Australian Dairy Market Deregulation: Coping with Policy Change

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Take Home Messages

- Deregulation of the Australian dairy market involved the over-night removal of all price support mechanisms. There was a substantial fall in fluid milk returns but the industry has coped with the effects of the policy change.
- Farm level adjustment mostly happened in the first two years of a deregulated market. A number of farmers left the industry – some older farmers retired, some switched into alternative farm products and others found jobs outside of agriculture.
- The impact on industry output was limited as the remaining farmers adapted to the new market conditions by improving the productive performance of their dairy enterprise. In general the response was to increase farm output – deregulation created growth opportunities for individuals in the fluid milk sector.
- Some reacted by expanding herds and increasing land areas. Most made changes to improve the performance of their farms - greater carrying capacity, improved pasture management and increased milk yields.
- The over-night policy change made the full impact transparent. It sharpened the incentive farmers to make decisions about their future. It helped to speed up the gains in per farm performance that typically flow from policy reforms.
- A phased policy change would have provided some implicit transitional assistance through the milk price. But it can dilute the incentive for major decisions to improve long term viability.
- The Australian approach realised the implicit assistance that would have been received from a phased policy change. The experience suggests transitional assistance works better if it's a transparent, one-off, unconditional grant that allows farmers to make decisions that suit their circumstances.

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Introduction

Until recently the Australian dairy industry had a history of price support through Government policy arrangements. The industry gained assistance from import protection and price support schemes that allowed farmers to earn higher returns on sales in the domestic market. In some respects the mechanisms were similar to the support policies currently operating in the Canadian industry.

In July 2000 a major policy reform was implemented with the elimination of all price support mechanisms over-night. This decision was made with the cooperation of the industry. It triggered an immediate, substantial reduction in farm level returns for fluid milk producers.

Deregulation of the dairy market was an unusual experience in Australia. Policy changes are usually phased-in and farmers are advised of the change well in advance of the implementation date. This approach is used to give farmers time to plan how they will adjust to the change in market conditions.

In this case the decision was announced 9 months before it was implemented. There had been 12-18 months of industry discussions before the decision was announced. But there was considerable uncertainty about the implications for average returns and farmers had limited time to consider their situation.

As expected, the sudden termination of all price support mechanisms generated substantial adjustment pressures for dairy farmers. Protection and price support is a widespread phenomenon in the dairy industries of many countries. So it's not surprising there has been a lot of interest in how the Australian industry has fared in the period following the reform.

Looking back it seems reasonable to view deregulation as a policy change that was successfully implemented. Transitional assistance was provided and there was some farm level adjustment. Industry performance improved after a short period of adjustment but was disrupted by two years of severe dry conditions. The aim of this paper is to look at how the industry has adjusted and coped with the pressures of linking average returns to world market conditions.

Industry Adjustment Before Deregulation

By way of background it is important to note that a national market for dairy products did not exist in Australia until July 2000. Regulations had created an artificial market separation between fluid milk sales and the milk used for dairy

products. There was a national price support scheme for manufacturing milk and the state Governments had set-up individual markets for fluid milk.

1. Fluid milk price premiums in Australia under market support #

	Victoria	*New South Wales*	*Queensland*	*Other States **	*Australia ***
Year ending 30 June	*%*	*%*	*%*	*%*	*%*
1995-96	*61.4*	*84.9*	*150.7*	*105.2*	*81.7*
1996-97	*85.7*	*86.7*	*127.3*	*101.9*	*100.4*
1997-98	*89.9*	*97.6*	*130.4*	*103.7*	*108.3*
1998-99	*88.7*	*85.8*	*135.0*	*95.1*	*102.4*
1999-00	*106.3*	*118.8*	*150.7*	*112.2*	*124.0*
5 year average	*85.2*	*94.0*	*138.4*	*103.5*	*102.5*

 # Ratio of average prices paid for drinking milk & manufacturing milk at the factory door. *Source: ADC 2002.*
Indicative prices paid before deduction of farmer levies & farm transport costs. Manufacturing milk prices exclude support payments. Drinking milk prices are adjusted for freight and farmer contributions to State Marketing Authorities.
** Weighted average price for South Australia, Western Australia & Tasmania.*
*** State weighted average price based on fluid milk sales.*

In the fluid milk sector farm gate prices were regulated and there was no commonality in prices between the States. Prices were about double the price paid for manufacturing milk (Table 1). Some States used production quotas and others had pooling arrangements where farmers received a price premium for a fixed proportion of their annual milk output.

In the manufacturing milk sector farm gate prices were supported by policy measures that required domestic consumers to pay higher prices for dairy products. In the mid 1980's policy changes were introduced to encourage manufacturers to focus on export markets for sales growth.

The pooling of export returns was abolished. Manufacturers charged higher prices on domestic sales but the level of support was limited to the landed price of imports. The reforms required support to be phased down from around 40% of average export prices to 10% by 2000.

The price support scheme for manufacturing milk was funded by a levy on milk used for domestic sales of milk and dairy products. Farmers received a payment based on their manufacturing milk output. The level of price support gradually declined due to the growth in manufacturing milk supplies and by 1999-00 was less than 5%.

The fluid milk pricing controls provided substantial levels of assistance. The overall nominal rate of assistance was 20-25% which reflects the average rate of market price support across all States (Table 2).

2. Pre-deregulation price support for the Australian dairy industry #

	*Manufacturing milk price **	*Fluid milk price ***	*Average milk price ****		*Market support rate: Maximum ^*	*Adjusted ^*
Year ending 30 June	*Ac/litre*	*Ac/litre*	*Ac/litre*	*% change*	*%*	*%*
1995-96	28.0	45.0	31.7	..	*22.9*	*17.8*
1996-97	26.0	45.9	30.2	*-4.7*	*26.8*	*21.6*
1997-98	24.8	46.2	29.1	*-3.7*	*26.2*	*21.3*
1998-99	25.0	45.5	28.9	*-0.9*	*23.4*	*18.9*
1999-00	22.1	45.5	26.3	*-9.0*	*24.2*	*19.9*
5 year average	25.2	45.6	29.2	..	*24.7*	*19.9*

 # Indicative average prices paid at factory door. *Source: ADC 2002.*

** State weighted average price based on manufacturing milk production - includes market support (DMS) payments.*

*** State weighted average price based on fluid milk sales - net of levy payment (1.9 Ac/litre) for DMS Scheme.*

**** Weighted average price based on manufacturing milk production and fluid milk sales.*

^ Estimate of weighted average nominal rate of assistance at factory door.
Maximum rate assumes no commercial price premium for fluid milk on factory price of manufacturing milk.
Adjusted rate assumes a 20% commercial price premium for fluid milk on factory price of manufacturing milk.

In the lead up to deregulation the industry faced adjustment pressures from changes in world prices and the policy changes. Between 1984-85 and 1999-00 farm numbers fell by 33% (Table 3). Most of the adjustment was in Victoria where farmers focused on manufacturing milk.

Despite the fall in farm numbers milk output increased by about 80% to 10.8 billion litres. The growth in milk supplies was strongest in the export sector with Victorian production almost doubling. By 1999-00 exports of butter, cheese and milk powders had reached 776 kt an increase of almost 175% on the 1984-85 level of sales.

During this period most farmers made changes to improve their viability. In some cases they increased farm output by using more land and/or livestock. But they mostly made management changes to improve milk yields and pasture utilisation. This involved using more secondary inputs such as improved pastures, fertiliser, irrigation and grain supplements.

Milk output per farm is an indicator of the farm level adjustments that occurred. Between 1984-85 and 1999-00 milk output per farm increased by 170%. This was partially due to herd growth with the average herd size increasing by 80%. There were also gains in livestock performance:

- by 1999-00 milk yields were almost 5,000 litres per cow compared with 3,340 litres in 1984-85.

3. Pre-deregulation trends in the number of Australian dairy farms

Year ending 30 June		*1975*	*1980*	*1985 **	*1990*	*1995*	*2000*
Victoria	*number*	14 920	11 467	10 850	8 840	8 379	7 806
	change	..	-3 453	- 617	-2 010	- 461	- 573
New South Wales	*number*	4 834	3 601	2 838	2 220	1 911	1 725
	change	..	-1 233	- 763	- 618	- 309	- 186
Queensland	*number*	4 622	3 052	2 544	1 970	1 746	1 545
	change	..	-1 570	- 508	- 574	- 224	- 201
Other States	*number*	6 254	3 874	3 110	2 366	2 130	1 820
	change	..	-2 380	- 764	- 744	- 236	- 310
Australia	*number*	30 630	21 994	19 342	15 396	14 166	12 896
	change	..	-8 636	-2 652	-3 946	-1 230	-1 270

** Policy reform to reduce support for manufacturing milk returns commenced July 1986.* *Source: ADC 2002.*

On-farm adjustments in the lead-up to deregulation were largely driven by market related developments. The effect of the policy change was limited because the reduction in assistance was phased-in over an extended period. The biggest effect was weaker export returns caused by international policy developments and stronger competition from imports due to a free trade agreement with New Zealand.

■ Deregulation of the Dairy Market

By the late 1990's there were significant commercial and public policy pressures for further changes to the support arrangements. Legislation for manufacturing milk price support was due to terminate in June 2000. The growth in manufacturing milk supplies had diluted the value of the support payments.

In mid 1999 a review of the Victorian fluid milk price controls found there was no public benefit from the support scheme. After consultations with the industry the Victorian State Government announced the regulations would terminate on 1 July 2000.

This decision would undermine the fluid milk price support schemes in other States. Industry representatives decided an orderly transition was the best way to proceed. After consultations with Federal and State Government authorities they proposed a simultaneous end to all market support schemes in conjunction with a transitional assistance program.

In September 1999 the Federal Government announced a A$1.8 billion restructuring package would be implemented if all State Governments ended their fluid milk regulations on the same date. The *Dairy Industry Adjustment*

Package had three components:

- the Dairy Structural Adjustment Program (DSAP);
- a Dairy Exit Program (DEP); and
- the Dairy Regional Adjustment Program (DRAP).

Dairy Structural Adjustment Program Assistance for Dairy Farmers

The Dairy Structural Adjustment Program (DSAP) was developed by the industry in early 1999 and was based on estimates of the value of the support measures in 1998-99. The aim was to provide a restructuring grant for all farmers affected by deregulation. Farmers entering the industry after deregulation were excluded.

The program accounted for A$1.63 billion of the package funding. It was an estimate of the loss of income from 2-3 years of regulated market returns. Estimates of fluid milk assistance included a price premium to reflect the expected market value of year round milk supplies. In effect DSAP assistance was broadly equivalent to maintaining the regulations for a further three years.

Most farmers supplied both types of milk but at different levels. So the program was designed to ensure individual grants reflected the level of support previously obtained from the two sets of regulations. This was achieved by splitting the grant into two payment components – 46.23 Ac/litre for fluid milk and 8.96 Ac/litre for manufacturing milk.

DSAP entitlements were calculated on a farm enterprise basis and were fully decoupled. Grants were based on milk production for the 1998-99 season. This ensured the amount of assistance was fixed. Milk delivery records from the pre-existing support schemes were used to verify the fluid milk and manufacturing milk production for each enterprise.

Each DSAP entitlement was split into 32 quarterly instalments. A fixed payment right was issued for an 8 year period commencing in 2000-01. There were industry concerns this could encourage farmers to view the grant as an income support payment. A single payment was considered more likely to encourage a restructuring of the farm enterprise.

The industry encouraged some banks to set-up facilities for converting the entitlements to a lump-sum payment. This was possible because DSAP entitlements were a fixed stream of Government guaranteed payments. Most farmers voluntarily assigned their rights to the bank in exchange for the discounted present value of their entitlement.

Most farmers took this option and used the funds to make immediate restructuring decisions. Some made efficiency improvements and expanded per-farm milk output which required increased borrowings. Others elected to reduce debt levels, to diversify or to exit the industry for alternative non-farm employment.

DSAP payments were treated as income for tax purposes. The tax liability was retained by individuals for the duration of the payment period even if they exited the industry. DSAP entitlements were capped at A$350,000 per enterprise if the applicant's dairy income was less than 70% of gross farm income.

Other assistance measures

Farmers looking to leave the industry could apply for a Dairy Exit Program (DEP) payment. This was a 'safety-net' program designed to assist farmers in serious financial difficulties. Successful applicants had their DSAP entitlements cancelled and were required to sell their dairy farm and withdraw from agricultural production for five years.

This program had an assets test which limited the number of applicants. The maximum grant was a tax-free lump sum of A$45,000 provided total assets were less than A$90,000 after the sale of the farm. For asset levels exceeding this threshold the grant was proportionally reduced.

In most cases the DEP grant was less than the DSAP payment after adjusting for tax. Most farmers that left the industry used their DSAP grant as a form of exit assistance. In the first two years of deregulation 1,850 farmers left the industry – around 120 received a DEP grant.

The restructuring package included A$45 million for a program to create employment in regional communities affected by deregulation (Dairy Regional Adjustment Program). Dairy farmers were ineligible but some dairy companies obtained grants to support plant redevelopments and other business activities.

Deregulation had an immediate and substantial effect on the financial position of fluid milk producers. The impact on manufacturing milk returns was cushioned by an unexpected strengthening in world prices. But there were concerns about the extent of the decline in fluid milk prices. In May 2001 a *Supplementary Dairy Assistance* (SDA) package of A$100 million was introduced.

The SDA package was primarily established to provide extra transitional assistance for fluid milk producers with a DSAP entitlement. An SDA grant was provided if fluid milk sales exceeded 25% of total output in 1998-99. It

was composed of a basic grant of A$10-15,000 and an extra payment for fluid milk sales exceeding 35% of total farm output.

The extra payment was calculated on a sliding scale of 1.2 Ac/litre for every 1% of milk output that exceeded the 35% cut-off point. It was capped at 12 Ac/litre for fluid milk sales that exceeded 45% of total output.

SDA grants were capped at A$60,000 per dairy enterprise and treated as taxable income. It could be taken as a lump-sum or 32 quarterly instalments over 8 years. Farmers who had exited the industry during the intervening period were not eligible.

The total cost of the assistance was about A$2 billion with A$1.75 billion in direct payments to farmers. It was funded by a tax of 11 Ac/litre on domestic sales of drinking milk. The tax rate was set to achieve an immediate fall in the retail price of milk. The tax will be removed when the cost of the assistance is recovered – around June 2010.

■ Industry Adjustment Since Deregulation

Australia's dairy industry has been operating in a deregulated market for the past 6 years. It is worthwhile examining the industry's performance and the adjustment that has occurred during this period.

There was a rapid adjustment to deregulation that largely occurred in the first two years of free market conditions. This reflected the over-night removal of all market support and the widespread use of transitional assistance as a single, up-front payment. The adjustment was driven by changes in the average price received for milk (Table 4).

4. Australian dairy industry adjustment since deregulation

Year ending 30 June		*1999*	*2000*	*2001 **	*2002*	*2003 ***	*2004 ***	*2005*	*2006*
		← pre-reform →				*← post reform period →*			
Dairy farms	*number*	13 156	12 896	11 839	11 048	10 654	9 611	9 243	8 844
	change	..	*- 260*	*-1 057*	*- 791*	*- 394*	*-1 043*	*- 368*	*- 399*
Output per farm	*'000 litres*	774	841	891	1 020	969	1 048	1 095	1 141
	% change	..	*8.7*	*5.9*	*14.5*	*- 5.0*	*8.1*	*4.5*	*4.1*
Herd size	*head/farm*	164	168	184	192	192	212	225	232
	% change	..	*2.7*	*9.1*	*4.5*	*0.1*	*10.2*	*5.9*	*3.2*
Milk yield	*litres/head*	4 724	4 996	4 847	5 309	5 038	4 943	4 877	4 920
	% change	..	*5.8*	*- 3.0*	*9.5*	*- 5.1*	*- 1.9*	*- 1.3*	*0.9*
Milk production	*m litres*	10 179	10 847	10 547	11 271	10 328	10 075	10 125	10 087
	% change	..	*6.6*	*- 2.8*	*6.9*	*- 8.4*	*- 2.5*	*0.5*	*- 0.4*
Exports ^	*'000 tonnes*	659	776	729	786	722	648	625	657
	% change	..	*17.8*	*- 6.1*	*7.8*	*- 8.2*	*- 10.2*	*- 3.5*	*5.0*
Milk price ^^	*'000 tonnes*	28.9	26.3	29.0	33.0	27.1	27.9	31.5	33.1
	% change	..	*- 9.0*	*10.4*	*13.8*	*- 17.9*	*3.0*	*12.9*	*5.1*

* *Poor season and deregulation on 1 July 2000.* *Sources: Harris 2005b; DA 2006.*

** *Widespread drought conditions.*

^ *Exports of dairy products includes, cheese, butter, butter oil and milk powders (skim milk, whole milk & butter milk).*

^^ *Indicative factory price paid to farmers for all milk. Data for 1999 & 2000 are production weighted average prices of fluid milk & manufacturing milk (including support payments). They are not directly comparable with subsesquent years.*

The effect of deregulation on manufacturing milk prices was cushioned by a strong rise in export returns. So the initial adjustment pressures in the export sector were limited. In the first two years of a deregulated market average milk prices strengthened in Victoria where fluid milk sales are less than 10% of total output.

As expected the strongest adjustment pressures were felt in the States that concentrated on fluid milk production. There was a substantial fall in fluid milk prices. In 2000-01 the average price received for all milk fell by 11% in NSW and 16% in Queensland. But these price falls include the off-setting effect of stronger export returns for manufacturing milk:

- The initial fall in fluid milk prices in the first year of deregulation was around 35-40% (Harris 2005b).

In subsequent years there was some improvement in fluid milk prices as processors had to offer an adequate price premium to secure off-season supplies. Milk prices also benefited from strong export returns. World prices weakened in 2003-03 but have recovered in more recent years.

Structural change had been evident in the Australian dairy industry for some time before deregulation. It was driven by fluctuations in world prices and to a lesser extent the gradual decline in market support for manufacturing milk

since the mid 1980s. Deregulation accelerated the pressures for adjustment and farmers responded in two ways.

A number of farmers retired from the industry. After two years around 1,850 farms had left the industry, a fall of 14%. Initially farm exits were limited in Victoria because of the strong export returns. But retirements increased in the second year as higher farm asset values encouraged some older farmers to retire rather than initiate new farm developments.

Adjustment pressures were stronger for farmers focused on fluid milk sales. In NSW almost 20% of the State's dairy farms left the industry in the first year of deregulation. In Queensland 15% of farms retired from the industry. By 2002-03 most of the adjustment to deregulation had occurred and the rate of farm retirements declined.

The initial impact on milk production was a decline of 3% in 2000-01, the first reduction in output since 1989-90. Farm retirements played a major role in the decline but poor seasonal conditions were also a contributing factor. Production recovered in 2001-02 in response to strong export returns and improved seasonal conditions.

The decline in milk production in 2002-03 was due to a sharp decline in export returns and severe dry conditions across the country. The rise in farm retirements in 2003-04 reflected a continuation of the dry conditions. Two years of lower milk output eroded the financial position of many farmers. This has had a carry-over effect on the rate of farm retirements in subsequent years.

Farm level adjustment to deregulation was also evident in the response by the farmers that chose to remain in the industry. Most responded by expanding milk output to increase their farm income. In general this involved increasing the scale of dairy enterprise and/or more intensive production from the existing base of farm resources.

Some farmers purchased land and livestock to expand farm output. In many cases changes were made to boost herd performance. Improved livestock and pasture management, supplementary feeding and more irrigation were some common responses (Harris 2005b).

Changes in milk output per farm in the first two years of deregulation reflect the net effect of these farm level adjustments. There was an immediate response to deregulation. After two years, per farm output had increased by more than 20%. This change was especially evident in the states that focused on fluid milk with per farm output rising by 26% in NSW and 18% in Queensland.

The growth in farm output was partially driven by expanding the size of the dairy enterprise. After two years of deregulation the average herd size was 192 head, a rise of 14%. Milk yields also improved after a decline in 2000-01 due to poor seasonal conditions in Victoria.

Changes in the average physical performance of the industry after two years of deregulation reflect the prolonged period of drought conditions. Structural changes in response to deregulation were mostly completed by the time the drought began to affect industry performance.

The export performance of the industry mirrored developments in milk output. The initial decline in milk supplies contributed to the 6% fall in export tonnages in 2000-01. Exports recovered in the following year in line with the strong growth in Victorian milk supplies.

■ Concluding Comments

Adjusting to the pressures for change is an inevitable aspect of industry development. Fluctuations in world prices and exchange rates have affected industry returns both before and after deregulation. Australian dairy farmers have shown considerable resilience and capacity to adapt to changing market conditions.

Deregulating the dairy market was an unusual experience in Australian policy reform. The over-night removal of all price support caused an immediate, substantial decline in returns for fluid milk producers. The key point that emerges from this experience is that dairy farmers were able to adjust to the effects of the policy change.

The impact was not as severe as many farmers had feared. Transitional assistance helped farmers to manage the pressures for change. Some older farmers retired, some switched into other forms of agriculture and others moved into jobs outside of agriculture.

The farmers that remained in the industry were not passive bystanders to the effects of deregulation. They took steps to improve the physical and financial performance of their dairy enterprise. The adjustment was rapid and industry performance improved as farmers adapted to the change in market conditions.

For family farms adjustment to deregulation involved making changes that offset the loss of income from the removal of market support. In general the response was to increase farm output. Farmers expanded their herds and in some cases increased land areas.

Changes in secondary input use improved the productive performance of the dairy enterprise. Carrying capacity increased through greater use of improved pastures, fertilizer and water inputs. Pasture management improved and livestock productivity (milk yields) gains were achieved through increased supplementary feeding.

There are often concerns about the effects of major policy changes like dairy deregulation. Transitional assistance can help farmers respond to the pressures for change. It is worth making a couple of observations about the approach used for Australian dairy deregulation.

An 'over-night' approach to policy reform made the impact transparent. Farmers quickly assessed their situation and made decisions about their future because they had immediate, undistorted price signals about the full effects of the reform. If the reform had been phased-in the full effect would not have been immediately obvious.

A phased policy change would have provided some implicit transitional assistance. But the assistance is not transparent. It comes through the milk price which doesn't send an effective signal for change to farmers. This approach dilutes the incentive for substantive changes to improve long term viability. The adjustment process is longer and some farmers may be better off making earlier decisions to change.

If transitional assistance is to be provided it works best if it's transparent. A one-off, unconditional grant allows farmers to make decisions that suit their individual circumstances. The DSAP payment effectively realised the implicit assistance from a phase-out. It was a more effective way of facilitating farm level adjustment which helped to speed up the gains in industry performance that typically flow from policy reforms.

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