



## **In Focus: Dairy**

January 2016



# Highlights

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International dairy markets have seen a tumultuous 2015, with lacklustre demand, particularly from China, combined with adequate supply of most dairy products sending prices on a rollercoaster. However, Australian producers have been shielded from much of this tumult by a lower Australian dollar and a large and relatively stable domestic market.

Looking to the coming year, we see a slow recovery in global prices, with moderately higher Chinese demand but continued strength in global supply. The lower AUD will provide support locally – we have revised down our AUD/USD forecasts to 0.67 in Q1 2016 (previously 0.68), climbing to 0.69 at the end of 2016 (previously 0.70). The AUD is expected to reach as low 0.66 at the end of Q2 2016. We forecast that dairy export prices will rise 3.0% (AUD) in 2015-16 and that the value of Australian dairy exports will increase by 3.2% (AUD) in 2015-16.

While weather was a challenge in many dairy regions in 2015 (especially Victoria, parts of South Australia and Tasmania), the models suggest that El Niño will subside by late autumn this year and that conditions will tend closer to La Niña in spring. La Niña is generally associated with above average rainfall in eastern Australia. This points to a potential production upside in Australia and New Zealand if rainfall improves in major dairy regions.

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Photo: Carl Davies [CSIRO](#)



# Highlights for trade in 2015



## Trans-Pacific Partnership

- Does not greatly improve dairy market access, in part due to objections from the Canadian dairy industry.

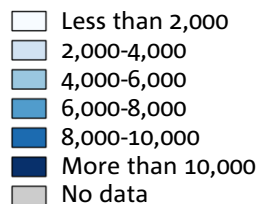
## European Union

- End of the quota system will see higher production in some EU countries.
- Russian embargo hits producers.

## Russia

- 2014 embargo on dairy products from the EU, Norway, US, Canada and Australia continues.

## Value of dairy\* exports (million USD) – 2013



## United States

- Major producer and consumer of dairy products.
- Strong domestic sales returns.

## China

- Milk powder imports down on 2014 levels. Developing domestic sector.
- FTA with Australia will improve access.

## New Zealand

- Dependence on exports to China has left New Zealand heavily exposed to lower global demand conditions.

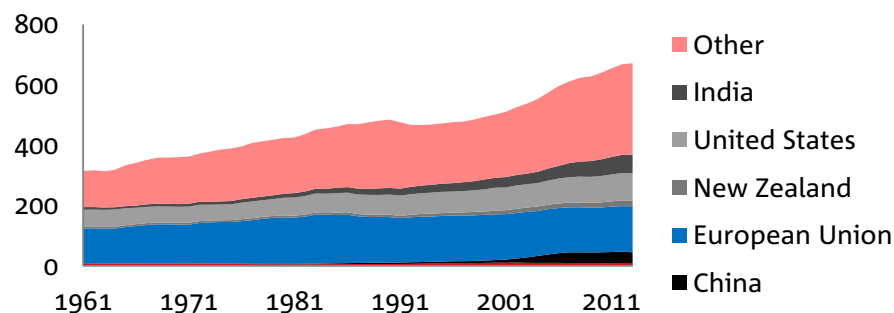
Source: Dairy Australia, UN Comtrade and NAB Group Economics . \* Includes eggs and honey.

# Global production



## Whole milk production

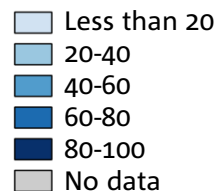
Million tonnes per annum



The world's largest (cow milk) dairy regions are in the European Union and the United States, which accounted for 22.7% and 13.6% of global whole cow milk output in 2013 respectively. India, China, Brazil and Russia are also major producers, accounting for 9.0%, 5.3%, 5.1% and 4.5% of global whole cow milk output in 2013 respectively. When buffalo milk is included, India is the world's largest dairy producer.

The removal of European Union milk production quotas on 1 April 2015 is likely to see a realignment of production within the European Union (with countries such as Ireland looking to increase production), and potentially an increase in exports in the coming years. Elsewhere, supply remains largely strong.

## Cow whole milk production (million tonnes) 2013



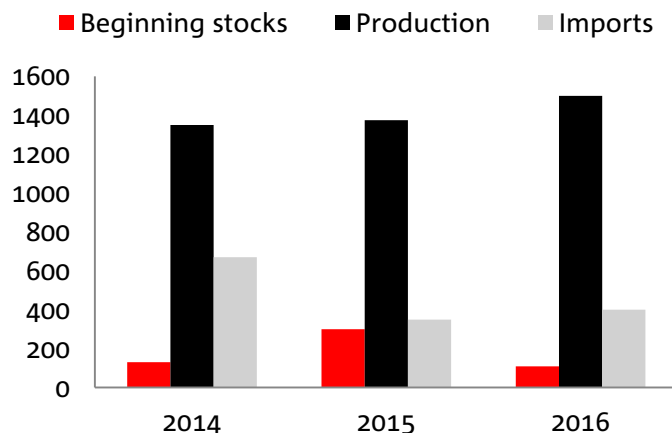
Source: UN FAOSTAT, Natural Earth Data and NAB Group Economics. Note: cow milk only.

# Market in focus: China



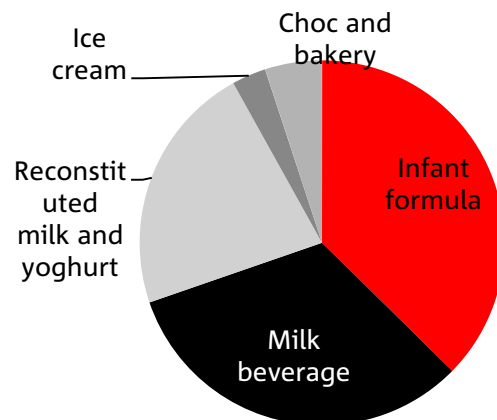
## USDA forecast WMP sources

'000 tonnes, calendar year



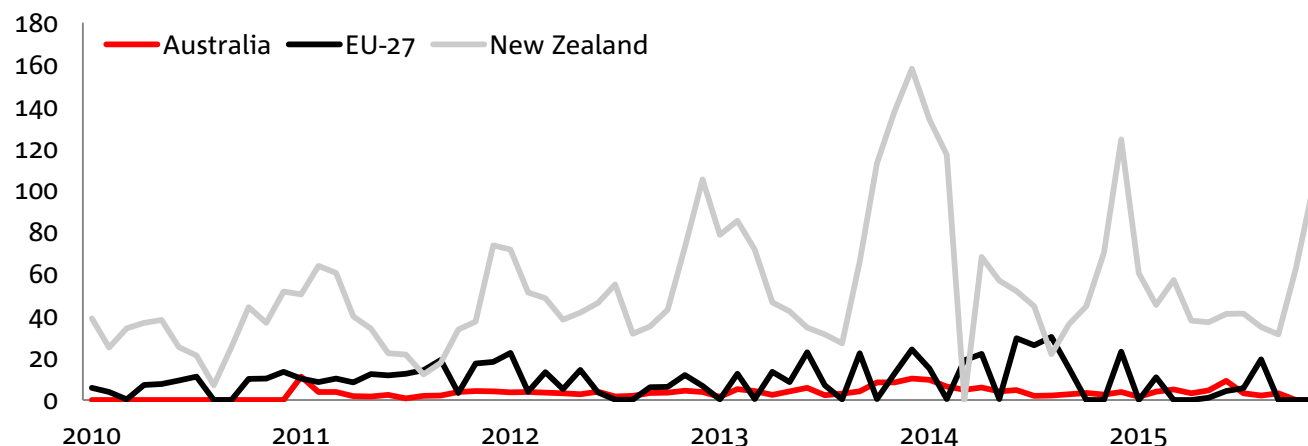
## Use of WMP in China

Per cent



## Volume of dairy exports to China

Selected countries, '000 tonnes, monthly



Source: USDA, UN Comtrade and NAB Group Economics

While China is a large dairy producer in its own right, in nonetheless relies on imports to meet domestic demand, especially for premium dairy products and infant formula in the wake of the 2008 melamine adulteration scandal. The USDA estimates that around 37% of whole milk powder in China is used in infant formula. Most whole milk powder is produced domestically.

Milk powder imports are highly seasonal, generally peaking in December to February and are at their lowest in August to September. However, there have been significant changes in annual import volumes since 2010. Chinese milk powder trended significantly upwards in late 2013 and early 2014 as China replenished its stockpile. Since early 2014, imports have trended substantially lower on account of adequate inventories and increased interest in domestic production.

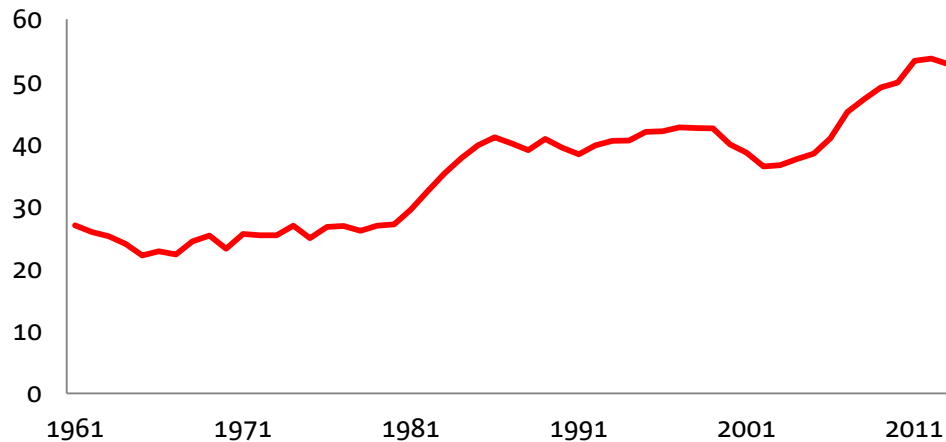
The USDA forecasts that whole milk powder import volumes into China will increase 14.3% in calendar year 2016 as the stockpile accumulated in 2013 and 2014 is run down.



## Market in focus: India

### Wholemilk supply, India

Kilograms per capita per year



### India tariff and quota rates

Per cent, \*average

	Effective tariff	Applied tariff	Bound tariff
Dairy	34.2*	39.6*	65.0*

	Within quota rate	Outside quota rate	2013-14 quota (mt)
SMP	15.0	60.0	10,000
Butter	0.0	30.0	15,000

Source: USDA, UN FAOSTAT, WTO and NAB Group Economics

The Indian market offers great potential for Australian exporters. Already the world's third largest economy and growing by over 7% annually, India looks set to overtake China as the world's most populous country in the next 7 years and reap the growth dividend of a young population and rapidly growing middle class.

India is a massive producer and consumer of farm products – consuming 94 million tonnes of wheat, 99 million tonnes of rice, 22 million tonnes of corn, 27 million tonnes of oilseeds, 6 million tonnes of cotton, 60 million tonnes of milk, 5 million tonnes of butter and 28 million tonnes of sugar. The vegetarian focus of India's diet makes dairy a key source of protein.

Food security, price stability and supporting farm incomes are crucial policy goals in India and all lead to a focus on promoting local self-sufficiency for foodstuffs. Consequently, Indian demand for farm products is largely met by local supply with imports generally playing a comparatively minor role, with high protection contributing to this outcome.

India has high tariffs on dairy products and also operates a number of tariff rate quotas on milk-powder and butter. These quota amounts are not very large, given the size of the Indian market and there is a steep step-up in tariffs once they are filled.

Negotiating an FTA with India is a difficult balancing act. Major benefits for the Australian dairy industry are conditional on lower tariffs and higher quotas.

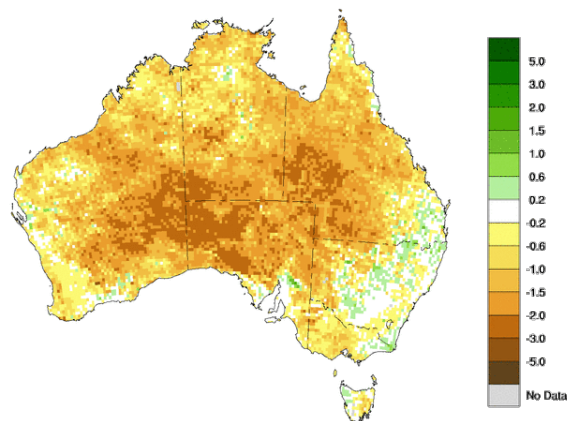
Further information on a potential FTA with India is available in our [Australia/India Free Trade area – what to watch out for](#) report.

# Climate outlook



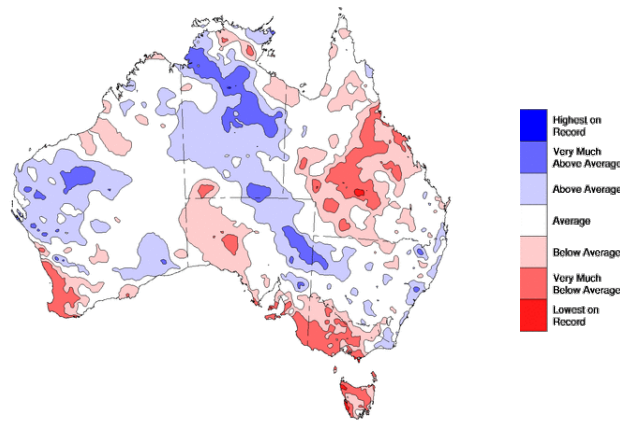
## NDVI Anomaly

6 months to 30 December 2015



## Australian rainfall deciles

12 months to 30 December 2015

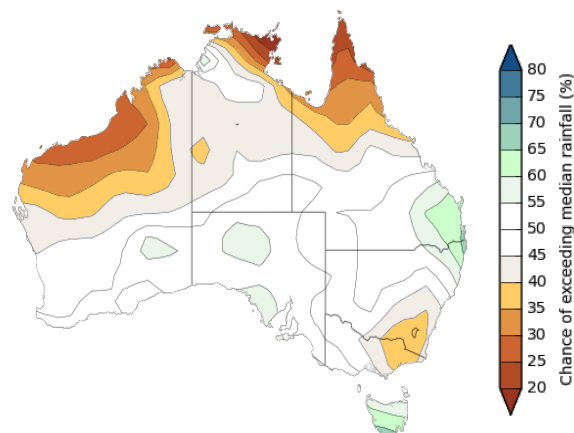


Rainfall was below to well below average across much of the continent in 2015, although most of New South Wales, the Northern Territory and parts of outback Western Australia experienced average to above average rainfall.

Conditions in Victoria, which produces around two-thirds of Australia's milk, were especially dry, particularly for producers the south-west and northern dairy regions. South Gippsland was very dry but conditions were closer to average in East Gippsland.

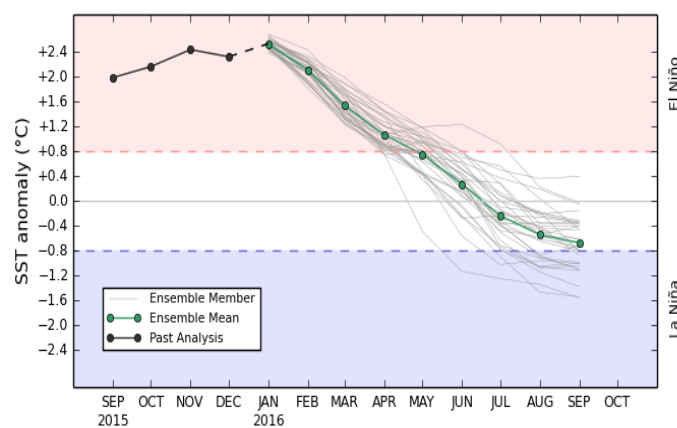
## Three month rainfall outlook

January to March 2016



## BoM POAMA El Niño outlook model

Monthly mean NINO34



The Bureau of Meteorology's Normalised Difference Vegetation Index (NDVI) anomaly for the last six months shows that throughout most of Australia, vegetation is less green than the long run average for the period.

Looking to next season, the Bureau of Meteorology's models suggest that El Niño will subside by late autumn this year and that conditions will tend closer to La Niña in spring. La Niña is generally associated with above average rainfall in eastern Australia.

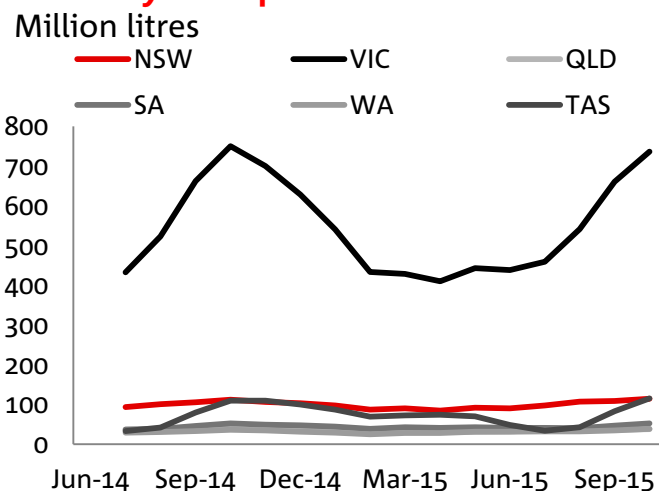
Source: Bureau of Meteorology



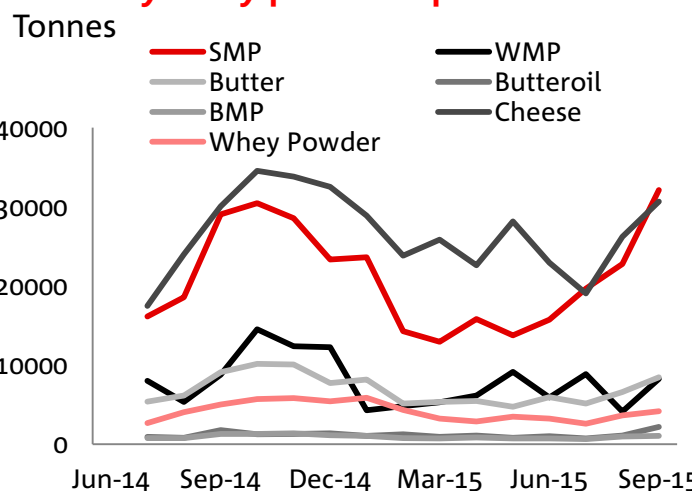
# Australian production outlook



## Monthly milk production



## Monthly dairy products production

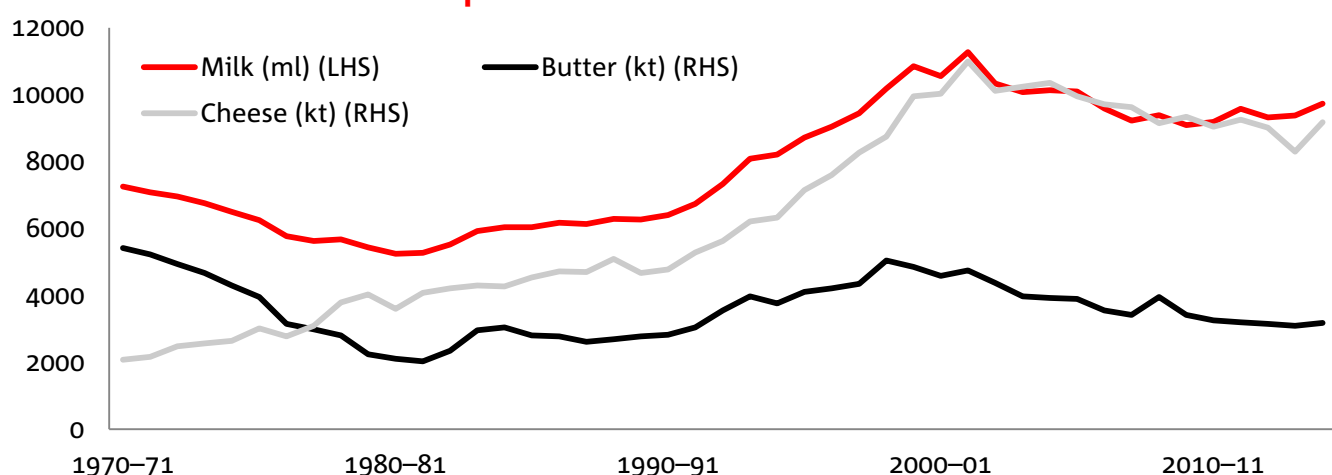


Weather conditions in 2015 were challenging, especially in Victoria. Victoria produces around two-thirds of Australia's dairy and the 2015-16 El Niño has seen below average rainfall in the state.

Despite this, we expect Australian milk production to increase marginally in 2015-16. ABARES' latest forecast is for production to increase 0.2% to 9,750 ML in 2015-16.

The millennium drought combined with price deregulation in 2000 saw milk production fall from a high of 11,271 ML in 2001-02 to 9,084 ML in 2009-10.

## Annual Australian milk production



While the renewal of irrigation systems in northern Victoria should provide improved reliability in the face of drought, irrigators are now increasingly dependent on the spot market for water, which increases price risk in times of lower water availability.

If we move closer (or into) La Niña in spring 2016 (generally associated with above average rainfall in eastern Australia), there is a potential production upside in Australia and New Zealand if rainfall improves in major dairy regions.

Source: Dairy Australia, Australian Bureau of Statistics, ABARES and NAB Group Economics



# Australian prices and trade outlook



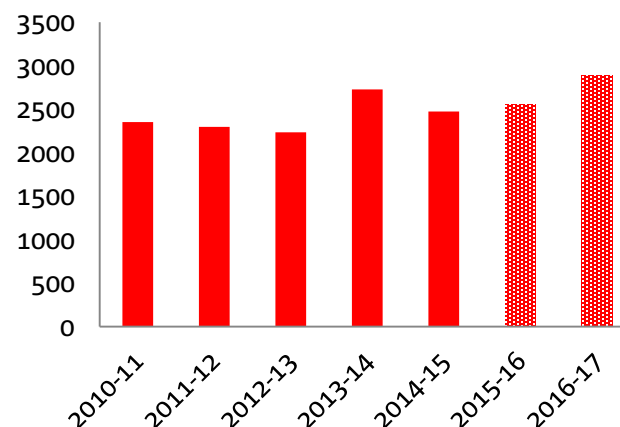
## Australian farmgate Milk prices

AUD/kg milk solids

	2014-15	2015-16 opening	2015-16 average
Murray Goulburn	\$6.00	\$5.60	\$6.05
Fonterra	\$6.00	\$5.60	\$5.80-6.00

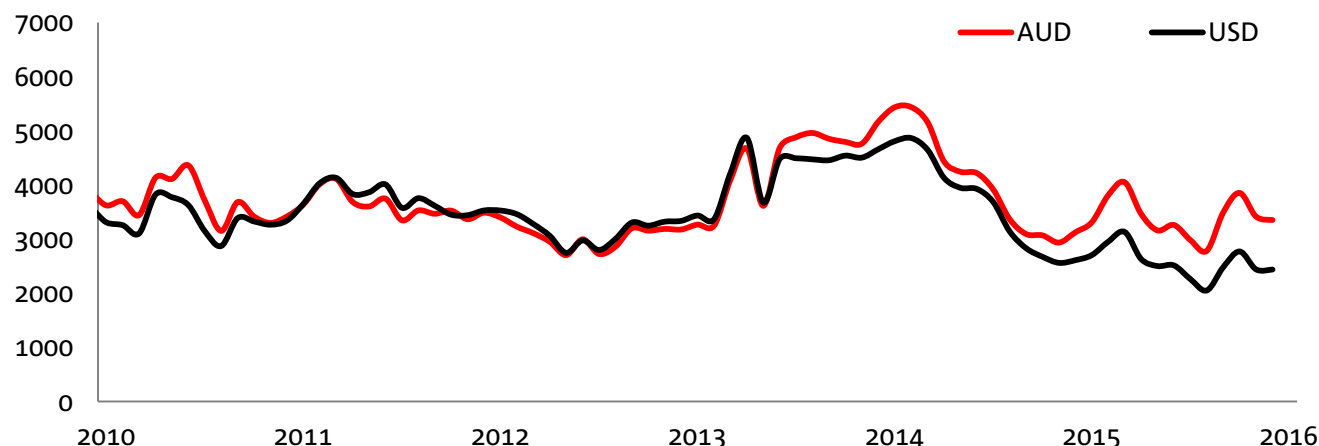
## Value of Australian dairy exports

AUD million



## NAB weighted dairy export price indicator

\$/tonne



International dairy markets have seen a tumultuous 2015, with lacklustre demand, particularly from China, combined with adequate supply of most dairy products sending prices on a rollercoaster.

Australian producers have been shielded from much of this tumult by a lower Australian dollar and a large and relatively stable domestic market. The NAB weighted dairy export price indicator started 2015 at AUD 3309.25/tonne, and after some considerable variation, ended it at around the same level – AUD 3351.68/tonne.

NAB's measure of dairy export prices, based on Global Dairy Trade (GDT) auction results, is weighted by the quantity of Australian exports for whole milk powder, skim milk powder, butter and cheese.

Looking to the coming year, we see slow recovery in global prices, but the lower AUD providing support locally. We forecast AUD to fall to 68 US cents at the end of Q1 2016. We forecast that dairy export prices will rise 3.0% (AUD) in 2015-16 the value of Australian dairy exports will increase by 3.2% (AUD) in 2015-16.

Source: Global Dairy Trade, Murray Goulburn, Fonterra, Farm Online, Bloomberg and NAB Group Economics



## Appendix A: dairy farm financial data by region

### Dairy Farm Monitor financial data by region, 2014-15

Average farm performance per kg milk solids (AUD)

	Northern VIC	South West VIC	Gippsland VIC	Northern NSW	Southern NSW
Feed inventory change	0.00	-0.06	0.06	-	-
Other farm income	0.04	0.10	0.13	-	-
Livestock trading profit	0.50	0.50	0.44	-	-
Milk income (net)	6.09	6.16	5.88	7.62	7.28
<b>Gross farm income</b>	<b>6.62</b>	<b>6.70</b>	<b>6.51</b>	<b>8.61</b>	<b>8.25</b>
Shed cost	0.19	0.20	0.20	-	-
Herd cost	0.30	0.25	0.32	-	-
Home grown feed cost	1.17	0.90	0.91	-	-
Purchased feed and agistment	2.02	1.99	1.72	-	-
<b>Total variable costs</b>	<b>3.69</b>	<b>3.34</b>	<b>3.15</b>	<b>4.48</b>	<b>3.79</b>
<b>Gross margin</b>	<b>2.94</b>	<b>3.36</b>	<b>3.36</b>	<b>4.13</b>	<b>4.46</b>
<b>Overhead costs</b>	<b>1.84</b>	<b>2.08</b>	<b>2.00</b>	<b>3.31</b>	<b>2.55</b>
<b>EBIT per kg milk solids</b>	<b>1.10</b>	<b>1.28</b>	<b>1.36</b>	<b>0.82</b>	<b>1.91</b>

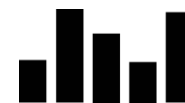
Dairy Australia (jointly with the Victorian Department of Economic Development, Jobs, Transport and Resources in Victoria) release annual Dairy Farm Monitor reports. These reports monitor farm business performance by region. The 2014-15 reports are only available for Victoria and New South Wales, and the key results by region are shown to the left.

The data show that in 2014-15, earnings before interest and taxes (i.e. pre tax profit) ranged between \$0.81/kg milk solids in Northern New South Wales and \$1.91/kg milk solids in Southern New South Wales.

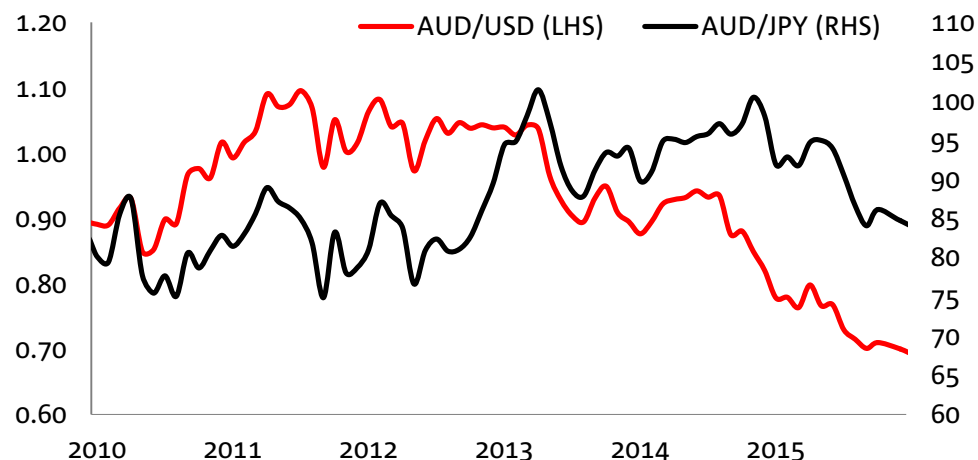
While 2015-16 opening farmgate milk prices are slightly lower than ending prices in 2014-15, 2015-16 season average estimates are similar to 2014-15. This suggests that dairy producers in Victoria and New South Wales are generally financially well placed for this season, although feed costs may be higher in Victoria owing to dry weather.

Source: Dairy Australia, Victorian Government (DEDJTR) and NAB Group Economics

## Appendix B: exchange rates



### Monthly exchange rate movements



We see the currency tracking lower in Q1 2016. We have revised down our AUD/USD forecasts to 0.67 in Q1 2016 (previously 0.68), climbing to 0.69 at the end of 2016 (previously 0.70). The AUD is now expected to reach as low 0.66 at the end of Q2 2016.

However, we note that the majority of the adjustment in the AUD occurred in 2014 and 2015 and we do not see the AUD providing the same level of support to local prices this year.

### NAB FX strategy targets

	2016Q1	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4
AUD/USD	0.67	0.66	0.68	0.69	0.69	0.70	0.72	0.73
NZD/USD	0.62	0.60	0.61	0.61	0.61	0.62	0.63	0.65
USD/JPY	115	116	118	121	123	124	124	123
EUR/USD	1.09	1.07	1.06	1.07	1.07	1.08	1.09	1.10
USD/CNY	6.60	6.70	6.75	6.80	6.80	6.75	6.75	6.70

Source: NAB

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