for market (regulated) milk and the price paid for nonregulated milk supplies over the past ten years.

The changes to state government milk marketing arrangements introduced from 1 July 2000 mean that there are no longer any formal quantitative controls on the supply or price of milk sold for drinking. This is equivalent to the introduction of an open market in fluid milk products across Australia. Fluid milk prices, supplies and products are now determined by market forces, although the market is still in transition.

A Australian milk prices
In 1999-2000 dollars



Commonwealth arrangements

The Commonwealth government provided support to the farm gate price of manufacturing milk during the 1980s and 1990s. In general, the level of support on a cents per litre basis declined during the 1990s (figure A). Further, Commonwealth assistance to farm gate manufacturing milk prices was scheduled to conclude at 30 June 2000.

Under the Commonwealth's Domestic Market Support scheme, annual payments were made to dairy farmers based on their production of manufacturing milk — that is, milk ultimately used to produce dairy products such as butter, cheese and milk powders. The scheme did not control or regulate the supply of manufacturing milk; however, it certainly had an impact on the production and manufacture of milk in Australia and on the location and use of resources within the industry.

Funds for payments from the scheme were generated via a levy on milk used to produce manufactured dairy products sold on the domestic market, and a separate levy of milk used in the market milk sector. In 1999-2000, the payment to dairy farmers under the scheme was around 0.95 cents a litre of manufacturing milk.

The scheduled cessation of the scheme on 30 June 2000 ended the payments to dairy farmers for manufacturing milk, as well as the levy on domestic dairy product sales.

Dairy Industry Adjustment Package

While direct controls over the pricing and supply of milk were removed at 1 July 2000, new dairy legislation was introduced by the Commonwealth government at the same time. The new arrangements, known as the Dairy Industry Adjustment Package, comprised three programs:

- the Dairy Structural Adjustment Program,
- the Dairy Exit Program and
- the Dairy Regional Assistance Program.

The Dairy Industry Adjustment Package was developed to 'assist the dairy industry adjust from the previous State-regulated drinking milk arrangements to operating in the commercially focussed environment that became effective on 1 July 2000.' (Details of the Dairy Industry Adjustment Package are available at www.daa.gov.au, or by phoning the Dairy Adjustment Authority hotline on 1800 503 603.)

The Dairy Structural Adjustment Program provides financial assistance to eligible individuals and farm businesses in the form of fixed quarterly payments over eight years. Eligible individuals or businesses are those deemed to have had an interest in a dairy enterprise as at 6.30 pm on 28 September 1999. Payments under the program are directly related to market and manufacturing milk production in 1998-99. Funding for the payments is via a levy on sales of drinking milk products that will remain in place for approximately eight years. The levy is fixed at 11 cents a litre.

The aggregate amount of support to be paid to eligible dairy farmers under the program will be around $1.63 billion. Eligible individuals and farm businesses will receive quarterly payments under the scheme irrespective of whether or not they continue to produce milk, and irrespective of any changes to the quantity of milk they produce. New dairy farmers or dairy farmers that did not produce milk during the reference period will not receive assistance under the scheme, either now or in the future.

The regulated market phase

The distinction between the market milk sector and the manufacturing milk sector was a key feature of the Australian dairy industry before 1 July 2000. As already noted, the distinction was a consequence of state regulation and Commonwealth government support policies that affected the supply and farm gate price of milk according to the end use of the milk.

In New South Wales, Western Australia and most of Queensland the majority of dairy farm revenue was derived from milk sold for use as drinking milk. The supply of market milk in these states was managed using a system of individual farm supply entitlements (quotas). Each litre of market milk supplied by dairy farmers in these states received a fixed and administratively determined price.

The farm gate market milk price exceeded the price that dairy farmers received for nonquota milk (manufacturing milk). The latter was sold at the prevailing manufacturing milk price, which generally varied in response to movements in the prices of dairy products on world markets.

In Victoria, Tasmania and South Australia the majority of dairy farm revenue was derived from manufacturing milk sales. Milk used in manufactured products was not subject to any government production controls. In general, farm revenue in these states tended to be more variable compared with the market milk states, as a higher proportion of income from milk was derived from sales of dairy products on world markets.

However, dairy farmers in the manufacturing milk states also earned a share of the administratively determined price that consumers paid for drinking milk. This formula was based on each farmers' share of total state milk production in a particular period, and the ratio of total (state) market milk sold to total (state) milk produced in that period.

Additional information on the structure of the Australian dairy industry is contained in appendix A, along with information on recent trends in milk production and farm numbers. A comprehensive review of dairy farm technology, productivity and financial performance is contained in Martin et al. (2000).

Milk quotas

Before the introduction of an open market in milk the benefits to dairy farmers arising from the state government dairy marketing arrangements were capitalised into either land (and other dairy related capital) or milk quotas, depending on the state in which a dairy farm was located.

For example, in Victoria, South Australia, Tasmania and far north Queensland, the benefits to dairy farmers of price pooling arrangements for market milk were largely capitalised into the price of dairy land and / or the value of other dairy related capital, including dairy cattle. That is, the value of the land or other capital was higher than if there were no such arrangements.

In New South Wales, Western Australia and most of Queensland, statutory authorities controlled the annual supply of market milk through systems of individual milk production quotas. Farmers who held milk quota were required to deliver the designated quantity of quota milk on each day or for each day of a particular period, in exchange for which they received a guaranteed price per litre.

The capital value of milk quota was directly related to the extent to which producing quota milk led to higher farm profits. Given that milk quota traded at positive prices it is clear that owning quota did lead to higher farm profits compared with not owning quota — at least for owners and purchasers of quota.

The capital value of milk quota at a particular point in time reflected a number of factors, including the expected annual return from producing quota milk (which was itself influenced by the price of quota milk, the price of nonregulated milk supplies, and the costs of milk production), and the length of time that the quota scheme was expected to remain in place.

The value of quota was represented by the sum of the (additional) annual income derived from producing quota milk over time, allowing for factors such as interest rates, price expectations and risk. Changes in farmers' expectations about any of these factors would alter the market price of quota.

Quota trading

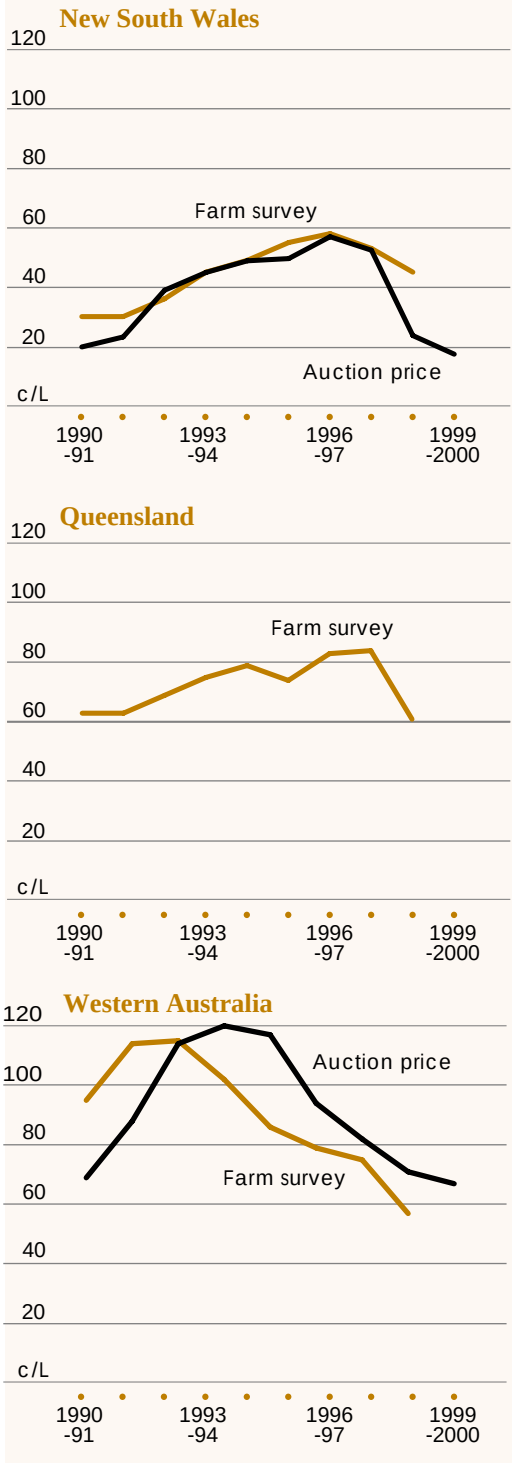
Individual milk quotas were transferable assets. In New South Wales and Western Australia the value of market milk quota was largely determined on formal markets run by the relevant state dairy authority.

In New South Wales all milk was vested in the New South Wales Dairy Corporation (now Safe Foods). The corporation issued milk quotas to farmers that were tradable through a four weekly 'quota exchange'. The dairy industry in Western Australia operated under a market milk quota system since the 1940s, and introduced a quota auction system in November 1986. Queensland had statutory entitlements in South East Queensland and non-statutory arrangements in North and Central Queensland. In south east Queensland a market milk entitlement was attached to a producer who supplied to a processor specified on their entitlement. The majority of entitlements were obtained by original allocation and expanded by the allocation of growth. Quota exchanges in Queensland were private treaty sales.

Changes in the estimated daily value of market milk quota over time are shown in figure B. The price information has been sourced from the relevant state dairy authorities (except for Queensland) and ABARE farm survey data (based on the capital value that farmers placed on their quota).

Movements in the average value of milk quota over time were similar across the three

B Average value of milk quota



states. The average value of quota increased during the mid-1990s as the differential between market and manufacturing milk prices increased — that is, as the 'market milk premium' increased.

In New South Wales the average traded price of milk quota peaked in 1996-97 at around 60 cents per litre a day, while in Queensland the average value of milk quota — based on information provided by dairy farmers — also peaked in 1996-97 at around 84 cents per litre a day. In Western Australia the average price of milk quota peaked in 1993-94 at $1.20 per litre a day.

Although the differential between market and manufacturing milk prices increased from the mid-1990s onwards, increasing speculation about the future of quota arrangements resulted in farmers heavily discounting quota prices. Farmers' expectations of quota values and the traded price of milk quota declined rapidly in the late 1990s. Clearly the industry was anticipating the collapse of fluid milk marketing arrangements.

The extent to which this reflected an expectation of pressure from interstate sources or a change in state government policy is not clear. However, the similarity of quota price movements in New South Wales and Queensland lends some support to the view that there was already pressure on fluid milk markets from outside these states.

From 1 July 2000 market milk quotas ceased to have any value.

Compensation and assistance

The issue of state government compensation to dairy farmers for reductions in the value of milk quota was raised directly in the terms of reference for this report. To date, state governments have not made payments to dairy farmers as direct or explicit compensation for the decline in the value of milk quota following the move to free trade in milk. Similarly, the governments of states using market milk pooling arrangements have not explicitly compensated dairy farmers for any reduction in the capital value of their farms arising from the cessation of statutory market milk prices.

In Western Australia the state government has announced a dairy industry adjustment package worth $27 million. The package contains a number of assistance measures, including direct grants to farmers and dairy workers, waiving of stamp duty for farmers electing to convert Dairy Structural Adjustment Payments to an up-front loan, price support to particularly disadvantaged farmers, increased advisory and counselling services, and incentives to develop dairy processing facilities.

Other state governments have also waived stamp duty relating to Dairy Structural Adjustment Payments, while some have waived producer levies in 2000-01.

The current situation

Farm gate prices

Since the introduction of an open market in milk on 1 July 2000 the average farm gate price of milk has fallen substantially in all states (table 1).

For example, in New South Wales the average farm gate price paid for milk is forecast to be around 25.4 cents a litre in 2000-01, compared with an average price of 36.0 cents per litre in 1999-2000. The decline in the average price reflects lower prices for milk used in the drinking milk sector, partly offset by higher prices for manufacturing milk.

Large decreases in the average farm gate price of milk in 2000-01 are also forecast for Western Australia and Queensland.

In Victoria the average farm gate milk price is forecast to be around 25.1 cents per litre in 2000-01, a decrease of 3.5 per cent compared with 1999-2000. Higher returns for manufactured dairy products on export and domestic markets (in Australian dollar terms) are expected to partly offset the negative impacts of the cessation of the Domestic Market Support scheme and the removal of state market milk arrangements.

1 Average farm gate milk prices, by state

	1999-2000 a	2000-01 b	Change
	c/L	c/L	%
New South Wales	36.0	25.4	–29
Victoria	26.0	25.1	–3
Queensland	39.3	30.0	–24
South Australia	28.0	24.2	–14
Western Australia	36.0	25.0	–30
Tasmania	25.9	24.0	–7

a Average farm gate milk price across participants in ABARE's 1999-2000 survey of Australian dairy farms.
b Projections based on information provided by farmers and major dairy companies in November 2000.

Milk production

Aggregate milk production is forecast to be around 1 per cent higher in 2000-01 compared with a year earlier. This compares with an increase of 6 per cent between 1998-99 and 1999-2000, and an average annual increase of around 6 per cent during the 1990s.

Milk production was higher in most states during the first three months of financial year 2000-01, except in Queensland where seasonal conditions in some dairy regions have been relatively poor.

Trends in milk production over the remainder of the year may change if significant changes occur in the aggregate number of dairy cows in milk. While anecdotal evidence suggests that the number of farms is continuing to fall, the impact on aggregate milk production in 2000-01 will be offset by any increase in production from expansions in herd size on the remaining farms.

Information on aggregate milk production is also becoming more difficult to obtain following changes in the roles and responsibilities of State dairy authorities and the Australian Dairy Corporation.

Farm numbers

Preliminary information suggests that around 110 Queensland dairy farms left the industry between July and December 2000, while in New South Wales an estimated 200 dairy farms left the industry during the same period. This compares with declines of 44 and 46 dairy farms respectively between June 1999 and June 2000 (table 2).

While further adjustment in farm numbers was likely under the old marketing arrangements (the number of dairy farms had been falling consistently in all states), the move to an open market in fluid milk probably brought forward many farmers' decisions to leave the industry. In a

2 Number of registered dairy farms

As at 30 June	New South Wales	Victoria	Queens-land	South Australia	Western Australia	Tasmania	Australia
1990	2 220	8 840	1 970	969	496	901	15 396
1991	2 056	8 687	1 948	910	494	891	14 986
1992	1 963	8 585	1 929	880	495	908	14 760
1993	1 955	8 512	1 956	890	493	818	14 624
1994	1 942	8 461	1 930	873	495	809	14 510
1995	1 911	8 379	1 746	819	479	832	14 166
1996	1 853	8 275	1 693	791	457	819	13 888
1997	1 851	8 203	1 680	768	450	801	13 753
1998	1 817	8 084	1 642	749	440	746	13 478
1999	1 771	7 926	1 589	714	423	733	13 156
2000 **p**	1 725	7 806	1 545	667	411	734	12 888

p Preliminary estimate.
Source: Australian Dairy Corporation.

recent study of dairy farmers' intentions (funded by the Dairy Research and Development Corporation) around 30 per cent of dairy farmers stated that they did not expect to be in the industry in five years time, while 20 per cent did not believe that their existing property would still be used in dairying in five years time.

In general, the operators of relatively small dairy farms were more likely to state that they would be leaving the industry, or that their properties would no longer be used in dairying (IRIS Research 2000).

Farm performance measures

ABARE field officers interviewed around 180 dairy farmers across Australia in early November 2000 and collected estimates of key physical and financial performance indicators for the year 2000-01. The same farmers had previously supplied ABARE with data relating to the physical and financial performance of their farms in the year 1999-2000.

Tables 3 and 4 contain preliminary estimates of dairy farm performance measures in 1999-2000, as well as forecasts for 2000-01. The results are based on the group of farms that participated in the telephone survey conducted by ABARE in November 2000. While the information in the tables is based on the best information currently available, both the preliminary survey estimates and the projections for 2000-01 will be revised over time as new information comes to hand.

Results are provided for each state, and for the following regions in New South Wales and Victoria:

New South Wales
11 Northern
12 Central and Southern
13 Riverina

Victoria
21 Western South
22 Goulburn–Murray
23 Gippsland
24 Balance of Victoria

The regional boundaries are shown in map 1.

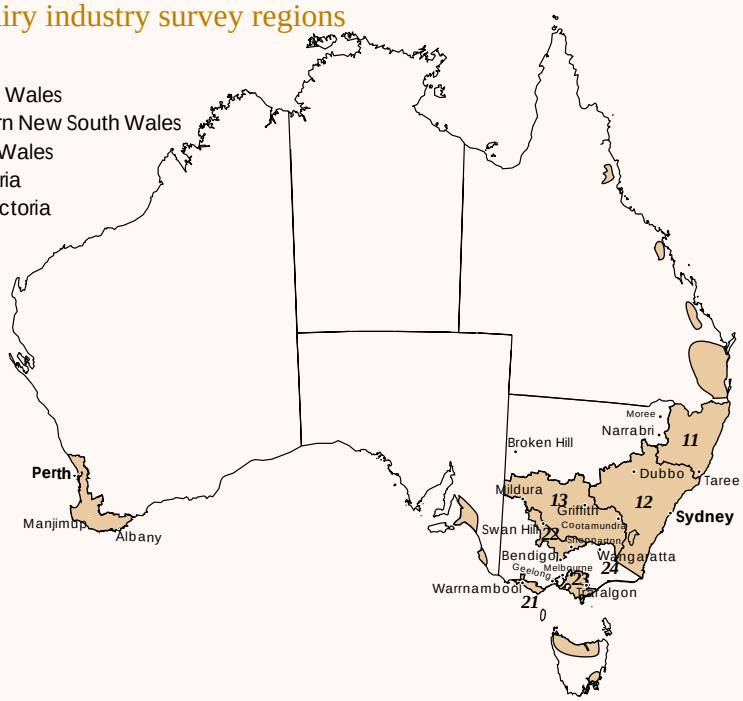
Milk production

While aggregate milk production is forecast to increase marginally this financial year, the majority of dairy farmers that took part in ABARE's telephone survey indicated that they would increase milk production considerably in 2000-01. Excellent seasonal conditions in most regions are contributing to the expected increase in milk production per farm, along with an expansion in the average size of dairy herds.

In Victoria, milk production per farm is forecast to increase by around 6 per cent, on average, in 2000-01. In New South Wales, milk production per farm is forecast to be 9 per cent higher, on average, in 2000-01,

1 Australian dairy industry survey regions

11 Northern New South Wales
12 Central and Southern New South Wales
13 Riverina New South Wales
21 Western South Victoria
22 Goulburn–Murray Victoria
23 Gippsland
24 Balance of Victoria



despite the substantial reduction in the average price of milk at the farm gate. The increase in milk production reflects a continuing trend in the industry for farms to produce greater output per unit of labor input, and at a lower average cost. The absence of quota constraints also brings with it an opportunity for farmers in some states to alter their seasonal pattern of production, which may also lead to an increase in aggregate milk production per farm.

Receipts

In New South Wales, Queensland, Western Australia and South Australia, the reductions in farm gate milk prices in 2000-01 mentioned earlier are expected to more than offset increases in milk production, leading to reductions in gross milk receipts per farm.

In Victoria, higher milk production in 2000-01 is expected to more than offset the impact of lower prices, leading to a modest increase in gross milk receipts. In Tasmania, average milk receipts per farm are forecast to be slightly lower in 2000-01 as a result of lower prices for market milk.

Costs

Total cash costs in 2000-01 are forecast to be largely unchanged, on average, in most states, despite expected increases in production and the prices of some inputs. Dairy farmers in Queensland are forecast to have lower cash costs in 2000-01, largely on the basis of a substantial reduction in milk levies. On a per unit of milk basis, the farmers surveyed by ABARE in November were expecting a decline in costs in 2000-01 compared with last year.

On average, dairy farmers in New South Wales, Queensland and Western Australia are expecting to record greater reductions in unit costs of production this year compared with farmers in Victoria and Tasmania. The key areas where costs in the former states are expected to fall include milk levies and freight, other variable dairy costs (fuel and oil, repairs), and dairy overhead costs (hired labor, imputed labor, land and administration costs).

3 Selected estimates for common sample dairy farms
Average per farm

		New South Wales				Victoria			
		1999-2000 p		2000-01 s		1999-2000 p		2000-01 s	
Total milk produced	L	689 763	(7)	751 745	(8)	868 137	(8)	928 326	(8)
Proportion of farms reporting an expected increase in milk production in 2000-01	%			59.2	(14)	0		55.6	(12)
Receipts									
Milk gross receipts	$	244 488	(7)	191 866	(9)	226 322	(8)	234 472	(8)
Beef cattle	$	4 627	(36)	3 390	(36)	4 333	(28)	4 421	(31)
Dairy cattle	$	15 351	(9)	22 331	(14)	16 445	(7)	22 372	(15)
Off-farm contracts	$	2 376	(49)	2 522	(63)	612	(45)	573	(40)
Total crop, incl. fodder and hay	$	2 987	(70)	684	(60)	518	(98)	695	(100)
Total cash receipts, excl. DSAP payments	$	274 825	(6)	225 926	(8)	255 233	(7)	270 090	(7)
Dairy cattle purchases	$	3 432	(42)	3 995	(31)	3 285	(34)	4 684	(43)
Total cash costs	$	192 883	(7)	188 662	(8)	198 085	(7)	212 301	(7)
Farm cash income excl. DSAP payments	$	81 942	(9)	37 264	(21)	57 148	(18)	57 789	(19)
plus buildup in trading stocks	$	7 485	(37)	3 479	(6)	8 546	(24)	6 237	(4)
less depreciation	$	20 725	(8)	21 347	(8)	20 574	(9)	21 190	(9)
less operator and family labor	$	49 088	(5)	49 930	(5)	43 831	(6)	44 957	(6)
Farm business profit excl. DSAP payments	$	19 614	(36)	–30 533	(26)	1 290	(743)	–2 123	(426)
Profit at full equity excl. DSAP payments	$	43 613	(16)	–9 449	(85)	27 060	(32)	24 519	(34)
Estimated annual payments from the DSAP (based on 1998-99 production levels)	$	0		20 319	(7)	0		12 338	(5)
Costs of production (average per litre sold)									
Herd costs	c/L	1.1	(8)	1.1	(9)	1.2	(8)	1.2	(8)
Feed costs	c/L	8.9	(5)	8.4	(7)	7.5	(6)	7.5	(7)
Shed costs	c/L	1.4	(6)	1.2	(7)	1	(8)	1	(7)
Milk levies and freight	c/L	3.6	(3)	2.8	(3)	3.1	(1)	2.9	(1)
Other variable dairy costs	c/L	3	(12)	2.2	(7)	2.5	(12)	1.8	(7)
Dairy overhead costs **a**	c/L	4.8	(7)	4.2	(7)	3.4	(7)	3.2	(8)
Dairy cattle purchases **b**	c/L	0.5	(39)	0.5	(29)	0.4	(33)	0.5	(42)
Total cost of production **c**	c/L	23.4	(3)	20.2	(4)	18.8	(4)	17.7	(4)
Sample	no.	65		65		70		70	

Continued

3 Selected estimates for common sample dairy farms *continued*
Average per farm

		Queensland				South Australia			
		1999-2000 p		2000-01 s		1999-2000 p		2000-01 s	
Total milk produced	L	492 482	(9)	490 356	(10)	1 042 990	(12)	1 103 247	(13)
Proportion of farms reporting an expected increase in milk production in 2000-01	%			23.2	(37)			7.4	(13)
Receipts									
Milk gross receipts	$	192 573	(10)	148 829	(9)	294 104	(13)	270 565	(13)
Beef cattle	$	11 014	(39)	11 265	(45)	7 420	(45)	5 109	(34)
Dairy cattle	$	10 954	(13)	11 350	(14)	24 156	(18)	29 162	(22)
Off-farm contracts	$	413	(79)	145	(59)	2 924	(86)	537	(74)
Total crop, incl. fodder and hay	$	2 254	(46)	601	(71)	3 674	(51)	2 290	(77)
Total cash receipts, excl. DSAP payments	$	228 899	(7)	184 449	(6)	348 504	(12)	326 202	(11)
Dairy cattle purchases	$	2 447	(38)	2 840	(62)	5 158	(35)	4 733	(66)
Total cash costs	$	148 549	(8)	136 932	(9)	273 182	(14)	268 687	(15)
Farm cash income excl. DSAP payments	$	80 350	(13)	47 517	(14)	75 322	(14)	57 515	(23)
plus buildup in trading stocks	$	7 852	(38)	1 943	(15)	16 850	(30)	4 436	(7)
less depreciation	$	19 041	(12)	19 612	(12)	25 242	(12)	26 000	(12)
less operator and family labor	$	58 316	(5)	61 747	(6)	51 229	(8)	51 712	(8)
Farm business profit excl. DSAP payments	$	10 845	(92)	–31 899	(25)	15 700	(83)	–15 760	(92)
Profit at full equity excl. DSAP payments	$	24 767	(40)	–20 887	(37)	44 493	(34)	11 996	(114)
Estimated annual payments from the DSAP (based on 1998-99 production levels)	$	0		15 869	(11)	0		18 165	(10)
Costs of production (average per litre sold)									
Herd costs	c/L	1.1	(9)	1.2	(9)	1.3	(10)	1.3	(10)
Feed costs	c/L	10.5	(11)	10.5	(10)	9.2	(7)	8.7	(7)
Shed costs	c/L	1.3	(8)	1.3	(8)	1.2	(7)	1.1	(7)
Milk levies and freight	c/L	3.5	(4)	2	(3)	1.4	(14)	0.9	(26)
Other variable dairy costs	c/L	3	(11)	3.2	(11)	3.8	(15)	2.2	(12)
Dairy overhead costs **a**	c/L	4.4	(11)	4.3	(13)	4.1	(8)	3.8	(11)
Dairy cattle purchases **b**	c/L	0.5	(38)	0.6	(58)	0.5	(33)	0.4	(56)
Total cost of production **c**	c/L	24.3	(6)	22.7	(7)	21.3	(4)	18.1	(6)
Sample	no.	34		34		36		36	

Continued

3 Selected estimates for common sample dairy farms *continued*

Average per farm

		Western Australia				Tasmania			
		1999-2000 p		2000-01 s		1999-2000 p		2000-01 s	
Total milk produced	L	983 977	(13)	1 119 348	(20)	804 052	(8)	850 354	(8)
Proportion of farms reporting an expected increase in milk production in 2000-01	%			30.6	(35)			69.9	(19)
Receipts									
Milk gross receipts	$	350 575	(11)	263 963	(21)	208 779	(8)	199 829	(8)
Beef cattle	$	65 002	(44)	69 029	(48)	16 241	(35)	10 570	(36)
Dairy cattle	$	25 324	(15)	27 483	(17)	22 312	(15)	21 127	(12)
Off-farm contracts	$	787	(51)	1 327	(71)	14 119	(80)	13 664	(82)
Total crop, incl. fodder and hay	$	2 257	(64)	0		41 977	(58)	42 171	(58)
Total cash receipts, excl. DSAP payments	$	450 404	(12)	368 148	(20)	316 660	(13)	301 990	(14)
Dairy cattle purchases	$	4 644	(69)	6 587	(56)	1 855	(72)	5 136	(84)
Total cash costs	$	323 218	(13)	312 325	(15)	225 502	(11)	233 803	(12)
Farm cash income excl. DSAP payments	$	127 185	(22)	55 823	(73)	91 158	(21)	68 187	(26)
plus buildup in trading stocks	$	13 553	(43)	4 768	(43)	–3 826	(111)	1 927	(11)
less depreciation	$	41 503	(10)	42 748	(10)	22 240	(15)	22 907	(15)
less operator and family labor	$	48 500	(5)	49 164	(5)	44 834	(7)	46 090	(6)
Farm business profit excl. DSAP payments	$	50 735	(48)	–31 321	(126)	20 257	(78)	1 117	(127)
Profit at full equity excl. DSAP payments	$	91 444	(26)	–6 006	(694)	45 474	(39)	25 313	(63)
Estimated annual payments from the DSAP (based on 1998-99 production levels)	$	0		30 926	(9)	0		8 947	(8)
Costs of production (average per litre sold)									
Herd costs	c/L	1.4	(8)	1.3	(17)	1.6	(16)	1.4	(14)
Feed costs	c/L	10	(8)	9.3	(14)	6.3	(10)	6	(11)
Shed costs	c/L	1.4	(15)	1.2	(23)	1.3	(11)	1.2	(11)
Milk levies and freight	c/L	3.1	(2)	2.4	(9)	3.8	(3)	3.8	(4)
Other variable dairy costs	c/L	3	(10)	2.6	(19)	2.9	(16)	2.1	(13)
Dairy overhead costs **a**	c/L	5	(11)	4.3	(17)	3.7	(10)	3.7	(9)
Dairy cattle purchases **b**	c/L	0.5	(68)	0.6	(45)	0.2	(74)	0.6	(81)
Total cost of production **c**	c/L	25.2	(4)	21.3	(11)	19.7	(4)	18.1	(5)
Sample	no.	25		25		27		27	

a Measure of overhead costs excludes depreciation, imputed value of family labor and interest. **b** Not part of the cost of production measure. **c** Measure of cost of production excludes depreciation, imputed value of family labour and interest. **p** Preliminary estimate. **s** Provisional estimate based on a phone survey carried out in October 2000. **DSAP** Dairy Structural Adjustment Program.

Note: Figures in parentheses are relative standard errors that are expressed as percentages of the estimates.

4 Selected estimates for common sample dairy farms, by ABARE region

Average per farm

		Region 11				Region 12			
		1999-2000 p		2000-01 s		1999-2000 p		2000-01 s	
Total milk produced	L	466 486	(17)	518 177	(20)	769 010	(10)	823 230	(11)
Proportion of farms reporting an expected increase in milk production in 2000-01	%	0		53.7	(30)	0		56	(20)
Receipts									
Milk gross receipts	$	169 698	(16)	130 601	(22)	276 027	(9)	213 158	(11)
Beef cattle	$	1 323	(68)	4 061	(63)	6 353	(52)	3 369	(39)
Dairy cattle	$	10 242	(14)	11 478	(14)	15 447	(12)	30 139	(21)
Off-farm contracts	$	0		528	(86)	1 812	(51)	1 750	(53)
Total crop, incl. fodder and hay	$	6 911	(76)	175	(118)	516	(79)	1 316	(66)
Total cash receipts, excl. DSAP payments	$	189 921	(14)	149 027	(19)	305 594	(9)	255 596	(11)
Dairy cattle purchases		2 716	(105)	1 764	(68)	3 455	(48)	4 736	(44)
Total cash costs	$	146 591	(16)	138 295	(16)	196 037	(11)	192 311	(12)
Farm cash income excl. DSAP payments	$	43 330	(28)	10 731	(152)	109 557	(10)	63 286	(14)
plus buildup in trading stocks	$	2 547	(189)	3 036	(11)	12 209	(16)	3 562	(9)
less depreciation	$	15 677	(14)	16 147	(14)	22 253	(13)	22 920	(13)
less operator and family labor	$	45 834	(9)	46 764	(9)	49 816	(6)	50 291	(7)
Farm business profit excl. DSAP payments	$	–15 634	(77)	–49 143	(35)	49 698	(20)	–6 364	(115)
Profit at full equity excl. DSAP payments	$	3 467	(354)	–34 015	(50)	75 077	(13)	16 658	(47)
Estimated annual payments from the DSAP (based on 1998-99 production levels)	$	0		14 577	(16)	0		23 657	(9)
Costs of production (average per litre sold)									
Herd costs	c/L	1.4	(13)	1.3	(17)	0.8	(13)	0.8	(14)
Feed costs	c/L	10.9	(13)	10.1	(18)	8.2	(4)	7.6	(5)
Shed costs	c/L	1.3	(12)	1.1	(13)	1.5	(9)	1.4	(10)
Milk levies and freight	c/L	3.9	(6)	3.1	(5)	3	(4)	2.2	(4)
Other variable dairy costs	c/L	3.7	(24)	2.5	(14)	2.6	(16)	2	(10)
Dairy overhead costs **a**	c/L	4	(13)	3.2	(11)	5.4	(8)	4.9	(9)
Dairy cattle purchases **b**	c/L	0.6	(98)	0.3	(62)	0.4	(44)	0.6	(40)
Total cost of production **c**	c/L	26.0	(8)	21.4	(10)	22.1	(3)	19.3	(4)
Sample	no.	15		15		36		36	

Continued

4 Selected estimates for common sample dairy farms, by ABARE region *continued*

Average per farm

		Region 13				Region 21			
		1999-2000 p		2000-01 s		1999-2000 p		2000-01 s	
Total milk produced	L	1 070 325	(12)	1 189 046	(13)	743 919	(4)	767 110	(3)
Proportion of farms reporting an expected increase in milk production in 2000-01	%	0		86.3	(4)	0		36.5	(50)
Receipts									
Milk gross receipts	$	354 811	(11)	297 844	(13)	198 318	(4)	205 989	(5)
Beef cattle	$	8 354	(44)	1 499	(107)	12 137	(41)	8 309	(54)
Dairy cattle	$	29 958	(21)	27 240	(14)	16 605	(17)	17 142	(15)
Off-farm contracts	$	11 256	(70)	11 006	(101)	424	(96)	882	(82)
Total crop, incl. fodder and hay	$	0		0		0		0	
Total cash receipts, excl. DSAP payments	$	417 358	(11)	348 834	(13)	229 886	(5)	234 820	(5)
Dairy cattle purchases		5 445	(56)	7 970	(60)	5 150	(51)	3 452	(56)
Total cash costs	$	317 381	(12)	323 373	(14)	180 172	(6)	188 085	(5)
Farm cash income excl. DSAP payments	$	99 977	(21)	25 461	(65)	49 714	(20)	46 736	(25)
plus buildup in trading stocks	$	5 695	(230)	4 489	(9)	6 321	(60)	5 637	(4)
less depreciation	$	30 234	(15)	31 141	(15)	19 718	(10)	20 310	(10)
less operator and family labor	$	56 099	(16)	57 943	(16)	39 042	(14)	40 130	(15)
Farm business profit excl. DSAP payments	$	19 339	(90)	–59 135	(26)	–2 725	(410)	–8 067	(181)
Profit at full equity excl. DSAP payments	$	52 918	(31)	–27 294	(57)	20 591	(43)	14 666	(75)
Estimated annual payments from the DSAP (based on 1998-99 production levels)	$	0		25 637	(13)	0		10 042	(6)
Costs of production (average per litre sold)									
Herd costs	c/L	1.6	(13)	1.5	(13)	1	(10)	1	(10)
Feed costs	c/L	8.3	(10)	8.1	(9)	7.3	(9)	8	(9)
Shed costs	c/L	1.3	(10)	1.1	(11)	0.9	(10)	0.9	(10)
Milk levies and freight	c/L	4.4	(7)	3.8	(8)	3.1	(2)	2.9	(1)
Other variable dairy costs	c/L	3.4	(28)	2.4	(13)	2.6	(9)	1.8	(11)
Dairy overhead costs **a**	c/L	4.4	(17)	3.8	(16)	4.1	(9)	3.9	(10)
Dairy cattle purchases **b**	c/L	0.5	(57)	0.7	(56)	0.7	(51)	0.4	(56)
Total cost of production **c**	c/L	23.5	(6)	20.7	(5)	19.1	(4)	18.5	(6)
Sample	no.	14		14		13		13	

Continued

4 Selected estimates for common sample dairy farms, by ABARE region *continued*

Average per farm

		Region 22				Region 23			
		1999-2000 p		2000-01 s		1999-2000 p		2000-01 s	
Total milk produced	L	978 100	(19)	1 068 873	(19)	795 514	(12)	839 438	(12)
Proportion of farms reporting an expected increase in milk production in 2000-01	%	0		69.4	(17)	0		34.6	(36)
Receipts									
Milk gross receipts	$	257 131	(18)	264 945	(19)	210 061	(11)	211 977	(12)
Beef cattle	$	3 131	(56)	3 692	(57)	3 568	(67)	5 904	(56)
Dairy cattle	$	14 884	(8)	18 086	(9)	16 070	(16)	18 090	(19)
Off-farm contracts	$	105	(105)	86	(127)	1 786	(57)	1 077	(60)
Total crop, incl. fodder and hay	$	0		0		314	(104)	381	(104)
Total cash receipts, excl. DSAP payments	$	283 015	(17)	294 891	(17)	236 258	(10)	241 195	(12)
Dairy cattle purchases		4 156	(56)	4 547	(57)	3 112	(79)	7 775	(88)
Total cash costs	$	234 413	(14)	250 186	(14)	168 483	(7)	196 570	(11)
Farm cash income excl. DSAP payments	$	48 602	(48)	44 706	(51)	67 775	(33)	44 626	(52)
plus buildup in trading stocks	$	14 582	(30)	6 784	(6)	8 240	(49)	5 748	(12)
less depreciation	$	19 994	(16)	20 594	(16)	18 209	(11)	18 751	(11)
less operator and family labor	$	42 580	(10)	42 848	(10)	45 746	(15)	47 399	(16)
Farm business profit excl. DSAP payments	$	609	(3589)	–11 952	(163)	12 060	(137)	–15 776	(110)
Profit at full equity excl. DSAP payments	$	28 486	(73)	14 854	(125)	29 977	(51)	8 277	(201)
Estimated annual payments from the DSAP (based on 1998-99 production levels)	$	0		14 481	(9)	0		11 345	(11)
Costs of production (average per litre sold)									
Herd costs	c/L	1.3	(17)	1.3	(17)	1.3	(13)	1.3	(13)
Feed costs	c/L	8.8	(11)	8.8	(12)	5.2	(8)	5.8	(9)
Shed costs	c/L	1.2	(13)	1.1	(13)	1	(22)	0.8	(17)
Milk levies and freight	c/L	3.1	(1)	2.9	(1)	3	(5)	2.9	(5)
Other variable dairy costs	c/L	2.2	(21)	1.7	(14)	3.8	(24)	2.3	(13)
Dairy overhead costs **a**	c/L	3.2	(14)	2.9	(15)	3.7	(17)	3.9	(19)
Dairy cattle purchases **b**	c/L	0.4	(55)	0.4	(56)	0.4	(79)	0.9	(85)
Total cost of production **c**	c/L	20.2	(9)	19.0	(9)	18.2	(9)	17.1	(8)
Sample	no.	24		24		17		17	

Continued

4 Selected estimates for common sample dairy farms, by ABARE region *continued*

Average per farm

		Region 24			
		1999-2000 p		2000-01 s	
Total milk produced	L	878 911	(9)	939 717	(8)
Proportion of farms reporting an expected increase in milk production in 2000-01	%	0		72.1	(13)
Receipts					
Milk gross receipts	$	219 973	(9)	235 597	(9)
Beef cattle	$	1 118	(99)	1 020	(80)
Dairy cattle	$	18 972	(12)	36 952	(37)
Off-farm contracts	$	230	(112)	508	(79)
Total crop, incl. fodder and hay	$	1 864	(114)	2 541	(114)
Total cash receipts, excl. DSAP payments	$	254 171	(9)	291 191	(8)
Dairy cattle purchases		841	(63)	2 501	(87)
Total cash costs	$	190 555	(12)	192 420	(12)
Farm cash income excl. DSAP payments	$	63 616	(19)	98 770	(18)
plus buildup in trading stocks	$	1 832	(168)	6 411	(8)
less depreciation	$	24 557	(23)	25 294	(23)
less operator and family labor	$	47 123	(10)	48 955	(10)
Farm business profit excl. DSAP payments	$	–6 231	(271)	30 933	(49)
Profit at full equity excl. DSAP payments	$	26 676	(49)	62 977	(21)
Estimated annual payments from the DSAP (based on 1998-99 production levels)	$	0		12 007	(11)
Costs of production (average per litre sold)					
Herd costs	c/L	1.1	(9)	1.1	(11)
Feed costs	c/L	7.7	(10)	6.9	(13)
Shed costs	c/L	0.9	(10)	0.8	(11)
Milk levies and freight	c/L	3.1	(2)	2.9	(2)
Other variable dairy costs	c/L	1.6	(14)	1.6	(15)
Dairy overhead costs **a**	c/L	2.9	(12)	2.4	(14)
Dairy cattle purchases **b**	c/L	0.1	(65)	0.3	(87)
Total cost of production **c**	c/L	17.3	(5)	15.8	(7)
Sample	no.	16		16	

a Measure of overhead costs excludes depreciation, imputed value of family labour and interest. **b** Not part of the cost of production measure. **c** Measure of cost of production excludes depreciation, imputed value of family labour and interest. **p** Preliminary estimate. **s** Provisional estimate based on a phone survey carried out in October 2000. **DSAP** Dairy Structural Adjustment Program.

Note: Figures in parentheses are relative standard errors that are expressed as percentages of the estimates.

In assessing changes in farm costs in 2000-01 it is important to note that variable production costs in the period from July to October 2000 would be substantially determined by the number of dairy cows entering production. The latter would itself reflect dairy cow matings in the September–December period of 1999.

Unless producers made the decision in late 1999 to reduce production from 1 July 2000 and, therefore, reduced dairy cow matings or sold part of their dairy herd, the reduction in variable production costs in the first half of 2000-01 would likely be small. Many producers are likely to have waited to observe post-regulation prices before beginning to adjust their milk production. The full impact on production costs of the move to an open market in fluid milk will not be seen until after these adjustments are made.

Levels of new investment were high on Australian dairy farms over most of the past decade and may assist the industry to sustain production for the next few years as adjustment takes place following deregulation.

The removal of milk production quotas in New South Wales, Queensland and Western Australia may lead to a further reduction in unit costs in these states over time, other things being equal. Quota constraints generally resulted in farmers having a gap between when fodder was available and when it was needed. This gap was typically made up for with purchased grain and fodder, often leading to higher average costs of production.

The combination of income pressure resulting from lower farm gate prices and the freedom to choose the timing and manner of production is likely to allow at least some producers to reduce their costs. This is particularly the case for feed costs (purchased and self produced) and dairy overhead costs — two areas where dairy farmers in the nonquota states have generally outperformed those in the quota states.

Incomes

Reductions in dairy farm incomes in 2000-01 are expected to be consistent with changes in the average farm gate price of milk. Thus, the largest reductions in dairy farm incomes are expected in New South Wales, Queensland and Western Australia, followed by South Australia, Tasmania and Victoria.

Assistance to dairy farmers under the Commonwealth governments' Dairy Structural Adjustment Program (DSAP) will partly offset the impact of lower farm gate prices in 2000-01. Estimated average payments to eligible dairy farms in each state are also shown in tables 3 and 4.

Dairy farmers in New South Wales are expected to receive DSAP payments of around $20 320 per farm, on average, in 2000-01, made up of four quarterly payments of $5080 per farm. Over the next eight years this represents a total of $162 600 per farm.

It is important to note, however, that the payments will differ significantly from farm to farm as they are directly related to each eligible farm's production of market and manufacturing milk in 1998-99. Also, the payments are divided between partners, sharefarmers, lessees and lessors such that the aggregate payments shown in the tables may not necessarily accrue to the current operators of a farm.

Over time, the importance of DSAP payments to the overall financial position of dairy farmers will decline as current dairy farmers retire or sell their properties, and as new dairy farms enter the industry. In these circumstances, a smaller and smaller share of aggregate annual DSAP payments will accrue to active dairy farmers.

In summary, the combined impact on dairy farm incomes of the recent changes in state and Commonwealth government policies will vary from farm to farm and state to state. Ultimately, the impact will depend on the extent to which an individual farm's average farm gate milk price has fallen, and the size of their DSAP payment. For the majority of dairy farmers in Victoria and Tasmania, the sum of farm cash income and their DSAP payments in 2000-01 is likely to exceed their average farm cash income in 1999-2000.

In New South Wales, Queensland and Western Australia, the forecast reduction in average farm cash income in 2000-01 is likely to exceed the average DSAP payment. Some dairy farmers in these states may still be better off in 2000-01, however, as their DSAP

payment is expected to more than offset the reduction in farm income from milk.

The move to an open market in milk is still at a very early stage, however, and the responses made by dairy farmers (and milk processors) to the new marketing environment are likely to be far from complete. Further time is required before a more detailed assessment can be made of the full impact of the recent policy changes on dairy farmers.

Impact of an open market on retail milk prices

The move to an open market in milk is having an impact on both retail milk prices and products. Nonbranded products and supermarket brands are becoming more prevalent and are competing strongly for market share. This is pushing the price of branded milk products down.

Preliminary information about retail milk prices suggests that the average spot price of a one litre carton of milk was slightly lower during the first five months following the move to a free market in milk compared with the average spot price during the six months to 30 June 2000 (table 5). The exceptions to this trend are the Australian Capital Territory and the Northern Territory, which both rely heavily on importing milk from interstate.

Anecdotal evidence suggests that price discounting among other milk package sizes has also occurred since 1 July 2000. For example, 2 litre packages of milk were selling in some supermarkets for around $2 each during November 2000, while 3 litre packages were selling for around $2.90. These prices, if they persist, would imply a significant reduction in the average retail price of milk since the introduction of an open market.

Savings to consumers

The potential benefits to consumers of an open market in milk will come in two forms:

5 Retail 'spot' prices of a one litre carton of full cream milk

	January – June 2000	July – November 2000	Change
	$/L	$/L	%
Australian Capital Territory	1.22	1.25	2.4
New South Wales	1.32	1.29	–2.4
Northern Territory	1.46	1.54	5.8
Queensland	1.35	1.32	–2.1
South Australia	1.37	1.31	–4.8
Tasmania	1.33	1.29	–3.5
Victoria	1.48	1.41	–4.7
Western Australia	1.41	1.39	–1.9

Source: Australian Competition and Consumer Commission – based on a survey of (mostly) branded products.

a reduction in the retail price of fluid milk products; and a possible increase in the range and variety of products available.

As discussed above, many retail prices for fluid milk products have fallen since 30 June 2000 and consumers have benefited as a result. However, at this stage it is difficult to estimate the exact size of the aggregate gain to consumers from an open market in milk. The monitoring exercise currently being undertaken by the Australian Competition and Consumer Commission should provide more precise information on average retail prices for milk. This information could ultimately be combined with aggregate milk consumption data to estimate the total gain to consumers from an open market.

While per person consumption of fluid milk does not very greatly from year to year, anecdotal evidence suggests that the decline in retail prices may well have resulted in an increase in milk consumption. Further information on aggregate milk consumption in the post-deregulation period is required before this observation can be accurately tested. Similarly, the full impact of an open market in milk on the variety and price of fluid milk products available to consumers may not be seen for some time yet.

The open market phase

Farm gate prices

Over the medium to longer term there may be further changes to farm gate milk prices arising from the transition to an open market in fluid milk. Assuming that there is competition in the market for dairy products, returns in the fluid milk sector will tend to equate with returns for other dairy products.

As long as Australia remains a major exporter of dairy products, returns in the fluid milk sector will ultimately be strongly related to returns for Australian dairy products on world markets. In this case it is unlikely that manufacturers would be in a position to pay any more for the raw milk used in the fluid milk sector compared with the price paid for milk used to produce other dairy products. This is particularly the case in Victoria, Tasmania, South Australia and southern New South Wales where the fluid milk sector is currently (and is expected to remain) a relatively small proportion of total milk supply.

In other dairy farming regions it is possible that the move to an open market in fluid milk will ultimately result in a reduction in total milk production to the point where only the fluid milk sector is supplied, particularly at certain times of the year. In this case it is possible that farm gate prices for raw milk could remain above export parity prices, although the differences would be constrained by transport cost differentials between the region in question and the nearest region producing significant quantities of manufactured dairy products.

If dairy farmers in New South Wales, Western Australia and Queensland continue to produce significant quantities of manufacturing milk, however, the prospect of farm gate prices being significantly above export parity is unlikely.

Retail prices

Assuming that the retail market for fluid milk products is competitive, any further reductions in farm gate milk prices are likely to be passed on to consumers. It is important to note, however, that retail milk prices may be more variable in an open market as returns for fluid milk products become more closely aligned with returns on export markets.

The consumer levy introduced under the Dairy Industry Adjustment Package is due to be removed in 2008. This should lead to a fall in retail prices at that time consistent with the size of the levy (11 cents a litre).

Savings to consumers

In the short term, retail milk prices are likely to continue to fluctuate as buyers and sellers adjust to the new marketing environment. Ultimately, however, the move to an open market in milk should lead to consumers paying less for milk compared with the regulated market, although the adjustment package levy will offset the impact of lower farm gate prices over the duration of the scheme.

Local and regional impacts

A major effect of the state government market milk arrangements and the Commonwealth governments' domestic market support scheme was to transfer income from consumers of dairy products to dairy farmers. The transfers contributed directly to the incomes of dairy farmers, and therefore to the local and regional economies in which they operated.

The move to an open market in milk from 1 July 2000 has resulted in a reduction in the size of these transfers. Based on information currently available, the reduction in aggregate transfers to dairy farmers for the year

2000-01 as a whole is estimated to be $170 million. This represents the combined or net effect of reduced market milk premiums, cessation of the market support scheme, and the introduction of DSAP payments. It is consistent with a decline of approximately 6 per cent in the gross value of milk production in Australia.

The extent to which regional or local economies are affected by the move to an open market in milk will depend on a number of factors, including:

- the aggregate reduction in dairy farm incomes in a region; and
- the overall dependence of the regional economy on the dairy industry.

The net impact on regional or local communities of the move to an open market in milk will reflect the joint impact of these factors. For example, high on-farm adjustment costs may have a relatively small overall impact on a regional economy if the region has only a relatively small number of dairy farms. Alternatively, moderate on-farm adjustment costs in a region dominated by dairy farms may have a significant impact on the local economy.

A proxy for the likely decline in the incomes of dairy farmers following the move to an open market is the ratio of market milk production to total milk production in the region prior to 1 July 2000. This ratio indicates the extent to which farmers in the region relied on market milk premiums to derive their income. The higher this ratio the greater the likely reduction in net consumer transfers from 1 July and the greater the likely adjustment pressures.

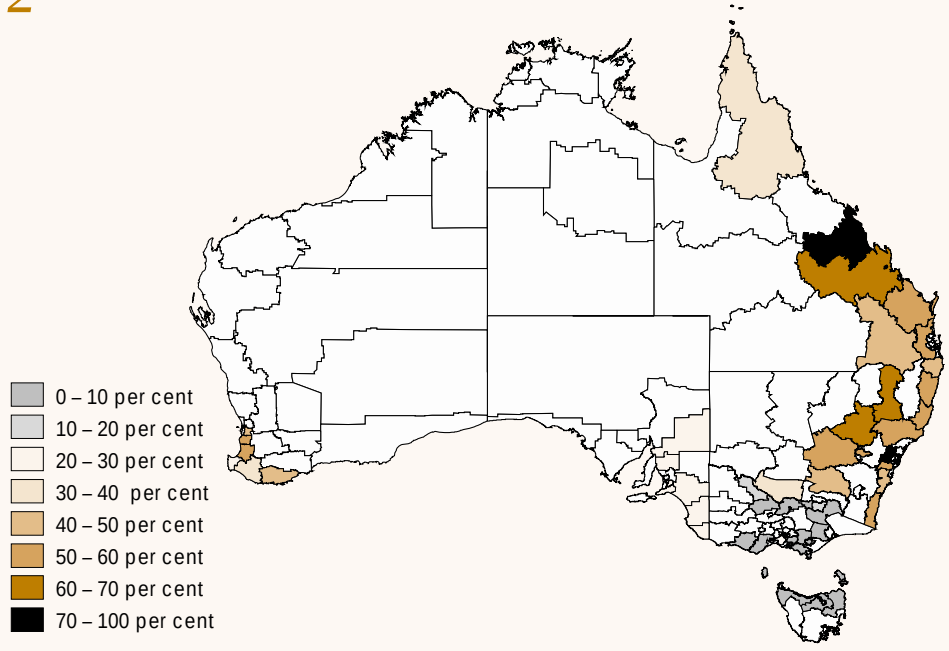
A proxy for the dependence of a regional or local economy on the dairy industry is the proportion of people in the region employed on dairy farms. The higher this ratio the greater the potential for the regional economy to be significantly affected by the move to an open market in milk.

On-farm impacts

Map 2 shows the average market milk percentage (ratio of market milk to total milk production in the four years to 1998-99) in major dairy farming regions across Australia.

It is important to note that the map highlights regional differences in the *average* ratio

2 Market milk share of total milk production, 1996–99



of market milk to total milk production. Individual farms in some regions may have a market milk ratio that is quite different from the regional average.

The map also illustrates differences in the way that market milk premiums were distributed to farmers in each state. For example, in Victoria, South Australia, Tasmania and northern Queensland, market milk 'pooling' arrangements meant that all dairy farmers received the same market milk share. In the remaining regions, systems of individual quotas meant that the market milk ratio varied from farm to farm. For example, in New South Wales, dairy farmers in the irrigation districts of the southern Murray Darling Basin tended to have a low market milk ratio compared with farmers in the Hunter Valley and along the north coast of New South Wales.

In Queensland, the average market milk ratio was much lower among farmers in the western Darling Downs and the far north compared with farms in the coastal regions of south and central Queensland.

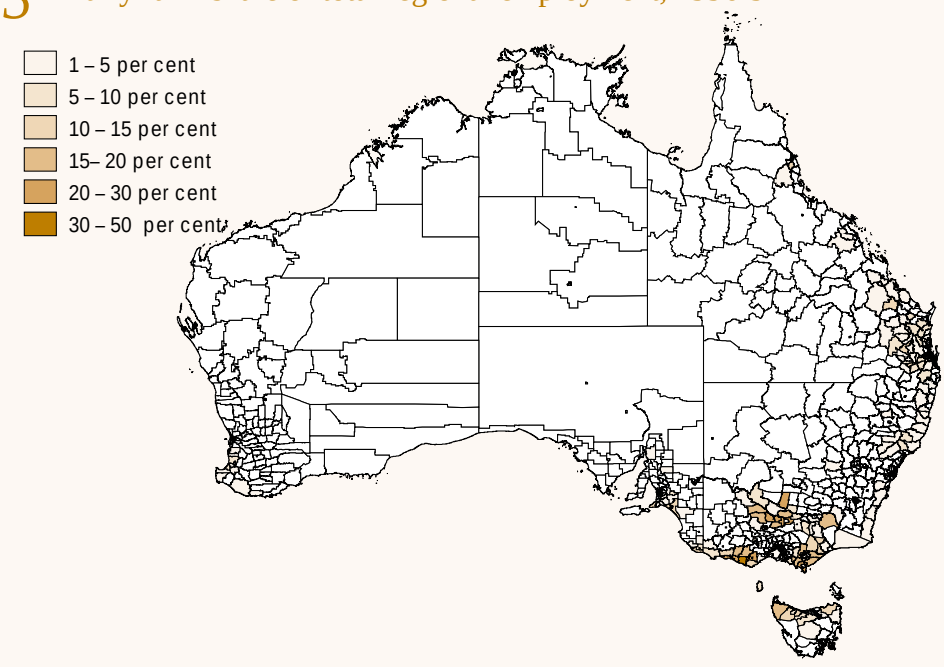
Regional dependence on dairy farming

Map 3 shows the proportion of total employment in each region attributed to dairy farms. (The regions shown in map 3 are statistical local areas (SLAs), as defined by the Australian Bureau of Statistics.) The dominance of the Victorian dairy industry is indicated by the large number of regional communities within it that rely heavily on dairy farming as a source of employment.

Outside Victoria the regional economies that are relatively heavily dependent on dairy farming include:

- Eacham, Monto, Rosalie and Warwick North in Queensland;
- Kyogle, Gloucester, Dungog, Conargo and Wakool in New South Wales;
- Yankalilla, Meningie, Port MacDonnell and Mt Gambier in South Australia;
- Capel and Harvey in Western Australia; and
- Circular Head, Waratah / Wynyard, Central Coast B and Dorset in Tasmania.

3 Dairy farm share of total regional employment, 1996-97



6 Regions with high on-farm adjustment impacts and a high regional dependence on dairy farming

Statistical local area (SLA)	ASGC code	State	Average on-farm impact a	Regional dependence on dairy sector b	Number of dairy farms in the region c
Kyogle (A)	120104550	NSW	High	High	86
Dungog (A)	110102700	NSW	High	High	95
Biggenden (S)	315100700	Qld	High	High	20
Gloucester (A)	110103050	NSW	High	High	72
Kilkivan (S)	315104300	Qld	High	High	30
Monto (S)	315105150	Qld	High	High	35

a Regions ranked according to the average ratio of market milk to total milk production in the region. **b** Regions ranked according to the share of total employment in the region on dairy farms. **c** Estimated number of dairy farms in the region in March 1997 with an estimated value of agricultural operations greater than $22 500.
Source: Australian Bureau of Statistics; ABARE.

Assessing regional adjustment pressures

The information in maps 2 and 3 has been used to categorise regional economies according to the likely extent of adjustment pressure within the region following the move to free trade in milk. Each SLA has been categorised according to the extent to which the individual dairy farms in the region are adversely affected by the move to an open market in milk, and the extent to which the SLA as a whole depends on dairy farming as an employer of labour.

The analysis is intended to be used as a guide to potential regional adjustment arising from the move to an open market. It is not intended to identify *all* regions that are suffering adjustment pressure, or to definitively rank the level or extent of pressure in each region.

For illustration purposes, the SLAs that were rated as having high on-farm adjustment costs combined with high regional dependence on dairy farming are listed in table 6. Table 8 in appendix B contains a list of all SLAs rated against the two criteria described above.

National Competition Policy payments

Dividends paid by the Commonwealth government to the states and territories for microeconomic reform performance are known as National Competition Policy (NCP) payments. Up to and including 1999-2000 these payments comprised two elements: maintenance of the real per person value of the Financial Assistance Grants and NCP payments. From 2000-01, only the competition element will apply, following GST revenue replacing Commonwealth grants.

The competition payments are dividends paid by the Commonwealth to the states and territories for reform performance consistent with the obligations in the three intergovernmental agreements that form the National Competition Policy.

Annual competition payments to the states over the period 1999-2000 to 2005-06 are shown in table 7.

The National Competition Council (NCC) undertakes periodic reviews of the performance of the state governments in relation to National Competition Policy, and makes recommendations to the Commonwealth Treasurer on competition payments. Failure to undertake or complete reform elements can lead to a recommendation by the NCC that payments be reduced. In the case of the dairy industry, the reforms implemented by all state governments during 2000 were supported by the NCC.

According to the NCC the payments are not hypothecated to specific reforms, rather 'they are linked to the satisfactory implementation of the NCP reform agenda as a whole'. As the competition payments are not 'tied' to a particular purpose, state governments are free to spend them as they deem appropriate.

7 Estimated annual National Competition Policy payments, by jurisdiction

	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
	$m	$m	$m	$m	$m	$m	$m
New South Wales	211.9	156.5	241.5	248	253.5	260.4	267.4
Victoria	153.8	115.1	177.7	182.4	186.3	191.2	196.2
Queensland	120.4	86.4	133.8	138.2	142.2	147.1	152.2
Western Australia	62.5	45.8	70.8	73.1	75.1	77.6	80.2
South Australia	54.2	36.1	55.3	56.4	57.3	58.6	59.8
Tasmania	19.1	11.3	17.2	17.4	17.6	17.9	18.2
Australian Capital Territory	10.9	7.5	11.6	11.9	12.1	12.5	12.8
Northern Territory	14.7	4.7	7.3	7.6	7.8	8.1	8.4

Source: Commonwealth Treasury (as at July 2000).

Appendix A

Structure and trends in the Australian dairy industry

Production

In recent years, less than 20 per cent of Australia's milk production has been used for the domestic fluid milk (drinking milk) market. The remainder has been channeled into the manufacturing milk sector to produce dairy products such as butter, cheese, milk powders and other products. With expanding milk output, drinking milk's share of production has been declining and milk used for manufacturing dairy products has been increasing.

Victoria dominates milk production in Australia, accounting for 63 per cent of the country's total milk production and 72 per cent of manufacturing milk production in 1998-99. However, manufacturing milk production has been expanding in all states, with market milk declining as a percentage of total milk production.

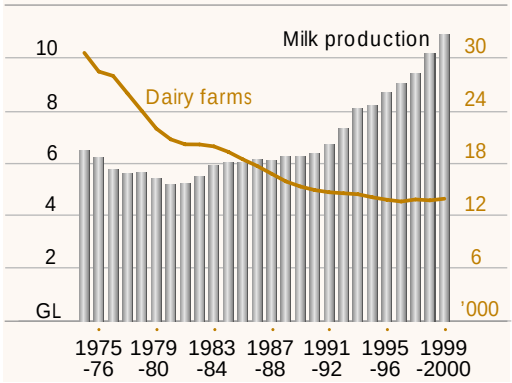
Australia exports around 50 per cent of its annual milk production and more than 60 per cent of production of manufactured dairy products, mostly to Japan and South East Asia. Australia is only a minor producer in global terms, accounting for less than 2 per cent of world milk production. However, it is an important exporter of dairy products (ranking third behind the European Union and New Zealand), accounting for 13 per cent of world dairy product exports.

As a result, Australian milk producers and processors are exposed to fluctuations in world prices and exchange rates that can significantly influence industry returns.

Farm numbers

Over the longer term, the trend has been toward fewer larger farms in terms of area and herd size, leading to increased milk production. Between 1974-75 and 1999-2000, the number of dairy farms in Australia more than halved to around 14 000 (figure C). The number of dairy farms declined in all states.

C Australian dairy farm numbers and total milk production



Over the same period, milk production increased by almost 70 per cent to 10.8 billion litres in 1999-2000.

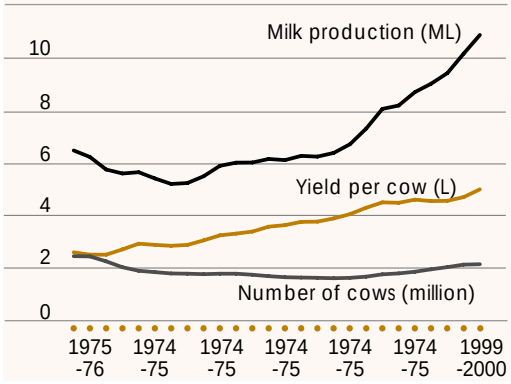
Strong demand growth for Australian dairy products, mainly in the Asian region, resulted in milk production in Australia expanding during the 1980s. Even more rapid increases in production occurred from the early 1990s, heralding a new period of growth for the Australian dairy industry. Cow numbers began to rise more rapidly in 1992 and the rate of decline in the number of dairy farms moderated (figure D).

Size of the dairy herd

There were an estimated 2.2 million dairy cows in Australia at the end of June 2000. The size of the dairy herd has increased by 25 per cent since 1990-91, but remains below numbers in Australia for several decades prior to 1976-77.

In 1998-99, a quarter of Australian dairy farms ran fewer than 100 dairy cows and around a quarter ran more than 200 dairy cows. Over three-quarters of the farms running more than 200 dairy cows were located in Victoria.

D Australian milk production



Geographic production patterns

Australian dairy production systems are generally based on the grazing of cattle on pastures. Feedlot based dairying remains unusual in Australia, although the use of supplementary feed, such as grains, has increased markedly in recent years. With the exception of several inland irrigation schemes, pasture growth generally depends on natural rainfall. Most nonirrigated dairy production is located in the high rainfall coastal fringe areas (map 4).

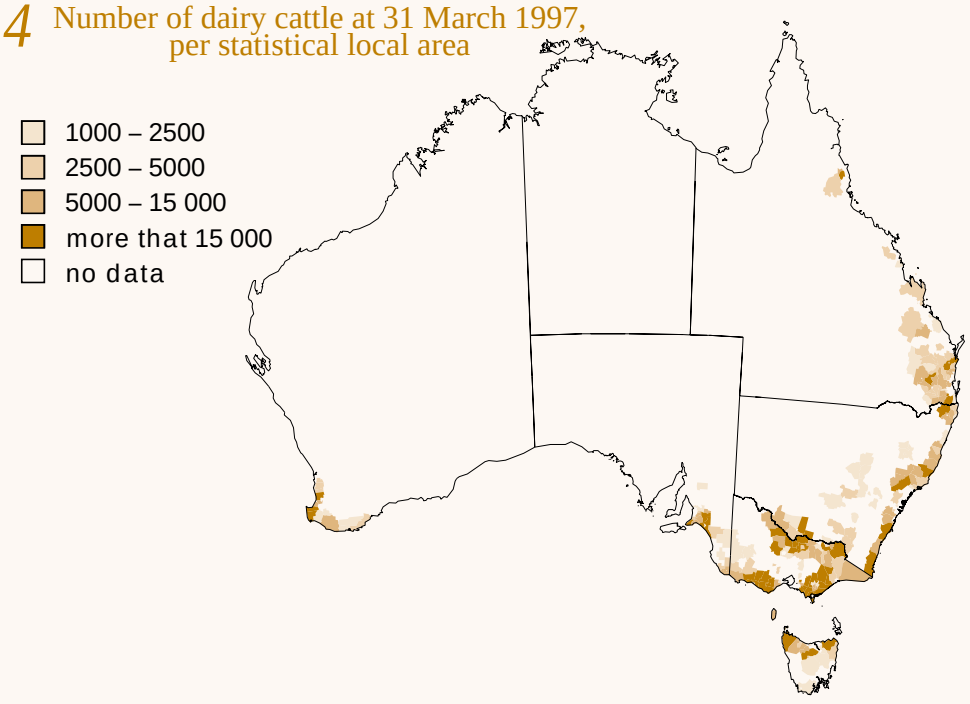
In 1998-99, over 60 per cent of dairy farms were located in Victoria, 14 per cent in New South Wales, 12 per cent in Queensland, 6 per cent in Tasmania, 5 per cent in South Australia and 3 per cent in Western Australia.

Seasonality of production

The pattern of milk production throughout the year varies in different states and regions (figure E). Milk production has pronounced seasonality in Victoria and also in Tasmania and South Australia. In those states, milk production depends mainly on pasture conditions, and milk supply is usually lower during winter months when pasture growth is reduced.

In contrast, milk production in New South Wales, Queensland and Western Australia is more uniform throughout the year. The more uniform monthly distribution of milk production in these states reflects less seasonal patterns of pasture

4 Number of dairy cattle at 31 March 1997, per statistical local area



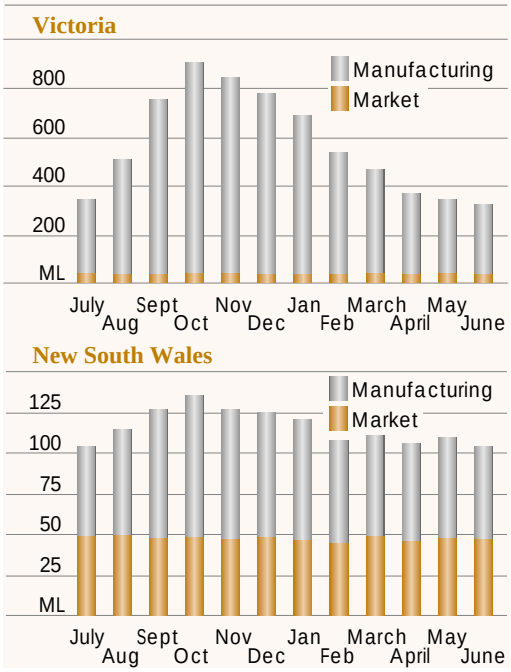
growth and differing production and agronomic conditions.

Herd performance

Milk yields per cow increased by around 4 per cent a year between 1984-85 and 1993-94, but since then have increased at a slower rate, around 1.6 per cent a year (figure D). In part, recent slower growth in milk production per cow may have been a result of less favorable climatic conditions in Victoria, particularly since 1995-96. It may also reflect increases in cow numbers as producers attempted to spread production throughout the year.

In addition to increasing production per cow, dairy farms have increased the numbers of dairy cows milked per farm. Between 1993-94 and 1998-99 increased herd size was the main contributor to increases in milk production per farm.

E Monthly milk production, 1999-2000



Appendix B

Regional impacts of an open market in milk

8 Regional impact of the move to an open market in milk

Statistical local area (SLA)	State	Average on-farm impact [a]	Market ratio (%)	Regional dependence on dairy sector [b]	Dairy employment ratio (%)	Number of dairy farms in SLA [c]	Employment on dairy farms [d]	Total regional employment
Warrnambool (C)	Vic	Low	8.0	Low	1.1	12	118	10 856
Gr. Shepparton (C) – Pt A	Vic	Low	8.0	Low	1.4	19	231	16 250
Launceston (C) – Pt C	Tas	Low	8.0	Low	1.6	6	18	1 159
Waratah / Wynyard (M) – Pt A	Tas	Low	8.0	Low	1.6	33	61	3 798
Latrobe (M) – Pt A	Tas	Low	8.1	Low	1.8	7	48	2 692
Break O'Day (M)	Tas	Low	8.0	Low	2.0	13	32	1 658
Central Highlands (M)	Tas	Low	8.1	Medium	2.7	6	27	1 006
Glenelg (S) – North	Vic	Low	8.0	Medium	3.2	29	45	1 429
Delatite (S) – North	Vic	Low	8.0	Medium	3.8	41	80	2 099
Kentish (M)	Tas	Low	8.0	High	6.6	41	124	1 884
Moira (S) – East	Vic	Low	8.0	High	7.2	71	206	2 857
Burnie (C) – Pt B	Tas	Low	8.0	High	7.4	26	66	894
King Island (M)	Tas	Low	8.0	High	8.3	26	75	903
Glenelg (S) – Heywood	Vic	Low	8.0	High	8.3	82	219	2 632
Baw Baw (S) – Pt B West	Vic	Low	8.0	High	9.4	434	959	10 262
Meander Valley (M) – Pt B	Tas	Low	8.1	High	9.7	80	359	3 708
Dorset (M)	Tas	Low	8.1	High	10.1	94	286	2 834
Central Coast (M) – Pt B	Tas	Low	8.0	High	10.6	31	132	1 242
Waratah / Wynyard (M) – Pt B	Tas	Low	8.0	High	13.1	52	137	1 050
Moyne (S) – North-West	Vic	Low	8.0	High	13.9	429	195	1 408
Circular Head (M)	Tas	Low	8.1	High	15.5	214	544	3 502
Moyne (S) – North-East	Vic	Low	8.0	High	15.8	82	198	1 251
Baw Baw (S) – Pt B East	Vic	Low	7.7	High	15.9	156	272	1 714
Corangamite (S) – North	Vic	Low	8.0	High	16.8	238	638	3 803
Campaspe (S) – South	Vic	Low	8.0	High	17.6	98	241	1 374
Moira (S) – West	Vic	Low	8.0	High	19.5	602	1402	7 176
Campaspe (S) – Kyabram	Vic	Low	8.0	High	20.3	408	1007	4 965
Gr. Shepparton (C) – Pt B East	Vic	Low	8.0	High	20.5	173	378	1 845
Gr. Shepparton (C) – Pt B West	Vic	Low	8.0	High	23.1	361	792	3 431
Moyne (S) – South	Vic	Low	8.0	High	23.7	104	1026	4 322
Campaspe (S) – Rochester	Vic	Low	7.9	High	28.1	391	945	3 365
Corangamite (S) – South	Vic	Low	8.2	High	46.8	639	1653	3 530
Chinchilla (S)	Qld	Medium	41.0	Low	1.0	12	23	2 232
Wingecarribee (A)	NSW	Medium	41.0	Low	1.0	56	153	14 756
Denmark (S)	WA	Medium	45.1	Low	1.1	9	15	1 339
Colac-Otway (S) – Colac	Vic	Medium	9.0	Low	1.1	15	43	3 768
La Trobe (S) – Morwell	Vic	Medium	9.0	Low	1.2	42	90	7 817
Loddon (S) – South	Vic	Medium	9.0	Low	1.2	75	20	1 699
Shoalhaven (C)	NSW	Medium	40.8	Low	1.4	101	332	24 497
Moorabool (S) – West	Vic	Medium	9.0	Low	1.6	15	23	1 470

Continued

Statistical local area (SLA)	State	Average on-farm impact [a]	Market ratio (%)	Regional dependence on dairy sector [b]	Dairy employment ratio (%)	Number of dairy farms in SLA [c]	Employment on dairy farms [d]	Total regional employment
Millicent (DC)	SA	Medium	22.0	Low	1.6	19	47	2 961
Mount Remarkable (DC)	SA	Medium	24.0	Low	1.6	4	19	1 188
Murray (A)	NSW	Medium	31.0	Low	1.6	16	36	2 265
Mount Barker (DC)	SA	Medium	22.0	Low	1.7	60	145	8 806
Alpine (S) – West	Vic	Medium	10.0	Low	1.7	13	32	1 845
Alpine (S) – East	Vic	Medium	10.0	Low	2.0	33	145	7 390
Warwick (S) – West	Qld	Medium	41.0	Low	2.0	8	23	1 151
Onkaparinga (DC)	SA	Medium	22.0	Low	2.3	31	80	3 525
Busselton (S)	WA	Medium	28.0	Low	2.4	56	170	7 141
Atherton (S)	Qld	Medium	38.0	Low	2.5	31	96	3 901
Surf Coast (S) – West	Vic	Medium	9.0	Low	2.5	37	69	2 805
Manjimup (S)	WA	Medium	39.0	Low	2.5	33	118	4 654
Mount Pleasant (DC)	SA	Medium	22.0	Low	2.6	12	25	977
Burra Burra (DC)	SA	Medium	21.1	Low	2.6	5	20	766
Strathalbyn (DC)	SA	Medium	22.0	Medium	3.0	32	85	2 894
Jondaryan (S)	Qld	Medium	41.0	Medium	3.1	66	153	5 012
Towong (S) – Pt A	Vic	Medium	11.0	Medium	3.1	57	30	984
Tumbarumba (A)	NSW	Medium	29.7	Medium	3.2	19	50	1 544
Penola (DC)	SA	Medium	22.0	Medium	3.4	15	54	1 598
Swan Hill (RC) Bal	Vic	Medium	12.0	Medium	3.4	35	101	2 933
Pittsworth (S)	Qld	Medium	41.0	Medium	3.6	29	68	1 888
Port Elliot & Goolwa (DC)	SA	Medium	22.0	Medium	3.8	33	96	2 539
E. Gippsland (S) – Orbost	Vic	Medium	9.0	Medium	4.0	41	118	2 975
Crow's Nest (S)	Qld	Medium	41.0	Medium	4.0	75	149	3 747
Herberton (S)	Qld	Medium	38.0	Medium	4.2	24	59	1 401
Indigo (S) – Pt A	Vic	Medium	10.9	Medium	4.2	78	172	4 108
Coonalpyn Downs (DC)	SA	Medium	22.0	Medium	4.2	11	30	707
E. Gippsland (S) – South-West	Vic	Medium	9.1	Medium	4.4	26	64	1 468
Murray Bridge (RC)	SA	Medium	22.0	Medium	4.4	93	274	6 203
Augusta-Margaret River (S)	WA	Medium	28.3	Medium	4.7	63	169	3 619
Cambooya (S)	Qld	Medium	41.0	Medium	4.7	34	89	1 895
Victor Harbor (DC)	SA	Medium	22.0	Medium	4.8	58	130	2 689
Wangaratta (RC) – South	Vic	Medium	9.6	Medium	5.2	65	135	2 615
Wambo (S)	Qld	Medium	41.0	Medium	5.2	39	122	2 369
Mount Gambier (DC)	SA	Medium	22.0	Medium	5.3	62	138	2 611
Clifton (S)	Qld	Medium	41.0	Medium	5.7	26	55	966
Ballarat (C) – North	Vic	Medium	9.0	Medium	5.8	11	26	449
Wakool (A)	NSW	Medium	31.0	High	7.0	37	147	2 096
Mannum (DC)	SA	Medium	22.0	High	7.1	29	79	1 116
Berrigan (A)	NSW	Medium	31.0	High	7.1	69	240	3 397
La Trobe (S) Bal	Vic	Medium	9.0	High	7.2	35	80	1 122
Baw Baw (S) – Pt A	Vic	Medium	8.5	High	7.3	6	125	1 714
Bass Coast (S) Bal	Vic	Medium	9.0	High	9.0	175	451	5 035
Warwick (S) – East	Qld	Medium	41.0	High	9.4	68	168	1 786
Warwick (S) – North	Qld	Medium	41.0	High	10.2	28	87	847
Wellington (S) – Avon	Vic	Medium	9.0	High	10.9	73	192	1 764
Rosalie (S)	Qld	Medium	40.9	High	11.5	155	384	3 335
Meningie (DC)	SA	Medium	21.9	High	13.0	61	189	1 458
Wellington (S) – Maffra	Vic	Medium	9.0	High	13.2	182	507	3 830
Colac-Otway (S) – South	Vic	Medium	9.0	High	13.3	113	175	1 318
Port MacDonnell (DC)	SA	Medium	22.0	High	14.3	62	141	983

Continued ⇨

Statistical local area (SLA)	State	Average on-farm impact [a]	Market ratio (%)	Regional dependence on dairy sector [b]	Dairy employment ratio (%)	Number of dairy farms in SLA [c]	Employment on dairy farms [d]	Total regional employment
Eacham (S)	Qld	Medium	37.7	High	14.4	145	337	2 340
Yankalilla (DC)	SA	Medium	22.4	High	14.5	81	195	1 346
South Gippsland (S) – Central	Vic	Medium	9.0	High	17.5	321	860	4 921
Towong (S) – Pt B	Vic	Medium	9.9	High	17.9	79	288	1 612
Wellington (S) – Alberton	Vic	Medium	9.0	High	18.0	179	392	2 176
South Gippsland (S) – West	Vic	Medium	9.0	High	18.2	237	528	2 907
Loddon (S) – North	Vic	Medium	9.4	High	18.9	38	296	1 568
Gannawarra (S)	Vic	Medium	12.2	High	19.9	391	996	5 003
Wellington (S) – Rosedale	Vic	Medium	8.8	High	20.0	194	512	2 558
Conargo (A)	NSW	Medium	31.2	High	21.9	49	179	818
South Gippsland (S) – East	Vic	Medium	9.0	High	24.0	220	537	2 240
Colac-Otway (S) – North	Vic	Medium	8.6	High	26.4	294	773	2 925
Guanaba-Currumbin Valley	Qld	High	52.0	Low	1.0	13	65	6 416
Gatton (S)	Qld	High	52.0	Low	1.0	19	61	6 038
Banana (S)	Qld	High	63.0	Low	1.0	13	63	6 256
Great Lakes (A)	NSW	High	58.0	Low	1.0	20	86	8 315
Donnybrook-Balingup (S)	WA	High	55.0	Low	1.1	5	18	1 691
Gayndah (S)	Qld	High	58.0	Low	1.1	6	13	1 269
Maroochy (S) Bal	Qld	High	52.0	Low	1.1	31	86	8 003
Kingaroy (S)	Qld	High	58.0	Low	1.1	17	49	4 599
Nebo (S)	Qld	High	75.0	Low	1.1	1	15	1 374
Eurobodalla (A)	NSW	High	58.0	Low	1.2	28	104	9 026
Noosa (S) Bal	Qld	High	52.0	Low	1.2	19	51	4 229
Copmanhurst (A)	NSW	High	53.0	Low	1.2	5	17	1 429
Nambucca (A)	NSW	High	53.0	Low	1.2	26	62	5 136
Nymboida (A)	NSW	High	53.0	Low	1.2	4	19	1 521
Forbes (A)	NSW	High	59.0	Low	1.3	10	53	3 966
Laidley (S)	Qld	High	52.0	Low	1.4	20	62	4 343
Murray (S)	WA	High	59.0	Low	1.5	23	48	3 291
Hastings (A)	NSW	High	55.0	Low	1.6	108	288	18 553
Ulmarra (A)	NSW	High	53.0	Low	1.6	11	29	1 864
Fitzroy (S) – Pt B	Qld	High	63.0	Low	1.6	2	34	2 094
Kempsey (A)	NSW	High	55.0	Low	1.9	49	151	8 056
Kiama (A)	NSW	High	83.5	Low	1.9	49	137	7 079
Mirani (S)	Qld	High	74.6	Low	2.2	19	47	2 148
Manilla (A)	NSW	High	65.3	Low	2.5	5	26	1 038
Miriam Vale (S)	Qld	High	58.0	Medium	2.8	12	36	1 309
Scone (A)	NSW	High	58.0	Medium	2.8	42	115	4 159
Caboolture (S) – Pt B	Qld	High	52.0	Medium	2.8	24	46	1 655
Esk (S)	Qld	High	52.0	Medium	3.2	40	151	4 709
Muswellbrook (A)	NSW	High	58.0	Medium	3.2	56	212	6 540
Richmond River (A)	NSW	High	46.0	Medium	3.6	45	116	3 225
Greater Taree (C)	NSW	High	55.3	Medium	3.7	205	511	14 015
Calliope (S) – Pt B	Qld	High	63.3	Medium	3.8	5	46	1 219
Beaudesert (S) – Pt B	Qld	High	52.0	Medium	3.9	110	372	9 622
Wondai (S)	Qld	High	58.0	Medium	3.9	27	55	1 394
Waroona (S)	WA	High	58.5	Medium	3.9	18	47	1 202
Murgon (S)	Qld	High	58.0	Medium	4.1	26	70	1 683
Singleton (A)	NSW	High	58.0	Medium	4.2	79	380	9 062
Mundubbera (S)	Qld	High	58.0	Medium	4.2	13	53	1 270
Nanango (S)	Qld	High	58.0	Medium	4.2	26	93	2 197
Dardanup (S)	WA	High	55.0	Medium	4.8	46	137	2 852

Continued ⟳

Statistical local area (SLA)	State	Average on-farm impact [a]	Market ratio (%)	Regional dependence on dairy sector [b]	Dairy employment ratio (%)	Number of dairy farms in SLA [c]	Employment on dairy farms [d]	Total regional employment
Bellingen (A)	NSW	High	52.9	Medium	4.9	62	189	3 841
Bega Valley (A)	NSW	High	57.9	Medium	5.0	130	512	10 242
Capel (S)	WA	High	55.0	Medium	5.4	43	142	2 615
Caloundra (C) – Hinterland	Qld	High	52.0	Medium	5.4	48	121	2 220
Harvey (S)	WA	High	55.4	Medium	5.4	108	339	6 224
Tiaro (S)	Qld	High	58.0	Medium	5.7	20	75	1 306
Cooloola (S) (excl. Gympie)	Qld	High	58.0	Medium	5.8	114	335	5 780
Boonah (S)	Qld	High	52.0	Medium	5.9	47	150	2 543
Ipswich (C) – South-West	Qld	High	52.0	Medium	6.1	37	132	2 175
Kilcoy (S)	Qld	High	52.2	Medium	6.5	30	81	1 233
Kyogle (A)	NSW	High	46.1	High	7.6	86	248	3 261
Dungog (A)	NSW	High	58.0	High	8.3	95	255	3 053
Biggenden (S)	Qld	High	58.0	High	8.9	20	51	572
Gloucester (A)	NSW	High	58.4	High	9.1	72	166	1 830
Kilkivan (S)	Qld	High	58.0	High	9.6	30	115	1 188
Monto (S)	Qld	High	58.4	High	12.5	35	163	1 301

a Regions ranked according to the average ratio of market milk to total milk production in the region. **b** Regions ranked according to the share of total employment in the region on dairy farms. **c** Estimated number of dairy farms in the region in March 1997 with an estimated value of agricultural operations greater than $22 500. **d** Number of people in the designated SLA employed on dairy farms, irrespective of the physical location of the farm.
Source: Australian Bureau of Statistics; ABARE.

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GPO Box 1563 Canberra 2601 Australia
Telephone +61 2 6272 2000 • Facsimile +61 2 6272 2001
www.abareconomics.com