## INFOCUS October 2015

# LOOKING FOR A SIGN

UNLOCKING AUSTRALIA'S DAIRY POTENTIAL





## LOOKING FOR A SIGN

At ANZ, we're confident about the future of dairy. The Australian dairy industry has a profitable market opportunity in increasing production from 9.2 billion to 15 billion litres of milk per year, and bringing this to market sooner, would assist ongoing prosperity for the sector.

Australia's dairy industry is a showcase for Australia's innovation, strategic capability and has significant export growth potential. The industry demonstrates that it is readily able to adapt and respond to market conditions. Growing demand for dairy products across the Asian region presents the Australian dairy industry with a growth opportunity not seen before. The conversion of theory to execution is of course extremely complex and difficult—we do not pretend otherwise. But, now is the time to move.

The rapid growth of middle classes in Asia, and their increasing dietary preference for animal protein, will underpin the world dairy sector for years or decades to come. We need to bear in mind that 55 per cent of Australian production is domestically consumed, which provides a degree of insulation from global movements. However, there is a need to be globally competitive on a sustained basis to ensure Australian industry success, and profits can only grow so much from our domestically focussed sales revenue.

Undoubtedly, current global conditions are challenging, although a recent rebound in world dairy prices from record lows, give rise to cautious optimism.

The current environment in New Zealand reminds us of the challenges that come with a level of concentration in market—and commodity. Diversity in export markets is crucial. Australia has seen a 31 per cent increase in export volume to the Philippines in the last 12 months to March 2015. Coupled with strong export growth in Singapore and South East Asia, our industry focus is rightly on value and multiple markets.

The value of dairy to the Australian economy is significant directly employing 43,000 people on farms and in processing and another 100,000 in the dairy service sectors. A strong, profitable and confident dairy industry is integral to regional Australia, and the communities and towns it supports, and ultimately essential to our big city populations too.

Mark Bennett Head of Agribusiness Regional Business Banking Australia





## AUSTRALIAN DAIRY

## **TRENDS AND TRADE**

Underpinning the history and future of Australian agriculture are the three commodity pillars of beef, wheat and dairy. With a farm gate value of \$4.7 billion in 2013/14, and exports valued at \$3.2 billion, dairy is a key agricultural industry in Australia.

With production margins relatively stable, and favourable weather conditions, many farmers are consolidating, and in some cases, growing their businesses. Farmer confidence is strong, supported by the results of Dairy Australia's 2015 National Dairy Farmer Survey (NDFS).

The dairy industry in Australia continues to consolidate. The fall in the number of registered dairy farms (from 21,994 in 1980 to 6,314 in 2014) and increase in average herd size (from 85 cows in 1980 to 268 cows in 2014) reflect this key trend.

There is also a strong trend emerging towards very large farm operations of over 1,000 head of dairy cattle, often across multiple herds and properties.

Improved herd genetics as well as advances in pasture management and supplementary feeding regimes have seen average annual yield per cow double from 2,900 litres to around 5,900 litres over the period from 1984 to 2014.

In 2013-14, Australia produced 9.2 billion litres, 18 per cent below the 2001-02 peak, and 0.4 per cent higher than previous year. Current estimates for the 2014/15 season anticipate growth of 2.5 per cent, with a total in range of 9.45 to 9.50 billion litres, dependant of course on farm gate returns and seasonal conditions.

Per capita consumption of milk products in Australia is high compared to other countries and has barely changed in the last decade, a trend which is unlikely to change in the foreseeable future. Around 27 per cent of Australia's milk supply is consumed in the form of liquid drinking milk—equating to 106 litres per capita—with the balance employed in the production of dairy products.



#### FIGURE 1. FARMS AND AVERAGE HERD SIZE

## FIGURE 2. MILK PRODUCTION AND YIELD 2013-14



## **EXPORTING AUSTRALIAN DAIRY**

Exports are the key driver of growth for the Australian dairy sector. Australian dairy exports have grown from AUD969 million in 1980 to AUD3.2bn in 2014 at a CAGR of 3.6 per cent.

While Australia accounts for an estimated 2 per cent of the world's milk production, it is a significant exporter of dairy products. Australia world dairy trade—with 7 per cent share—sits behind New Zealand, the European Union and the United States.

Australia's share of global dairy exports has declined by 15 per cent between 2002 to 2012, due to factors mostly outside government or manufacturer control, such as drought, the removal of incentives for over-production, dairy farmer demography, strong domestic demand for dairy products, volatile international commodity prices and the appreciation of the Australian dollar.

During the same period international competitors have increased production volumes (significantly for New Zealand) and increased market focus (the USA). Most of Australia's dairy exports are destined to Asian countries (key markets include China, Japan and Indonesia) which account for approximately 75 per cent of total export value in 2014, markets which Australian dairy companies have been supplying over a number of decades. Greater China (including China, Hong Kong and Macau) is now the single most important export market for Australia, accounting for 19 per cent of exports by both volume and value.

This concentration of exports in Asia reflects both Australia's geographic proximity to these markets and the extent to which Australia is excluded from other major markets by direct restrictions (as in the case of the EU or the impact of the export subsidy programs of major competitor countries).

FIGURE 4. DAIRY EXPORTS BY PRODUCTS (2014)



#### FIGURE 3. TOP EXPORT DESTINATIONS (2014)



Source: Dairy Australia

### DRIVERS OF AUSTRALIAN DAIRY PRICES

The Australian dairy industry is highly dependent on international markets, with 73 per cent of milk production being exposed to world prices for butter, cheese and milk powders. As such, average Australian milk prices are strongly correlated with export returns. Over the last three decades more than 90 per cent of the annual variation in milk prices can be explained by movements in average export returns. Domestic prices for dairy products (mostly less perishable products such as milk powder and cheese) closely follow international prices.

The properties of more perishable dairy products (such as drinking milk and cream) make them costly to transport long distances, meaning Australia conducts little trade in these markets. Raw milk is an input for both heavily traded and less-traded products. World prices for heavily traded dairy products have a significant impact on the raw milk price, the supply (and price) of less-traded dairy products in Australia is influenced by world prices through the raw milk price.

## FIGURE 5. MILK POWDER PRICES IN AUSTRALIA



#### Key drivers of the milk price include:

#### 1. Seasonal conditions

Seasonal conditions are relatively uncontrollable drivers of input costs and production. The size and scale of these production volatilities are often amplified by the fact that supply and demand mechanisms are generally being driven by pricing signals that have no correlation to season.

Risk management strategies are important in minimising the impact of a poor season. Higher levels of farm debt in dairying may also impact risk management decision making.

Within the outlook period to mid-2016, supply levels could be impacted by extreme weather events, particularly in Australia or Argentina given the threat posed by El Nino. This could correct global supply levels and stabilise pricing. To some extent, this is being evidenced in New Zealand at the present.

#### 2. Export Opportunities and FTAs

New export opportunities and FTAs have ushered in promising new opportunities for the Australian dairy industry. These new agreements work to rebalance flattening international dairy flows into preference routes based on bilateral and multilateral agreements. This flattening of traditionally developed dairy markets swayed most dairy exporters to intensify competition in export markets and this has resulted in mismatches of demand and supply.

## **GLOBAL VOLATILITY**

The ordinary dynamics in global markets have recently been impacted by a number of compounding factors. Three key examples include China's stockpiling of milk powder (estimated at 400,000 tonnes of milk powder), Russia banning imports from the EU, and the EU's lifting of dairy export quotas.

These factors were enough to see us lower our expectation of where the milk price will settle in the second half of 2016 by \$0.25-0.50/kg milk solids (MS) (from the 9 year average of \$6.35/kg MS). This is based on expectations that dairy prices will settle in a range of USD2,800-3,400/MT (mid-point USD 3,100/MT) in the medium term. We anticipate there will be short periods of volatility that will result in phases of prices outside this range. Despite these changing dynamics, milk output can be sustained at lower farm gate prices but the key questions are; for how long and by how many producers?

In the short term, suppliers around the world are typically able to absorb additional supply. In the US, domestic consumption growth is absorbing excess production and NZ could respond by optimising cost of production or reducing export supply.

## **PEAKS AND TROUGHS**

Despite the recent cyclical weakness in global dairy prices, it is widely felt that an improved and more acceptable pricing range will return from mid-2016. Persistent price volatility and fluctuating trade flows in global dairy markets has become the new norm.

Volatility is not isolated to dairy alone but more of a global phenomenon across a broad range of commodities. Since 1995, numerous supply and demand side factors have led to large fluctuations in dairy prices, resulting in the average price doubling since the Global Financial Crisis. More recently, this has culminated in halving of global dairy prices over the last 6 months. As such, the reliance on farm gate pricing as the sole indicator of investment into dairy is fundamentally mismatched to the long term nature of dairy assets. This isolates the milk production process from the final retail price paid by the consumer, leading to underinvestment in the sector relative to the long term global demand opportunities.

## **CREATING CONFIDENCE**

Some analysts are forecasting a 40 per cent recovery of world whole milk powder (WMP) prices to USD3,450 USD/tonne by June 2016 while other analysts are less bullish in the short term and about the quantum of the correction.

A long term price improvement would send a strong signal to the market, in terms of encouraging farm gate production growth and increased investment by processors. Growth and investment creates industry confidence, which could also trigger a new wave of investment in mid and downstream dairy ancillaries such as offshore packaging, cold chain logistics, branding and product innovation.

Sustained demand growth is estimated to outstrip supply growth by 2018 resulting in long run pricing support. Emerging economies will drive dairy import demand in the next decade as their incomes rise and their tastes preferences assimilate those of western developed diets. Their lack of self-sufficiency presents a long term opportunity for net exporters with competitive advantage, proximity and established relationships.



FIGURE 6. PRICE OF 1 LITRE FRESH MILK

Source: Numbeo

There is significant disparity in global retail milk prices. At one end are key Asian markets like Hong Kong, South Korea, Singapore, China and Philippines all above the average. From the supply perspective, NZ is above the average while USA and Australia are below the average. Whilst we see exponential income growth in emerging markets, we need to bear in mind that price inflation on staple foods is a key political concern for many countries.

### SIGNS OF LONG TERM VALUE

The anticipated long term export opportunities to Asian markets have sparked an increase in investment interest in Australia's dairy industry. This long term view needs to consider a 10 year capital investment, culminating in the 2025 peak in Asian demand. Shifting the focus from current farm gate pricing to the likely market conditions in 2025, is critical. There are other signs of value in Australia's long term productive capacity. The recent wave of acquisitions and large scale investments from multinationals such as Saputo Inc. and Australian Fresh Milk Holdings Consortium (AFMH) made up of Leppington Pastoral Company, New Hope Dairy and Freedom Foods, has shown that institutions are recognising Australia as a reliable and profitable destination for dairy investment. The China—Australia Free Trade agreement (ChAFTA), has helped to further solidify this appeal as we are now even better positioned to capitalise on meeting increased Chinese demand. Gaining additional milk intake has been the focus for Saputo and AFMH as such milk intake is critical to processing capacity, supporting an end to end supply chain opportunity.

#### **Diversification**—Harvey Norman

In September 2015, Australian retail giant Harvey Norman acquired a \$34 million stake in one of Australia's largest dairy farms, Coomboona Holdings. The market reacted with a mixed response and overall opinion of the transaction was that it was "odd" as dairy farming has absolutely nothing to do with the core retailing operations of Harvey Norman. However, chairman and co-founder of Harvey Norman, Gerry Harvey has stated that the deal was about investing in industries with strong growth potential, as ultimately he and his company are trying to generate returns for shareholders, regardless of industry.

Gerry Harvey's diversification into dairy follows the likes of Gina Rinehart acquiring dairy asset and land through Hope Dairies. Ultimately, these investments are viewed as long term holds aimed at supplementing core income streams. The rationale for investment is based on the Asian growth story of a rapid increase in protein consumption.

## ADVANTAGE AUSTRALIA

Australia has been partly protected by the scale of its domestic market, prime standing in the cost of production curve and the lower AUD, when compared to our competitors. While current international pricing is generally considered well below the cost of production and unsustainable in the medium term for most major exporters, Australia holds a strong competitive position in the low volume high value segment. In round terms, New Zealand's dairy prices have dropped from NZD\$8/kg MS settling at around NZD\$4/kg MS, whereas Australian processors have settled around A\$5.60/kg MS. Australia's top quartile standing in the cost of production curves reflects a buffer over key exporters that mitigates short term price turbulence and maintains overall competitiveness.

In select markets, Australia has a significant ranking among exporters on the basis of value and volume market share, particularly where the markets are not at the scale that attracts other major bulk exporters. Further, Australia has a diversified food export basket outside of dairy, which supports an overall diet and builds on the country's food quality reputation, helping to improve our image as a food importer of choice. This gives Australia productive flexibility and better allows for positioning in higher value branded exports; but also highlights the need to maintain world class competitiveness in quality and safety assurance in all soft commodities.

#### AIR, LAND AND SEA

The limited potential for additional agricultural land around the world is another position of comparative strength for Australia. Australia leads its dairy export peers with 2.15 hectares of arable land per capita while net importers in Asia lag at 0.11 hectares. This is a key strength, particularly for countries unable to meet their self-sufficiency targets. Arable land globally is forecast to be limited to 70 million hectares by 2050, resulting in a growth rate of 0.1 per cent, whereas Australia has capacity to increase land used for dairy production at a faster rate than this.

In addition to land, the availability of water for dairying has become a more pronounced input consideration than it was in previous generations. The tactical ability to switch this uncontrollable production driver into a somewhat controllable driver is a point of advantage for Australia.

Regions with high demand growth and large populations have significantly less renewable water sources. Australia ranks second amongst global dairy competitors in terms of millions of litres of renewable water supply per capita, thus again improving its position as a production growth destination for the region. This proves attractive for foreign capital investment from countries focused on food security.



## FIGURE 7. IMPORT DEPENDENCY FORECAST

## Imported dairy products concentration index<sup>2</sup>

Total Dairy Imports volume in 2025 Width of ring is the growth in value of imports by respective country 2015-2

imports by respective country 2015-2025 as a proportion of all countries under analysis. 1 Import dependency calculated as total dairy imports divided by total dairy consumption. 2 Calculated using the 'Herfindahl Index' methodology based on individual dairy products share of total dairy imports.

Source: OECD FAO, UN Comtrade, ANZ

## TRANSFORMING ASIAN DEMOGRAPHICS

In a diverse and evolving global market, Australian farmers continue to compete with countries that benefit from lower labour costs, less regulation and more government support.

Projected economic growth in many Asian markets is fuelling the demand for dairy. As incomes rise, more people move into urban areas, and make more health and food safety informed choices—often revolving around the proteins of dairy and red meat. Taking China as an example, the middle class population is predicted to rise to 1 billion by 2030, disposable incomes to nearly triple from 2012-2030, and rapid urbanisation will see 27 million people urbanised every year to 2030 resulting in 85 per cent of the population in urban centres.



## LOOKING BEYOND CHINA

Whilst the growth predications and numbers in China look enormous, other Asian markets offer significant growth potential. Over the next 10 years, the predicted growth in dairy imports of Indonesia and Vietnam, are 3.3 per cent and 3.2 per cent respectively. This is larger than the growth anticipated in China, at 2.5 per cent. In both Vietnam and Indonesia, the most significant growth market is forecast to be cheese. Imports of cheese into Vietnam are expected to increase from 7,100 tonnes in 2013 to 13,000 tonnes in 2023.

The proximity of Australia to markets with growing demand for dairy, particularly South East Asia, provides a compelling case to compete with northern hemisphere producers. It also makes it possible for Australia to supply perishable dairy products outside of bulk commodity products like pasteurised milk, dairy spreads, yoghurts, creams and ice creams to key demand markets rather than just commodity products like cheese and powders which adds a value rather than scale competitiveness.

Australia and the world's other three major dairy suppliers—the United States, the European Union (EU-28), and New Zealand are in a tight race to dominate the dairy sales in the fast growing South East Asian region. Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam show significant potential, both in terms of total consumption and per capita consumption, and they lack the scale of domestic dairy production necessary to meet this rising demand. Their import demand is at levels and scope that suits Australia's excess capacity with a reasonable amount of investment into capacity growth. In comparison, expansion into some other highly competitive and scale demanding markets would require a very significant investment in Australia's productive capacity.

These 'smaller' countries are currently the most lucrative markets in the region for Australia.

Australia's exposure to export markets has been well balanced from a market and product concentration perspective, relative to our domestic consumption and overall productive capacity. Key exporters were assessed on the basis of "Export dependency" (the proportion of total production allocated to export markets) as well as "export product concentration" (measure of the diversity in export products across the various streams; liquid milk, cheese, butter, powders and whey). In terms of our export scale, which underpins our export exposure, Australia is well positioned due to our relatively low export dependency, and high product diversity.

### FTAs-THE LONG GAME

Anticipated benefits of ChAFTA are significant. However, competition from New Zealand will remain—and they have enjoyed a 10 year head start with their FTA, giving them a 36 cents/kg landed cost advantage over Australia. Timing of this coincided with the 2008 melamine crisis, which saw China looking for imports to meet their growing demand. New Zealand is the largest dairy exporter in the world, and the average New Zealand farm is 80 per cent larger than a Victorian one, and processing plant utilisation is 15 per cent higher.

## CONSUMPTION OF DAIRY PRODUCT, AS ESTIMATED BY BOTH THE FAO AND OECD IS EXPECTED TO INCREASE BY MORE THAN 20 PER CENT BEFORE 2021 DRIVEN BY ASIA'S ACCELERATED CONSUMPTION.



### FIGURE 8. AUSTRALIA'S EXPORT ADVANTAGE

Size of ring is export product concentration

Interestingly, 64 per cent of Australian farmers felt the recent FTAs with Japan, Korea and China will benefit the industry as a whole, if the market growth is capitalised upon. Just over 40 per cent of respondents felt there would be a direct benefit to farmers. The Trade Pacific Partnership (TPP) also offers opportunities for the sector.

However, it would appear that many farmers—not just those in dairy—are awaiting real increases in farm gate prices to experience the true benefits of an FTA—some of which may take years. The challenge is to prepare ourselves in an organised, efficient and well planned manner throughout the supply chain—so we can readily capitalise on the increase in production that the market will demand. None of this is a short term play. As the forecast population growth continues in the emerging ASEAN and Chinese markets, we need to be ready and able to supply the high value and margin returning products that they demand. These opportunities are not without their challenges. In 2014 while one in five companies identified China as their top export market (vs. USA one in seven), three in four said doing business in China was harder than Australia and worse still, 23 per cent said that China was the hardest country to operate in, due to non-trade barriers such as language, culture and business practices.

Australia's alignment with the growth markets of the future sets up a long term perspective on the benefits of these agreements to Australia. As the window of opportunity to reposition Australia's dairy competitiveness is now open, Australia needs to invest in extending productive capacity to meet demand in these emerging markets. Australia's competitive response needs to consider opportunities along the supply chain and be clearly targeted to the end consumer.

#### FIGURE 9. NEW ZEALAND'S DAIRY EXPORTS HAVE SHOT UP, WHILE AUSTRALIA'S HAVE FLATLINED

## **NEW ZEALAND**

The rise of Fonterra allowed New Zealand to achieve a significant scale advantage and contributed to a highly integrated supply chain.

With heavy focus on exports, in 2008, New Zealand signed an FTA with China, giving them a 36c/kg2 landed cost advantage over Australia.

## AUSTRALIA

Australia's supply chain is perceived as fragmented and under-sized.

The appreciation of the AUD during the resource investment boom (2003–2013) and droughts hampered Australian exports.

Australia is yet to realise the benefits of ChAFTA.



It took NZ 8 years to formalise their industry and double productive capacity time for their agreement with China. If Australia starts this process now, we could meet the opportunities that lay ahead in 2025.

## REALISING AUSTRALIA'S POTENTIAL

The global growth story presents enormous opportunity for the Australian dairy industry, and achieving a slice of the global pie is dependent on our willingness to innovate and embrace new approaches. However, acknowledgement of some key industry issues is important.

## FRAGMENTED DAIRY SUPPLY CHAIN

Dairy production should be highly integrated across the supply chain: farmers cannot operate without processing capacity, nor can processors survive without milk supply. This integration is critical due to the perishable nature of milk.

However, significant regional differences exist in terms of market and product mix, farmer confidence and future growth prospects. Dairy Australia's 2014 National Dairy Farmer Survey indicates profitability and farmer sentiment vary greatly from region to region. For instance, the Subtropical Dairy region saw 55 per cent of farmers indicating a profitable operation in 2014, as opposed to dairy producers in Tasmania where 91 per cent were able to turn a profit.

Similarly, the product mix for growing regions also varies significantly, placing different pressures on regions depending on what dairy products they produce and the multitude of external factors that affect the profitability of these products in terms of price and production levels.

## **MILK SUPPLY CONSTRAINTS**

Milk supply constraints indirectly result in under-investment in technology and scale in dairy manufacturing. This in turn makes the Australian dairy supply chain falter in terms of cost competitiveness by global standards. The lack of growth in milk production causes processors to face the challenges related to surplus capacity and utilising the existing capacity profitably. Following dairy deregulation in 2000, consolidation of the number of farms and an increase in the average herd size occurred. However, the national herd size declined post early 2000's due to severe weather conditions. The seasonality of milk supply affects processing efficiency, and Australian conditions results in the optimal dryer size of 4-6 tonne per hour. By comparison, in New Zealand two factories (each) produce more milk powder than the whole of Australia. A dryer at Fonterra's Darfield plant operates at 30 tonnes per hour. However Australia's overall climatic conditions result in lower disparity between peaks and troughs of milk production, ensuring Australia has a more consistent milk production profile than New Zealand.

## AVERAGE AGE OF FARMERS

The average age of dairy farmers has increased from 46 years in 2006 to 53 in 2015, closely in line with improvements in life expectancy across the Australian population. However, there has been an exponential rate of exit from the industry by younger farmers as they chose lifestyles away from the farm in other professions in cities. As such, replacement of retiring farmers has been slow. This will have a vast impact on the number of farmers in the future, the skills available to manage Australia's dairy herd and its productive potential. ANZ estimates the average age of farmers to be 57 as at 2025, with ~1,000 farmers exiting due to retirement (age 65). Access to capital for young farmers, training and technological improvements could swing back the replacement rate, and corporate investment in production could also play a role.

## LIVE HEIFER TRADE

China is the largest export destination for Australian heifers, driven by herd rebuilding and stocking of new large-scale farms. China accounts for 85 per cent of the heifer trade, while Pakistan and Russia have 7 per cent and 4 per cent market share respectively. Australia's heifer exports increased by 33 per cent during 2013-14 as China took in 78,896 head with an estimated value of AUD170 million. ChAFTA may deliver immediate benefits to Australia's dairy heifer export trade, with the current 10 per cent tariff on live cattle exports eliminated in four years. As China builds its own cow inventory to satisfy the growing domestic demand for milk products, a long term continuation of this export trend could make China a competitor rather than a customer for Australian dairy products. What drives farmers to sell live heifers? After struggling with drought for years, many Australian dairy farmers now face low farm gate milk prices.

The premium paid by importing countries such as China provide a welcome source of non-milk income. Heifer sales also broaden asset exit outlets and liquidity for retiring farmers who lack a clear succession plan. Is this export trend sustainable in the long term? According to some industry sources, with about one million heifers available to the Australian industry, losing more than 5 per cent a year is not sustainable. The national herd size has been steady in recent years, but numbers need to increase to cope with the growth in export demand for dairy products.

Is China's import of dairy cattle sustainable in the long term? China's rapidly increasing milk demand has been supported by 70 per cent imports. This import dependency is anticipated to continue into the future even if domestic production grows at the estimated 5 per cent per annum rate, as supported by the live heifer trade. The China supply-demand gap keeps widening, while domestic markets stall for principal exporters as such they will seek to extend export flow to offset their limited productive capacity.

## **CAPITAL INVESTMENT**

Years of low profitability and aversion to debt have resulted in limited equity capital among existing dairy participants. The seasonality of Australian farming, the expertise of herd and grazing management, along with volatile weather conditions, have meant Australian capital holders are reluctant to invest in the dairy sector. Australian superannuation funds have AUD789 billion in assets under management—if the right signals are fed into the methods of assessing agricultural investments, it would make it more palatable for them to invest more in long term illiquid agriculture assets.

Encouraging foreign capital investment to support export growth into emerging markets has merit. There are many fundamental positives in this proposition, as it tends to match the market's demand exposure to the source of capital. The reliance on Australian skills and knowledge will also support employment and facilitate the intergenerational transfer of skills. Without capital exposure domestically, Australia's foreign investment capping for agricultural land at AUD15 million is at odds with the bursting capacity of foreign capital and the actual scale of investment required to capitalise on export opportunities. AUD3.4 billion (2.1 per cent) of FIRB approvals are agribusiness related, where AUD2.3 billion is in the food and beverage processing sector and not necessarily in farm investment. Interestingly 60 per cent of FIRB approvals were Chinese investment proposals, comprising 17 per cent of total approved value, yet only AUD32 million landed in primary agriculture. Dairy—and agriculture in general—has been inefficient in redirecting foreign capital into its sector.

Is the family farm model suited to meeting the challenges of scope and scale in the dairy industry of the future? A survey by Allen's Agribusiness found that 47 per cent agreed on the basis of it maintaining rural communities (49 per cent); leverages local Australian knowledge (40 per cent); and is cost effective (11 per cent). However, 53 per cent disagreed on the basis that the structure lacks scalability and has limited access to capital (56 per cent); lacks income stability (21 per cent); highly leveraged (18 per cent); and results in poor governance (5 per cent). Alternatively, active agriculture funds sited joint ventures as a favourable model (48 per cent) with majority ownership or earn in incentives.

#### FIGURE 10.





## **OPTIMISATION**

## THE 15 BILLION LITRE QUESTION

Optimising milk production is predominantly driven by yield improvements or increased cow numbers or both.

In 2025, the full impact of tariff reductions will be felt - and Australia should be well positioned to benefit. The broader Australian industry will have to focus on a strategy to capitalise on new markets, based on scale or scope (value add). ANZ modelling has explored the scale dynamic by sensitising the following variables;

- Calving cycle assumed at 12 months
- Calf mortality assumed at 4 per cent
- Heifer retention assumed at 28 per cent of total births
- Bulls as a percentage of total herd defaulted to 4 per cent
- Stocking rate defaulted to 1.4x (cows/hectare)
- Dairy yield assumed to 5,611 litres per cow per annum
- Live dairy cattle exports in herd numbers assumed at 80,000
- Culling rate assumed at 23 per cent.

#### Scenario I

Status quo; 'BEAR CASE'—assumes no change to variables. This will result in milk production declining by 1 per cent driven by live heifer trade as an income supplement thereby diluting the herd size.

#### Scenario II

'BASE CASE'—modest sensitivity of key variables; hold all else at assumed rates except milk yield, stocking rate and area under dairy. This would lead to milk production increasing 4.5 per cent to achieve production of 15 billion litres by 2025.

#### Scenario III

'BULL CASE'—aggressive sensitivity of key variables. This would lead to a milk production increase of 15.4 per cent, achieving production of 15 billion litres by 2018.

## SCALING IT UP

Given the increasing average age of dairy farmers over the next decade and considering the natural exit of farmers, thought needs to be given to how we increase productivity per farm and per cow. Encouraging profitable and proven farming enterprises to grow herd size through acquisition will only benefit the productivity play. At 2025, the average age of farmers will increase to 57 years, however this will result in a loss of ~1,000 farmers retiring at age 65 or ~400 at age 70. ANZ has assumed farmer exit driven by self-selection at about 5 per cent resulting in a farmer pool between 4,700-5,300. On the basis of ANZ's modelling, to produce 15 billion litres, the average herd size will need to range between 730-825, against a current herd size of 275 cows.

Given an expected lift in average herd size, the relative merits of dairy barn or freestall dairying as an alternative method to traditional grass and pasture based farming should be explored. Such methods enable an increase to feed conversion ratios and therefore potential production efficiency.

## **COMMODITY TO VALUE BRANDED**

Australia's reputation in dairy was largely built around our positioning as a low cost commodity producer. To differentiate ourselves as a value producer, we need to consider products that best extract value. Australia's value of total dairy exports would increase by 11 per cent if export products were optimised away from liquid milk, which generates ~\$1/kg ms versus cheese and WMP which generate up to \$4.5/kg ms. On the other hand, only 3 per cent increase in export value would be generated by diversifying away from the bulk commodity and highly competitive Chinese markets where on average, Australia generates \$2.70/kg ms. This is substantially less than other more nimble value branded product markets like Russia, UAE, Thailand, Indonesia and Japan which, on average, generated \$4.70, \$4.30, \$4.20, \$4.20 and \$4.10 per kg ms respectively.

Growth in demand for infant milk formula is underpinned by emerging markets, where the global financial crisis was less severe and where birth rates are still relatively high. The size of the Chinese infant formula market is expected to rise to AUD31 billion in 2017, from the current AUD17 billion. Imports of infant formula into China is further driven by food safety concerns raised by domestic incidents such as the 2008 Chinese melamine scandal. Indonesia is another key country that is driving market growth. It has the world's 4th largest population, around 22 million children under the age of 4, Asia's second-highest birth rate and rising wealth. Infant formula is a highly competitive market where marketing, innovation and distribution continue to be the major drivers.

Imported UHT milk mostly targets the premium, more affluent consumers that are willing to pay a premium for liquid packaged milk from countries that offer farm-fresh milk from pasture reared cows. This growth of liquid UHT milk is supported by significant investment by dairy companies in export countries such as Australia, New Zealand and Ireland. Major Chinese milk processors, such as Mengniu, Bright and Yili are all likely to increase production of their branded imported UHT products.



#### FIGURE 11. CHINESE UHT MILK IMPORTS

Consumers are increasingly turning to tasty, nutritious and conveniently packaged flavoured milk as an alternative to other beverages, creating opportunities for dairies to improve profitability. Flavoured milk is the second most widely consumed Liquid Dairy Product (LDP) after white milk. Developing countries accounted for 66 per cent of flavoured milk consumption in 2012; this is expected to reach 69 per cent by 2015. Asia drinks more than half the world's flavoured milk. In fact, just six Asian countries—China, India, Indonesia, Malaysia, Philippines and Thailand—consume 47 per cent of the world's flavoured milk.

There is a growing demand for yoghurt as health-conscious consumers make it a regular habit. Health considerations, such as bone health and gastrointestinal health, are identified as the key reasons for eating yoghurt. A recent survey revealed that during the past three years, more than half of respondents increased their yoghurt consumption. The increased appetite is led by markets such as China, Brazil and Turkey. Chilled drinking yoghurt is expected to grow by 7.6 per cent in Asia Pacific between 2014 and 2016. Danone, the world's largest yoghurt maker, has agreed to more than double its stake in China Mengniu Dairy.

#### FIGURE 12. GLOBAL FLAVOURED MILK MARKET (COUNTRYWISE SHARE 2012)



# **ANZ DAIRY**







\* Average price: \$3,100 USD/MT converting USD to AUD 0.7 (Converting litres to kgms = 1 litre x 0.075) Australia have a comparative advantage over other exporters such as New Zealand due to proximity and ability to provide fresh milk all year round.

#### Innovation—Fresh milk to Asia

Whilst the growing middle class in China is the predominant growth market for Australian dairy, innovations in transportation methods and reduction in quarantine barriers has seen a rise in fresh milk imports. The North Coast NSW Dairy Co-operative, Norco, trialled fresh milk exports to China in late 2014 after quarantine regulations were relaxed. Due to the perishable nature of fresh milk it previously wasn't feasible. After experiencing strong demand for their products throughout the trial period, Norco now plans to export over 5 million litres throughout the next financial year. Norco are selling their fresh milk in China for around \$7–\$9 a litre, targeting the high end consumers who demand the healthiest and safest products.

This new market demonstrates a value opportunity for producers, who can position themselves for greater profit in the supply chain. Australia have a comparative advantage over other exporters such as New Zealand due to proximity and ability to provide fresh milk all year round.

## INVESTMENT AND CORPORATE STRUCTURES

Substantial capital investment will be required to capture the competitive potential for Australian exports. Referring to the 'base case' scenario, the investment required to increase Australia's productive output to 15 billion litres is estimated at AUD8.6b over 10 years—equating to AUD860m per year;

- Increase cattle herd by one million x AUD2,000 per head = AUD2 billion
- Increase area under dairy by 239 hectares x AUD23,000 per hectare = AUD5.5 million
- Operational costs;
  —Increase of pasture + feed cost per cow
  AUD630 x 1,000 = AUD630 million
  —Increase of labour costs per cow
  AUD440 x 1,000 = AUD440 million

However, traditional sources of finance for farmers are reasonably constrained given years of low profitability and aversion to debt funding. Capital will have to either flow down from processors to the farm gate or domestic investment or equity capital will need to be injected from overseas. Supply chain structures could also be leveraged to facilitate investment across the supply chain. Farming operations that are less reliant on complex grazing systems, and have more of a production centre approach —such as large scale, shedded operations—can be more attractive to an investment fund, but they are scarce in the Australia market today. Naturally, these operations also require quality and sound management expertise.

#### Innovative Investment—ACM and Dutch Mill

Australian Consolidated Milk (ACM) and Thai dairy giant Dutch Mill recently entered into a joint venture where they will buy dairy farms and lease them to proven dairy farmers. This venture has recognised the capital constraints many smaller Australian producers face when purchasing farms to enter the industry or expand their production. This model of investment places value on the expertise of Australian dairy farmers, recognizing the benefits of the family farm model, and helps to address the problems associated with access to capital that family farms often have. The ultimate rationale behind this venture is to ensure Dutch Mill's supply of high quality "safe" milk from Australia which is of high importance to its South-East Asian customer base.

## LONG TERM ASPIRATION

LIFTING MILK PRODUCTION

#### To achieve this, a number of steps are necessary;

- In the short term optimising investment into regions of highest value return is critical. Northern Victoria and South East South Australia can return to peak levels while Southern Victoria and Tasmania can establish new highs. With an aim to recover the 2 billion litres lost since deregulation and the 2004-2006 drought, the industry can lift production on the back of improved technologies and revived interest. Considering there were some exits and some consolidation in the time that has passed, could we direct new dairy investment into these regions given the improved water availability?
- 2. Farmers need to immediately capitalise by targeting operational efficiency levels that reduce costs (aiming at up to \$1.00/kg ms off the cost of production). This could create a medium term buffer to ensure profitability is maintained into the future. Considerations will have to be taken to leverage any technological advancement that increases milk production and reduces labour intensity.
- A focus on product innovation, branding and marketing is also required, to ensure the maximum possible return is paid by the ultimate consumer. This would create greater profit share throughout the supply chain and create an encouraging signal for investment.

In line with this perspective of a new approach, the industry needs to bridge the gap between production centres and sources of capital. Signals are required to encourage the injection of long term sustainable capital from both domestic and off-shore sources. The disparity between Australia's long term prospects and immediate challenges can be bridged by restructuring the supply chain and replenishing capital at the critical points.

Vertical integration in clusters is a model suited for Australia's productive capacity and market landscape. Farmers who scale up their operations locally via consolidation, then link into a processor who has channels into a distributor in new markets that are seeking branded high value products—is one method. Packaging companies can be leveraged to ensure the security of the brand and product safety. There is also scope for developing new product lines to meet diverse consumer taste while optimising milk use. The chain is looped in by capital sources from direct investors or "security of supply" investors from capital liquid demand markets.

New entrants have been attracted into the dairy industry on the back of comparable investment from other industries as well as the market overlap from other industries that have been impacted by a structural downturn.

## CONCLUSION

If the economics are right, the money should come. Going forward, sustainability of dairy businesses will be those with highly efficient operations that are run on the pulse of consumer demand and in sync with global trade patterns. Such nimble operations will buck the downward trend amid the reality of constraints and it is through the eyes of such operators that ANZ has looked for signals that support long term viability of the entire industry. In reality though, unless there is adequate price signal and profit at the production level, the milk flow will not come—surely, on this basis, the opportunity is too great to miss.

## ANZ AGRIBUSINESS CONTACTS

#### MARK BENNETT

Head of Agribusiness, Australia T: +61 3 8655 4097

- E: Mark.Bennett2@anz.com
- JAMES MCKEEFRY

State Agribusiness Manager

- Victoria and Tasmania
- T: +61 4 2302 4503
- E: James.McKeefry@anz.com

#### STEPHEN RADESKI

State Agribusiness Manager – South Australia and Northern Territory T: +61 421 618371

- 1. +01421010371
- E: Stephen.Radeski@anz.com

### JEFFREY SCHRALE

State Agribusiness Manager – Queensland

T: +61 7 3947 5932

E: Jeffrey.Schrale@anz.com

#### ALANNA BARRETT

State Agribusiness Manager – New South Wales

- T: +61 2 5933 0209
- 1: +01 2 5933 0209
- E: alanna.barrett@anz.com

## BRENT SEARLE

State Head, Regional Business Banking – Western Australia

- T: +61 8 6298 3037
- E: brent.searle@anz.com

## ANZ AGRIBUSINESS RESEARCH AUTHOR

#### TAF SHAAMANO

Insights and Research Manager

T: +61 3 8655 6684

E: tafadzwa.shaamano@anz.com

## CONTRIBUTORS

### DANIELLE ENTWISTLE

Associate Director

- Agribusiness Research
- T: +61 3 8655 4332
- E: Danielle.entwistle@anz.com

#### TAMARA KEYS

Associate Director – Agribusiness Research

- T: +61 3 8655 1253
- E: Tamara.keys@anz.com

#### MICHAEL WHITEHEAD

Director

- Insights and Research
- T: +61 3 8655 6687
- E: Michael.Whitehead@anz.com

#### DISCLAIMER

The distribution of this document or streaming of this video broadcast (as applicable, "publication") may be restricted by law in certain jurisdictions. Persons who receive this publication must inform themselves about and observe all relevant restrictions.

1. Disclaimer for all jurisdictions, where content is authored by ANZ Research:

Except if otherwise specified in section 2 below, this publication is issued and distributed in your country/region by Australia and New Zealand Banking Group Limited (ABN 11 005 357 522) ("ANZ"), on the basis that it is only for the information of the specified recipient or permitted user of the relevant website (collectively, "recipient"). This publication may not be reproduced, distributed or published by any recipient for any purpose. It is general information and has been prepared without taking into account the objectives, financial situation or needs of any person. Nothing in this publication is intended to be an offer to sell, or a solicitation of an offer to buy, any product, instrument or investment, to effect any transaction or to conclude any legal act of any kind. If, despite the foregoing, any services or products referred to in this publication are accessed, no such service or product is intended for nor available to persons resident in that jurisdiction if it would be contradictory to local law or regulation. Such local laws, regulations and other limitations always apply with non-exclusive jurisdiction of local courts. Before making an investment decision, recipients should seek independent financial, legal, tax and other relevant advice having regard to their particular circumstances.

The views and recommendations expressed in this publication are the author's. They are based on information known by the author and on sources which the author believes to be reliable, but may involve material elements of subjective judgement and analysis. Unless specifically stated otherwise: they are current on the date of this publication and are subject to change without notice; and, all price information is indicative only. Any of the views and recommendations which comprise estimates, forecasts or other projections, are subject to significant uncertainties and contingencies that cannot reasonably be anticipated. On this basis, such views and recommendations may not always be achieved or prove to be correct. Indications of past performance in this publication will not necessarily be repeated in the future. No representation is being made that any investment will or is likely to achieve profits or losses similar to those achieved in the past, or that significant losses will be avoided.

Additionally, this publication may contain 'forward looking statements'. Actual events or results or actual performance may differ materially from those reflected or contemplated in such forward looking statements. All investments entail a risk and may result in both profits and losses. Foreign currency rates of exchange may adversely affect the value, price or income of any products or services described in this publication. The products and services described in this publication are not suitable for all investors, and transacting in these products or services may be considered risky. ANZ and its related bodies corporate and affiliates, and the

officers, employees, contractors and agents of each of them (including the author) ("Affiliates"), do not make any representation as to the accuracy, completeness or currency of the views or recommendations expressed in this publication. Neither ANZ nor its Affiliates accept any responsibility to inform you of any matter that subsequently comes to their notice, which may affect the accuracy, completeness or currency of the information in this publication.

Except as required by law, and only to the extent so required: neither ANZ nor its Affiliates warrant or guarantee the performance of any of the products or services described in this publication or any return on any associated investment; and, ANZ and its Affiliates expressly disclaim any responsibility and shall not be liable for any loss, damage, claim, liability, proceedings, cost or expense ("Liability") arising directly or indirectly and whether in tort (including negligence), contract, equity or otherwise out of or in connection with this publication.

If this publication has been distributed by electronic transmission, such as e-mail, then such transmission cannot be guaranteed to be secure or error-free as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. ANZ and its Affiliates do not accept any Liability as a result of electronic transmission of this publication.

ANZ and its Affiliates may have an interest in the subject matter of this publication as follows:

- They may receive fees from customers for dealing in the products or services described in this publication, and their staff and introducers of business may share in such fees or receive a bonus that may be influenced by total sales.
- They or their customers may have or have had interests or long or short positions in the products or services described in this publication, and may at any time make purchases and/or sales in them as principal or agent.
- They may act or have acted as market-maker in products described in this publication.

ANZ and its Affiliates may rely on information barriers and other arrangements to control the flow of information contained in one or more business areas within ANZ or within its Affiliates into other business areas of ANZ or of its Affiliates.

Please contact your ANZ point of contact with any questions about this publication including for further information on these disclosures of interest.

#### 2. Country/region specific information:

Australia. This publication is distributed in Australia by ANZ. ANZ holds an Australian Financial Services licence no. 234527. A copy of ANZ's Financial Services Guide is available at http://www.anz.com/documents/AU/aboutANZ/ FinancialServicesGuide.pdf and is available upon request from your ANZ point of contact. If trading strategies or recommendations are included in this publication, they are solely for the information of 'wholesale clients' (as defined in section 761G of the Corporations Act 2001 Cth). Persons who receive this publication must inform themselves about and observe all relevant restrictions.

