

## dairy

### *outlook to 2012-13*

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World prices for dairy products are forecast to decline in 2008-09, but to remain relatively high over the outlook period.

Future growth in world dairy product trade is expected to be relatively slow, reflecting production constraints in the major exporting countries, particularly Australia and the European Union.

A recovery in dairy herd numbers in Australia is expected to be constrained by forecast relatively higher feed costs in the next few years and the lead times involved in rebuilding herds. Australian milk production is projected to recover slowly over the medium term as a result of an assumed improvement in water allocations, rising cow numbers and steady increases in average milk yields per cow.

#### *world dairy prices to remain relatively high*

World prices for the major dairy products rose sharply in 2007-08, driven by steady growth in global dairy demand set against slower growth in supplies from the major exporters. In particular, reduced production in Australia (caused by recent drought conditions) is having a significant impact on exports and global dairy trade. Also affecting export availability is the situation in the European Union where changed institutional arrangements and higher production costs will limit growth in output. Together with relatively strong growth in world dairy demand, these production constraints are expected to result in world dairy product prices remaining relatively high over the next few years.

In Australia, dry conditions and very low initial water allocations across most dairying regions resulted in production being down sharply in the first quarter of 2007-08. However, widespread rainfall from late 2007 — together with higher farmgate milk prices — has allowed dairy farmers in many regions to largely maintain production. For 2007-08 as a whole, milk production is projected to be down 5 per cent, reflecting the effects of severe drought that resulted in lower herd numbers and lower milk yields during the first half of the financial year.

In the European Union, milk production is projected to increase marginally in 2007-08 and 2008-09 as higher feed costs adversely affect the profitability of dairying, despite higher dairy prices and an expected increase in EU milk quotas in 2008. In addition, recent reforms to the Common Agricultural Policy (CAP) that have removed some incentives to produce milk will contribute to slower growth in EU milk production over the outlook period.

Increased dairy supplies are expected from New Zealand in 2008-09, where moderate growth in milk production will allow greater dairy product output and exports. Despite drought conditions that are expected to reduce production and exports in 2007-08, a return to average seasonal conditions is expected to result in New Zealand being the main contributor to growth in global export supplies over the next few years, in line with growth in production. There is also some prospect of increased exports from the United States (particularly of skim milk powder, but also cheese and butter) as a result of a moderate increase in production and higher world prices. In addition, an assumed lower US dollar is expected to make US dairy exports more price competitive on world markets.

## dairy outlook

	unit	2005 -06	2006 -07	2007 -08 f	2008 -09 z	2009 -10 z	2010 -11 z	2011 -12 z	2012 -13 z
<b>world</b>									
<b>indicative price</b>									
butter									
- nominal	US\$/t	1998	2023	3950	3750	4050	4100	3800	3500
- real a	US\$/t	2109	2082	3950	3666	3870	3830	3470	3124
skim milk powder									
- nominal	US\$/t	2175	3188	4425	4200	4550	4600	4450	4100
- real a	US\$/t	2296	3280	4425	4106	4348	4297	4063	3659
cheese									
- nominal	US\$/t	2792	3004	5110	4950	5250	5375	5250	5000
- real a	US\$/t	2946	3091	5110	4839	5017	5021	4794	4463
<b>australia</b>									
cow numbers b	'000	1879	1786	1728	1795	1890	1980	2060	2115
yield per cow	L	5369	5365	5260	5153	5216	5328	5437	5499
<b>production</b>									
total milk	ML	10089	9583	9090	9250	9860	10550	11200	11630
milk sales	ML	2066	2161	2197	2190	2230	2260	2315	2375
manufacturing usage	ML	8023	7422	6893	7060	7630	8290	8885	9255
butter c	kt	146	133	125	145	155	175	185	196
cheese	kt	373	364	340	355	380	395	410	420
skim milk powder	kt	205	191	170	185	200	224	245	260
wholemilk powder	kt	158	135	130	150	165	185	200	220
<b>milk price d</b>									
- nominal	Ac/L	33.1	33.2	45.0	54.2	56.4	59.6	58.6	57.7
- real e	Ac/L	35.0	34.1	45.0	52.7	53.6	55.2	53.0	50.9
<b>export volume</b>									
butter c	kt	83	81	82	85	97	114	126	135
cheese	kt	202	213	180	200	220	230	250	255
skim milk powder	kt	181	164	145	150	165	190	210	220
wholemilk powder	kt	110	94	88	98	112	137	153	167
<b>export value</b>									
- nominal	A\$m	2574	2443	3560	3791	4618	5329	5685	5579
- real e	A\$m	2724	2511	3560	3689	4385	4937	5138	4919

a In 2007-08 US dollars. b At 30 June. c Includes the butter equivalent of butteroil, butter concentrate, ghee and dry butterfat. d Includes freight from farm gate to processor in some states. e In 2007-08 Australian dollars. f ABARE forecast. z ABARE projection.

Sources: Australian Bureau of Statistics; Dairy Australia; ABARE.

Over the outlook period, global demand for dairy products is expected to grow steadily, with firm economic growth projected for all major importers of dairy products. However, from around the middle of the outlook period, growth in production in major exporting countries is forecast to exceed growth in world import demand and this is expected to put downward pressure on prices.

### *world milk production growth to be constrained*

In 2007, world cow milk production rose by 1.6 per cent to around 570 million tonnes. The major contributors to this rise (by volume) were China (up 10 per cent), the United States (up 2 per cent), Brazil (up 6 per cent) and India (up 3 per cent). Among the major dairy exporters, New Zealand production increased by almost 3 per cent, European Union production grew marginally, while production fell by 5 per cent in Australia.

World dairy production in 2008-09 and 2009-10 is forecast to grow at a relatively slow rate. Most of the forecast growth in global production is expected to come from emerging dairy producers, particularly China (which is expected to raise milk production sharply in 2008 to become the world's third largest milk producing country) as well as India and south America. However, almost all of this increase in production is expected to be consumed domestically rather than exported.

In contrast, production in the major dairy exporting countries of the European Union, New Zealand and Australia is forecast to grow relatively slowly. This is a result of changes to production incentives under the Common Agricultural Policy (CAP) in the European Union, higher feed prices and lead times in herd building in New Zealand and recovery from recent drought conditions and associated irrigation water supply constraints in Australia.

Over the remainder of the outlook period, developing countries, particularly China, India and in south America, are expected to provide the bulk of the increase in global milk production, driven by rising average incomes, increasing domestic demand and greater investment in production capacity. However, with dairy production forecast to grow faster than consumption in these countries, domestic production is expected to account for an increasing proportion of domestic dairy consumption. This is expected to reduce import demand, particularly in China, and contribute to an increase in the supply of dairy products entering global trade in the latter part of the outlook period.

In the European Union (the world's largest dairy producer), dairy output will be constrained over the next few years by production quotas — although these are expected to be progressively eased. Forecast higher feed prices will also reduce dairy profitability and production, while reforms to the Common Agricultural Policy have largely reduced incentives to produce in

excess of market requirements. In the United States, growth in dairy production is also expected to be constrained by higher feed costs — particularly for grain crops used in the production of biofuels — that will affect the profitability of dairying. In Australia, a slow recovery in dairy production is projected, with cow numbers expected to take some years to recover from recent drought conditions.

New Zealand, in contrast, is the only major exporter that is expected to increase production significantly over the period to 2012-13. An expansion of New Zealand's dairy industry is expected in response to high world prices. However, growth in New Zealand's dairy output (and consequent growth in exports) is expected to be limited to some extent by a number of factors, including concerns over the environmental impacts of dairying and lead times in building dairy herds.

### *world dairy consumption continues to grow*

World consumption of milk and processed dairy products has grown steadily in recent years, driven by population growth, rising incomes and changing consumption patterns. Of the major dairy products, total world butter consumption increased by 23 per cent between 2000 and 2007, while cheese increased by 16 per cent and whole milk powder by 13 per cent. Consumption of skim milk powder, however, was down by 8 per cent over the period. Increases in world consumption of dairy products were driven largely by increased consumption in China, India, the Russian Federation and Ukraine.

In some of the major developing countries in Asia, adoption of more western style diets has resulted in greater consumption of dairy foods. Between 2000 and 2007, fluid milk consumption in the major emerging economies of China (the world's largest importer of dairy products) and India is estimated to have increased by 300 per cent to 36 million tonnes and 25 per cent to 99 million tonnes respectively. Milk and dairy product consumption per person in China and India remains low compared with more developed countries and is strongly correlated with growing incomes and the existence of well developed retail supply chains and cold storage — especially the ownership of domestic refrigerators. As a result, there remains potential for significant rises in dairy consumption in these countries over the outlook period.

### *world dairy stocks are largely exhausted*

With strong growth in global dairy consumption exceeding growth in production over the past few years, world stocks of the main processed dairy products were largely eliminated in 2007. Most notably, dairy product intervention stocks in the European Union have been exhausted for the first time in many years. The effective elimination of EU intervention stocks has

removed some dairy product supply from world trade and contributed to higher world dairy prices.

*world dairy trade to grow relatively slowly*

With growth of world dairy trade being dependent on growth in global export supplies, relatively slow growth in production in the major exporters (and some emerging exporters) is expected to result in slow growth in world dairy trade in 2008-09 and 2009-10. Exports of dairy products from Argentina, the European Union and Ukraine are expected to be relatively flat or declining, while the rate of growth in Australian exports is expected to be moderate. Stronger growth in exports, however, is expected from New Zealand, and also from the United States, where a lower US dollar has increased export competitiveness and encouraged greater exports of skim milk powder, cheese and butter.

Over the medium term, the rate of growth in world dairy product exports is expected to increase, largely in response to higher production in New Zealand, Australia and some emerging producers, including Brazil and Argentina. The overall volume of world trade in dairy products will be limited by reductions in import demand from some key countries. China, Mexico and Brazil, for example, may supply more of their dairy consumption needs from domestic production, potentially reducing their demand for imports.

*outlook for dairy product prices*

World prices for most dairy products are forecast to decline in 2008-09, as production and exports rise in response to recent higher world prices. The United States, in particular, is expected to increase exports as a result of rising production, a lower US dollar and world prices that have exceeded prices available domestically. World dairy prices are also expected to be affected by some food processors substituting other inputs for higher priced dairy ingredients and reducing their consumption of dairy products. Despite these developments, world dairy prices are forecast to remain relatively high over the outlook period as demand continues to grow relative to global production.

world dairy product prices



**cheese**

After rising sharply in 2007-08, world cheese prices are forecast to fall in 2008-09, to average US\$4950 a tonne, in response to growth in global production and exports. Cheese prices are expected to remain relatively high over the remainder of the outlook period, as strong growth in import demand is matched by growth in production and exports from major producers. After peaking at around US\$5020 in 2010-11, cheese prices in real terms (2007-08 dollars) are projected to decline to US\$4460 a tonne in 2012-13.

Future growth in global cheese consumption will be linked strongly to rising consumer incomes and a trend toward more western style diets, particularly in the major developing countries of Asia, eastern Europe and in the new member states of the European Union.

The Russian Federation is the world's largest importer of cheese, with imports of 250 000 tonnes in 2007 or around 22 per cent of world cheese trade. This represents a fourfold increase in cheese imports since 2000. With rising incomes and growth in consumption consistently exceeding growth in domestic cheese production, the Russian Federation's imports are expected to continue to expand in 2008 and over the remainder of the outlook period.

Similarly, the Republic of Korea and Mexico are also growing importers of cheese, increasing their imports by 57 per cent and 63 per cent respectively since 2000 to collectively account for around 12 per cent of world cheese trade in 2007. Cheese imports by these countries are expected to continue to grow strongly as consumer incomes increase.

Japan (which consistently accounts for around 20 per cent of world cheese imports or more than 200 000 tonnes a year) is a relatively mature market for cheese, with consumption growing at around 1 per cent a year since 2000. As a result, cheese imports by Japan are expected to grow at a slow rate over the medium term, while its relative importance as an importer is expected to continue to decline.

### **whole milk powder**

After a strong rise in 2007-08, world whole milk powder prices are forecast to fall to around US\$4380 a tonne in 2008-09. However, prices are forecast to remain relatively high over the projection period, averaging US\$4700 a tonne in 2010-11. With growth in export supplies expected to exceed growth in import demand toward the end of the outlook period, world prices in real terms are projected to decline to US\$3700 a tonne (in 2007-08 dollar) in 2012-13.

Growth in import demand for is driven largely by income growth in developing countries, where milk powders have a long shelf life. Among the countries with the greatest influence on imports of whole milk powder are Algeria and China, where imports were up 59 per cent to 175 000 tonnes and 12 per cent to 57 000 tonnes respectively between 2000 and 2007. Algerian imports accounted for 40 per cent of total world imports of whole milk powder in 2007 (up from 17 per cent in 2000). In the same year, China accounted for 13 per cent of world imports. However, import demand for whole milk powder in China is expected to fall as rising domestic production increasingly displaces imports over the next few years.

Over the medium term, growth in demand for whole milk powder and trade in the product is expected to be underpinned by a significant shift in demand in some countries (particularly China, Chinese Taipei and Peru) away from the commercial reconstitution of skim milk powder toward decentralised reconstitution of whole milk powder by end consumers.

Growth in world exports of whole milk powder has been constrained by a significant decrease in WMP production in the European Union. With relatively flat milk production and relatively higher prices on offer for cheese, an increasing proportion of EU milk production has been diverted to the production of cheese at the expense of milk powder production, which is forecast to decline moderately in 2008-09. In addition, strong demand for whole milk powder within the European Union (particularly for the processed food industry) has resulted in the exhaustion of intervention stocks.

Over the next few years, the major source of growth in exportable supplies of whole milk powder is expected to be New Zealand, in line with expanding domestic milk production. With EU milk production expected to remain relatively flat over the medium term, and cheese production set to continue to rise, growth in EU exports of whole milk powder is expected to be relatively limited over the projection period.

### skim milk powder

After averaging a little over US\$4420 a tonne in 2007-08, world skim milk powder prices are forecast to fall to average around US\$4200 a tonne in 2008-09, largely in response to an increase in production and exports from the United States. Prices are forecast to rise moderately in 2009-10 as a lack of global stocks and relatively slow growth in world dairy production limit growth in tradable supplies relative to import demand. Around the middle of the outlook period, as export supplies begin to expand more strongly, world prices for skim milk powder in real terms are projected to decline to average around US\$3660 a tonne (in 2007-08 dollars) in 2012-13.

Growing world demand for skim milk powder is being driven largely by rising incomes and increasing import demand in developing countries in Asia and eastern Europe. Increased demand has also been apparent in the European Union, where food regulations in the wake of previous occurrences of bovine spongiform encephalopathy (BSE or 'mad cow' disease) have resulted in increased use of skim milk powder in animal feeds as a protein supplement, and in food processing.

Despite strong world demand for the powder, growth in production has been limited by slower growth in global milk production. In addition, a greater proportion of milk production has been diverted to the production of cheese, which has attracted higher returns. This has limited growth in production in the European Union and contributed to a depletion of world stocks and export availabilities.

Production and exports of skim milk powder are expected to be down in Australia, Argentina and Ukraine. Production in the United States, however, is expanding and — aided by higher world prices and a lower US dollar — has resulted in increased exports in 2007-08. These conditions are expected to continue in the coming year, resulting in a further increase in US exports in 2008-09.

## butter

Constrained growth in world butter production — largely through milk supplies being diverted to cheese production — has reduced the exportable supplies of butter in the major exporting countries. As a consequence, exports of butter from Australia, New Zealand and the European Union are expected to be lower in 2008-09 and to remain relatively constrained over much of the outlook period as the trend toward increased cheese production continues.

World butter prices are forecast to decline by 5 per cent to US\$3750 a tonne in 2008-09, reflecting moderate growth in exports from the United States. Despite this, butter prices are projected to remain relatively high in real terms over the outlook period as a result of constrained growth in export supplies. From a forecast average price of around US\$3900 a tonne in 2009-10, the world price of butter is projected to decline to around US\$3100 a tonne (in 2007-08 dollars) in 2012-13.

## *production quotas in the european union important to dairy price outlook*

As the world's largest producer and exporter of dairy products, the European Union will play an important role in both the short and medium term outlook. The large size of the EU dairy industry and any repeat of its previous propensity to dispose of surpluses on world markets at subsidised prices mean that EU actions can have a major destabilising effect on global prices and trade.

Despite the prospect of higher world dairy prices, milk production in the European Union is forecast to increase relatively slowly over the outlook period, limited by production quotas. The 2003 reforms to the Common Agricultural Policy mandated a 0.5 per cent increase in milk quotas for EU member states in 2008 and a further easing of quota restrictions ahead of the expected abolition of milk production quotas in 2015. However, new CAP reform proposals presented to the European Parliament may result in an additional 2 per cent increase in production quotas from April 2008.

An increase in the quota does not necessarily mean that milk production in the European Union will rise by the full quota. The United Kingdom (for example) is expected to produce below quota over the next few years as some dairy farmers have left the industry. In addition, the lack of flexibility

in the quota increase — which will be shared equally among all EU member states, regardless of their ability to make use of them — is likely to result in EU milk production falling short of production quota targets in some years.

Another element of recent CAP reform — the single farm payment — is also expected to have an ongoing effect on dairy production in the European Union. The decoupling of farm support from production levels has contributed to the EU dairy sector becoming more responsive to market price signals and has brought dairy supplies more in line with demand. The move to single farm payments is also expected to affect the mix of dairy production within the EU and shift the sector further toward the production of higher value products such as cheese. Production of bulk commodities such as milk powders (that compete for raw milk as an input) is expected to decline over the outlook period.

### *australian dairy industry recovering from drought — rebuilding production and profitability*

Widespread drought across Australia's major dairying regions in 2006 and 2007 has challenged the financial viability of many dairy farms. Reduced rainfall and lower allocations of irrigation water has left many dairies unable to meet their feed and fodder requirements from pasture and crops grown on farm, while also raising the price of bought-in feeds. The consequent sharp increase in costs severely affected dairy farmers' incomes, so that many dairy farms had to dry off cows to reduce their feed intake or reduce cow numbers. Looking ahead, the ability of dairy farmers to recover quickly from drought will depend largely on the financial situation of individual farmers, the availability of irrigation water and the ability of farmers to rebuild milking cow numbers.

Assuming average seasonal conditions, the prospects for a recovery in Australian dairy production are promising. Constrained growth in export supplies and strong global demand for dairy products are expected to result in farmgate milk prices remaining high in real terms over the outlook period. This will provide an incentive for dairy farmers to rebuild their herds and increase production capacity. Furthermore, when the positive impacts from past investments in new technologies and plant and equipment by dairy farmers are combined with higher farmgate milk prices the prospects for recovery from drought look positive.

While good rains in late 2007 and early 2008 have been helpful, uncertainty remains about the possibility and timing of increased allocations of irrigation water in the southern Murray Darling Basin, and the availability and price of fodder. These factors will affect the pace at which the dairy herd is rebuilt and have a big impact on the financial performance of dairy farms over the outlook period. It is also possible that there could be further rationalisation within the dairy industry following the drought, particularly among farms with low equity and high debt servicing requirements.

*australian farmgate milk prices to remain relatively high*

After averaging around 45 cents a litre in 2007-08, Australian farmgate milk prices are forecast to rise by a further 20 per cent to 54 cents a litre in 2008-09. The forecast of relatively high farmgate milk prices reflects both the prices needed by dairy farmers to cover the high cost of feed and other inputs (such as purchased irrigation water entitlements) and the ability of the dairy industry to benefit from strong world prices for dairy products.

Over the remainder of the outlook period, farmgate prices are projected to remain relatively high, before falling to around 51 cents a litre (in 2007-08 dollars) in 2012-13 as product prices in global markets decline in real terms. Such a price would be about 13 per cent higher than the estimated farmgate return in 2007-08.

*australian production down in 2007-08 but recovering in 2008-09*

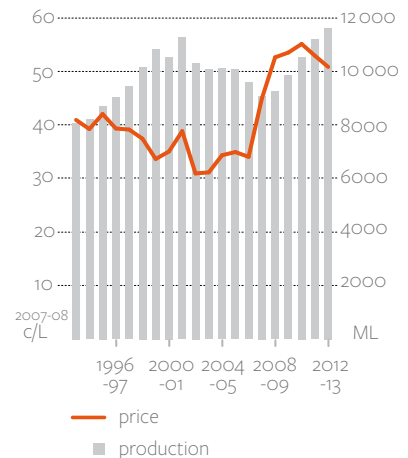
Reflecting the widespread drying off of cows and herd reductions in some regions in response to drought, Australian milk production is estimated to have fallen by more than 5 per cent in 2007-08, to around 9.1 billion litres. In 2008-09, Australian milk production is forecast to begin to recover, rising by almost 2 per cent to around 9.25 billion litres.

With an assumed return to average seasonal conditions, Australian milk production is projected to recover over the outlook period, increasing by around 28 per cent from 2007-08 lows to around 11.6 billion litres in 2012-13. The trend toward fewer, larger dairy farms and new investment is expected to result in the growth of Australia's dairy herd and increased milk yield per cow over the medium term.

Increased investment and greater efficiency (together with assumed average seasonal conditions) as farmers respond to prospects of good returns are expected to be the main factors returning milk production to pre-drought levels of more than 11 billion litres a year by the end of the outlook period. Australia's dairy herd is projected to increase by 18 per cent and milk yields by around 7 per cent between 2008-09 and 2012-13.

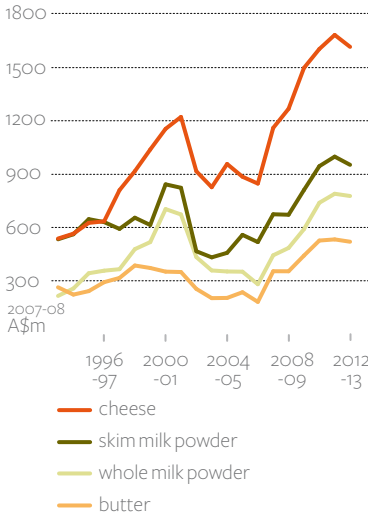
Over the outlook period, changes in Australia's dairy product mix and total output will be driven by changes in relative returns from the various manufactured products. For example, cheese prices are projected to be relatively firm compared with prices of other dairy products. Prices for milk powders may also be affected by developments in the cheese market, as cheese production uses milk that would otherwise go to milk powder production.

australian milk



# dairy

## australian dairy product exports



Because of the relatively attractive prices expected to prevail for cheese and milk powders over the next few years, these two products are likely to account for an increased proportion of manufactured dairy product output and Australian dairy exports over the outlook period.

### *australian export returns to rise as production recovers slowly*

Despite an expected softening of world dairy product prices in 2008-09, increased export volumes are forecast to result in the total value of Australian dairy product exports rising by 7 per cent to \$3.8 billion for the year. The total value of dairy exports is forecast to continue to rise over the outlook period — reflecting rising production, increasing exports and relatively high world prices — to reach around \$4.6 billion (in 2007-08 dollars) in 2012-13.