NEW ZEALAND DAIRY UPDATE

9 May 2018

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LET’S ROCK

Conditions for farm-gate returns in the dairy sector remain favourable.
Broadly, we see global milk supply growing at, or slightly below, trend with a
number of country-specific limitations and the marginal cost of production lifting
(i.e. feed, energy and wages). This should support the durability of the current
pricing cycle, but as always, weather developments – especially in Europe and New
Zealand – will be important in determining the final outcome. The other support
factor is forecast solid demand from a range of key markets.

In 2018/19 we have the NZD/USD averaging 0.67, but given recent ranges and
foreign exchange hedging considerations, the actual effective rate is likely to be
closer to 0.70. With whole milk powder holding in a broad USD2,800 to USD3,300/t
range, New Zealand SMP continuing to attract a premium versus other suppliers,
and milkfat prices set to follow a similar pattern to 2017/18, this gives a
farm-gate milk price range of mid-to-high $6/kg MS. At this stage we are
more inclined toward an opening milk price of $6.75/kg MS in 2018/19.

Combined with a likely upgrade to the 2017/18 milk price of
$0.05-$0.10/kg MS, modelled cash-flow for the average fully shared
Fonterra supplier is indicating around $7/kg MS in 2018/19. While low
operating costs have unwound somewhat since the downturn in returns, robust
farm-gate pricing points towards a solid earnings backdrop of $1,750/ha, versus a
10-year average of $950/ha.

Figure 1: Average farm profitability before tax

Source: ANZ, Dairy NZ

We have also increased our medium-term milk price view to $5.75 to
$6.75/kg MS (up $0.25/kg MS). Reasons for this include a lower NZD/USD fair
value assessment, milk price manual changes with the inclusion of premiums for
product sold outside the GDT channel, and solid prospects for international pricing.
Broadly, we see whole milk powder (WMP) prices holding in the USD2,800 to
USD3,400/t range for now. However, milk supply growth appears sluggish in
several major producing regions due to structural supply limitations (environmental
regulation, a lack of suitable land, profitability, succession issues, climatic
challenges etc) while the demand backdrop remains solid. This could well catch up
with the market over the next two years, pushing medium-term pricing back
toward the mid-USD3,000 mark. If the NZD were to remain contained, this would
support an even higher farm-gate price during this period.
THE SWING FACTOR – MILK SUPPLY DYNAMICS

Milk supply and its seasonality remain key factors behind the cycle in global dairy prices. Recently, milk supply growth has slowed across the major export regions due to both a tightening in farm-gate margins and weather challenges. Southern Hemisphere supply has been growing steadily at 2.4%, but the availability of finished product from New Zealand has been limited, with processors sold out heading into the end of season. Northern Hemisphere supply growth has slowed to 2.4% (from 3.4%). This has been led by both the US and Europe, but for different reasons. While the chart below shows growing monthly supply, more recent updates are showing Northern Hemisphere milk supply slowing to below trend due to adverse weather conditions in Europe and a tightening in farm-gate margins. This has supported a broad-based lift in international dairy prices over recent months.

Figure 2: Milk production growth for major exporters

![Figure 2: Milk production growth for major exporters](image)

New Zealand milk supply has underperformed over the last two seasons, so could well be due for a bounce-back in 2018/19, driven by improving yields. The 2017/18 season failed to fire through the hot and humid summer months, meaning production will finish down around 1.3% y/y. Early season expectations had been for a 2-3% lift.

Figure 5: New Zealand milk production

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Hemisphere farm-gate returns have fallen rapidly in recent months and now sit 10-20% below the five-year average. Combined with a lift in production costs (see more below) this has tightened margins. Forecasts are now pointing towards only trend growth at best over the next 6 months. Southern Hemisphere prospects appear more positive, but a number of structural shifts (environmental regulations, a new grading system for PKE, mycoplasma bovis etc) cap prospects at trend growth also. This assumes normal weather conditions (if there is such a thing), which will always have an important say in New Zealand and European production outcomes.

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Figure 4: Standardised monthly farm-gate prices

![Figure 4: Standardised monthly farm-gate prices](image)

Looking forward, short-term milk flows are driven by farm-gate returns/margins, seasonality (both weather and the usual seasonal cycle) and supplementary feed prices. In the Northern Hemisphere farm-gate returns have fallen rapidly in recent months and now sit 10-20% below the five-year average. Combined with a lift in production costs (see more below) this has tightened margins. Forecasts are now pointing towards only trend growth at best over the next 6 months. Southern Hemisphere prospects appear more positive, but a number of structural shifts (environmental regulations, a new grading system for PKE, mycoplasma bovis etc) cap prospects at trend growth also. This assumes normal weather conditions (if there is such a thing), which will always have an important say in New Zealand and European production outcomes.

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Peaks in milk production, new dairy farm conversions and cow numbers all appear to have coincided with the 2014/15 downturn in farm-gate returns. However, regional council plan changes to address water quality, a slowing in irrigation development/improvement, high asset valuations, exiting of some marginal/smaller farmers, mycoplasma bovis and availability of suitable land to convert have all played a part too.

Milk production will finish the 2017/18 season some 3% below the peak in 2014/15. Cow numbers will have dropped by a similar amount, with lower average stocking rates across the sector and per head performance pulling back to the long-run trend of 380 MS/cow.

Looking forward, most supply indicators appear to be pointing toward stability in 2018/19. Cash-flow forecasts are shaping up to be better than last year, cow numbers are fairly stable and feed/cow conditions heading into winter are steady. A bounce-back in per-cow performance could be due, but much will depend on how weather/pasture conditions evolve in the spring/summer.

There are several risks for production in 2018/19: high empty cow numbers in some regions, lowering the number of cows milked; continued culling due to mycoplasma bovis spread; and farmers being caught off guard by the new grading system for Palm Kernel Extract (PKE) concentrations in milk and associated payment penalties Fonterra will implement.

Record-high PKE imports of 2.4 million tonnes (+60%) were seen in 2017/18 to plug feed deficits and improve diet balance. We suspect there will be more blended feeds used to stay within the new standards. However, this could well cost more, and if pasture conditions were to substantially deteriorate at any point, this could weigh on production if farmers are unprepared with a backup plan, or are concerned about the cost/benefit of using PKE.

All up the risks appear manageable, but they suggest slightly lower cow numbers will be milked in 2018/19. Despite this some improvement in per-cow performance should solicit a near 2% increase in milk production. As always, how weather and pasture conditions evolve will have the biggest say in whether this materialises or not.

Australia

Milk production in Australia has managed to improve 3.4% y/y in 2017/18 so far, a partial bounce-back from a 7.5% y/y decline in 2016/17. The improvement has centred on the export-focused southern regions due to more favourable climatic conditions (especially last spring) and better farm-gate margins (higher farm-gate prices with stable costs). Milk production has been more challenged in domestic-focused regions due to constrained profitability (flat to lower milk prices) and climatic challenges in certain areas.

Milk production is expected to continue to slowly expand in 2018/19 with steady farm-gate margins and adequate feed/fodder and water. In some areas such as Queensland, milk production could stay under pressure due to poor pasture conditions. Many areas still require rain to support pasture and winter crops.

At the processor level, Fonterra has picked up market share (circa 28% y/y increase) at the expense of Murray Goulburn. Saputo has recently gained the appropriate regulator and shareholder (98%) approvals to buy Murray Goulburn processing assets. This will provide suppliers with more certainty, but is likely to increase farm-gate milk prices due to more competitive pressure (some AUD114m from the...
deal has been allocated to additional supplier payments. Fonterra has unveiled a NZD165 million capital expenditure program too, intended to boost its processing capacity across its Australian operations, with the bulk of the spending aimed to increase the production of the newly rebuilt Stanhope cheese plant from 45,000 to 80,000 tonnes per annum. Both these developments and other investment activity suggest more focus on exports, but growing the milk supply base in a profitable manner (for farmer and processor) will be critical too.

Europe

All eyes have been on European milk production into its seasonal peak (May). In somewhat of a repeat of last year, cooler weather in February and March has again keep cows indoors longer and reduced pasture development. This occurred at the same time as margins tightened (albeit off recent highs) courtesy of reductions in farm-gate prices and higher feed costs. This reduced milk production growth below 3% during the first quarter.

The European Commission’s current view is milk production will expand by 1.4% in 2018, in line with the long-run average. The increase is expected to be driven by higher yields as cow numbers have dropped.

Figure 8: European milk production

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<tr>
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Source: ANZ, Eurostat, EU milk observatory

From an export perspective the major focal points have been a jump in SMP shipments and fat-filled milk powders. Fat-filled milk powders are a blend of dairy protein, vitamins/minerals and vegetable oil. They are targeted at lower-income markets where affordability is the main driver of purchasing decisions. The increase in exports of both products has been targeted at countries in Africa, the Middle East and Russia, where European exporters have a freight advantage too. This competitive pressure is expected to remain in 2018/19 with a growing milk pool and overhang of SMP (albeit a lot of it will not enter the fresh food channel now, given its age).

The one area of weakness has been a decline in butter exports, especially to more price-sensitive markets in the Middle East. This has been driven by lower production and robust internal demand (prices) within Europe. The overall balance is expected to remain tight in 2018/19 with a lower seasonal starting point for inventory levels, SMP prices being in the doldrums, and solid internal demand. The offset to some degree is consumer resistance to the high retail prices for butter seen over the second half of 2016, as well as higher milkfat production in Europe – not only due to more milk, but also a higher milkfat content due to the use of more supplementary feed.

The actions of the European Commission continue to be a must-watch with budgetary pressures triggered by Brexit implying less farm support moving forward. SMP inventory levels remain high around 375,000 tonnes (equivalent to 85% of NZ’s annual exports), but they have recently started to sell higher volumes at lower prices. Much of this product will now be past its best-by date, meaning it will be suitable only for food aid programs, stock feed, or blending into fat-filled powders. Combined with

Milk production in some of the major export regions – Germany, France, Netherlands and the UK – have all underperformed. This has seen wholesale prices for key products, such as cheese, whole milk powder (WMP), butter and skim milk powder (SMP) firm recently. The drop in Netherlands production has been linked to a 7% decline in dairy cow numbers to reduce phosphate in waterways (Government regulation).

In terms of product mix Europe has focused on cheese and WMP over recent months. The strong milkfat prices have been reflected in WMP returns, while the overhang of European SMP, as well as intervention policy changes, have made producing SMP + milkfat somewhat less compelling.

Table 1: European product mix and exports (tonnes 1000)

<table>
<thead>
<tr>
<th></th>
<th>WMP</th>
<th>SMP</th>
<th>Butter</th>
<th>Cheese</th>
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<td>505.03</td>
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Source: ANZ, Eurostat, EU milk observatory
tight New Zealand supply, this is why GDT pricing is currently commanding a significant premium to Europe supplies. This dynamic looks set to persist until our spring flush.

The key, as always, is how much of the marginal increase reaches the international marketplace, and in what form. In recent years a strong domestic market – with climbing per capita consumption of yoghurt, ice cream, butter and cheese – has left US exports at a fairly stable proportion of total production (4% milkfat basis and 18/19% protein basis). What has changed over the last year is that US domestic prices for the likes of cheddar and butter have fallen below tradable prices, meaning international sales have become more attractive.

**United States**

US milk supply has fallen slightly below trend growth of 1.6% over the last year. The number of cows in milk looks to have peaked in recent months after pushing to multi-decade highs, and milk per cow has been running slightly below trend at 0.9% y/y (1.4% y/y is the long-term trend). More recently milk supply growth has moderated, with farm-gate prices slipping to 20% below the five-year average. Feed prices have lifted too, on weather concerns in key growing regions, but they remain at historically favourable levels. **All up, the milk-to-feed ratio suggests trend growth in US supply over the rest of 2018.**

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**NEW ZEALAND DAIRY UPDATE**

Within the US, a lack of processing capacity is seeing some milk being dumped, which is earlier than usual (seasonal peak processing capacity). **The main culprit appears to be a weaker domestic fresh milk market, where retail prices recently touched a 14-year low. This is at odds with the rosy economic backdrop, so appears to reflect a speeding up in the impact of long-term drivers that have lowered fresh milk consumption and intense retail competition compressing margins.** Some of the long-term drivers of lower fresh milk consumption include:

1. **Generational changes,** such as a smaller share of children in the population who tend to drink fresh milk;
2. **The long-term trend of more meals being eaten away from home;**
3. **Children’s greater control over their consumption choices;** and
4. **Competition from a range of alternative beverages and plant-based dairy substitutes made from soy, rice, almonds and coconut.**

The offset to some degree has been higher per capita consumption of cheese, butter, yoghurt and ice cream, but even this appears to be starting to run out of puff in some quarters.

Since early 2016 the butter market has been driven by US consumers moving back toward natural products, with research and health practitioners increasingly saying it’s a better choice than the alternatives that had taken market share over past decades. High tariff

**Table 2: US product mix and exports (tonnes 000)**

<table>
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<tr>
<td>2013/14</td>
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<tr>
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<td>2016/17</td>
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<tr>
<td>2017/18</td>
<td>47</td>
<td>18</td>
<td>779</td>
<td>460</td>
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</tbody>
</table>

Source: ANZ, USDA

**Source: ANZ, CLAL**

**Figure 9: European skim milk powder dynamics**

**Figure 10: US supply growth vs. price margin signal**

Source: ANZ, USDA
barriers and quotas limit the amount of butter that can be imported into the US, with Europe having significantly better access to this market than New Zealand does. Nonetheless, this development has allowed New Zealand to focus on the Greater China and South-East Asian markets with less competitive pressure.

Cheese demand has been driven by a quite different trend, that of robust foodservice demand, where many menu offerings have a cheese component (pizza, burgers etc). Growth in this area has been more aligned with the improved household earnings conditions in the US.

Exportable US supplies appear to be higher heading into 2018/19. This is mainly due to high cheese and SMP stocks, as well as the fact that US domestic prices are currently sitting below international prices for these products. Butter exports seem unlikely to spike, however, with stocks not overly burdensome and still-robust internal demand, but international prices could make it more attractive than recent years.

More recently the US has concentrated on cheese and SMP exports. Exports to Mexico have remained surprisingly resilient despite current trade tensions and the nation ostensibly looking to diversify its suppliers. Mexico accounted for 24% of total US export returns in the last year (their largest market by some margin). On the SMP front Mexico accounts for nearly half (46%) of US exports. So any dislocation in US trade needs to be watched, as this could increase competitive pressure into Asian markets where US exporters have existing trade/business relationships. This could be offset by Europe picking up market share through its new free trade agreement with Mexico. New Zealand’s share of the Mexican market will depend on how quickly the CPTPP is implemented. On the cheese front, export growth has been broad-based across Asia, Oceanian and Middle East markets.

**EXPORT DEMAND**

A declining milk pool and changes to New Zealand’s product mix have capped bulk ingredient exports over recent years. The relative returns on different product streams over 2017/18 has seen growth only in WMP exports (+4%); both SMP + milkfat and cheese volumes have fallen.

![Figure 11: New Zealand bulk ingredient exports](image)

Source: ANZ, AgriHQ

By market, demand signals have been very strong from China, generally weaker from the Middle East/North Africa, and mixed from other markets.

**China**

The broad-based strength of Chinese import demand has been crucial to international prices over the last 18 months – particularly milk powders.

![Figure 12: Chinese dairy imports by product](image)

Source: ANZ, Chinese Customs

Firstly, local supply has continued to underperform despite government efforts to lift self-sufficiency and improve quality. National milk production reportedly fell 1.6% to 35.4 billion litres in 2017. This followed a 4% decline in 2016, meaning production has dropped nearly 6% since 2015. Combined with growing domestic demand this has seen the gap filled with imports – they now account for around 30% of total consumption (on a milk-equivalent basis).
Recent domestic supply underperformance has been driven by heat stress impacting on cow performance, smaller farms continuing to exit due to low profitability, large-scale dairy expansion slowing due to low profitability, and stricter enforcement of new environmental regulations. Looking forward, more normal weather patterns should start to deliver some stabilisation in local supply (the latest data indicates this), but many structural impediments persist. Recent forecasts suggest self-sufficiency could drop toward 60% of total consumption over the next 10 years despite a government target of 70% (the current level).

The Government will continue to have a key role to play in the development of local supply and hence import demand. Policies continue to focus on creating a more integrated supply chain between producers and manufacturers, improving quality standards, and promoting larger-scale operations. Larger-scale operations have been favoured as a way to improve quality and standards more quickly, manage natural resources and environmental concerns, and reduce compliance and monitoring costs. A number of subsidies have been provided to help build larger-scale operations and to purchase better genetics, equipment etc.

Producing milk in China is still not cheap, with domestic prices estimated to be 10-20% higher than international prices. Productivity metrics and production costs reflect the added difficulties of farming in China, including limited access to skilled labour, particularly on large-scale farms, and climatic/natural resources limitations, which impact on things like feed quality and prices. The lack of suitable agricultural land and competition for this with other food crops (which are favoured by government food crop self-sufficiency policies too) constrain farmers’ abilities to grow feed. As such, China’s dairy industry is heavily dependent on imported feed from the US (China’s dairy feed costs are estimated to be twice as high as those in the US). Land is typically divided into small parcels that cannot be bought or sold, so leasing of land for larger-scale farming ventures requires cooperation with local government and good knowledge of the regulatory processes in China. Dairying also struggles with access to water, with around 80% of China’s water resources located in southern regions, whereas most of the dairy herds are based in northern regions.

Turning to the demand side, the Ministry of Agriculture recently estimate that a 1% lift in income equates to a 0.8% increase in dairy consumption. So there is plenty of upside with income levels still growing around 6.5% y/y.

Within this there are some interesting trends, with lifting demand for fresh milk to be consumed directly or used in milk-based beverages, infant formula and other products. These products can be made from reconstituted WMP, but these are perceived to be inferior, with fresh often preferred as a country’s local supply pool expands. China has traditionally used its own and imported WMP when there is a local deficit (seasonality included) due to quality issues with local milk and a fragmented cool chain. However, as quality standards lift, infrastructure improves and the supply chain has become more integrated, fresh local product is being used instead of reconstituted milk powder. Alongside the use of fat-filled powders due to the low cost of Northern Hemisphere SMP and vegetable oils, this has seen total WMP consumption plateau over recent years (especially when you back-fill inventories between 2014 and 2015 period). This has meant WMP imports have largely been supported by softer domestic production in China and local processors focusing on using fresh product instead of producing their own milk powder.

China’s import demand is expected to remain robust for liquid milk, cheese, butter and infant formula. New Zealand dairy processors’ focus on the foodservice channel appears to be paying dividends, lifting the export performance for cheese, cream and butter. Fonterra’s foodservice strategy, for example, is focused on the bakery, hotel, restaurant and café channels, with five product categories of UHT cream, cream cheese, butter, mozzarella and speciality products. The reality is these segments – and particularly the westernised component where dairy more easily fits in – are only a small part of the out-of-home food market, but market share gains, combined with organic growth, make for a favourable mix. The same sort of strategies into other focus markets in
South-East Asia and Latin America look to be providing demand support too (as seen in Fonterra’s financial results and trade statistics).

The infant formula category continues to grow rapidly too despite regulatory change to reduce the number of brands and boost breastfeeding rates. An increasing birth-rate from changes to the one-child policy appears to be providing a tail wind. In this space New Zealand continues to see a rise in not only canned infant formula sales, but also bulk base formula powder that manufacturers then use to produce infant/child formula. China now accounts for nearly half of traded infant formula and import demand grew nearly 40% in 2017. Europe continues to account for around 80% of this trade, but Australasian product have clawed this back from 90% in 2014.

Oil-dependent countries

For a long time oil-dependent countries in the Middle East and North Africa region have been a key market for milk powder imports. Milk powder has been imported to supplement local production in countries that have a local deficit of fresh milk supply. Like in China, it has been used to produce reconstituted milk and a range of other dairy products. However, the recent oil/energy market and geopolitical struggles have reduced demand due to lower incomes and reduced government funding/support for food programs that buy a range of dairy products to provide at subsidised/no cost rates. The double whammy for New Zealand has been a loss of market share to Europe and substitution to cheaper fat-filled powders in oil-dependent markets. The hit to demand has been greatest for more expensive products, such as butter.

Indeed, New Zealand has seen its market share of Middle East and North African imports drop to 30% from nearly 40% last season. Year-to-date milk powder exports have fallen nearly 108,000 tonnes (-22%), with weakness centred on SMP due to European competition.

While there has been general weakness across this region, Algeria and UAE imports have helped cushion the impact.

In fact, Algerian government tenders have been very influential at the bottom of the cycle for WMP since early 2016. Every time prices have cycled back toward USD2,800/t Algerian government tenders have bought sufficient volumes to turn global prices in the other direction. While the Algerian Government has recently decided to suspend its purchasing of liquid milk, yoghurt, butter, ice cream and cheese, the importation of milk powder to fill the local supply deficit is expected to continue. In fact milk powder purchasing seems likely to increase with the reduction in the importation of other dairy products and local supply struggling to keep up with demand. Elsewhere an improving oil price could well support demand; however, geopolitical tensions will continue to weigh on the region’s economic performance and European competition means a larger boost is unlikely.

Other Asian markets

Overall trade outside the Greater China region continues to grow as income levels lift. However, at the country and product level the performance is more mixed. There has been a lift in WMP, cheese and butter demand, mostly centred around increasing milkfat demand (cream, butter and cheese) for the foodservice channel, driven by the westernisation of diets, but often with a local twist to cuisine. Protein import demand has been fairly steady, with SMP imports reduced due to Northern Hemisphere competition, but fat-filled powder imports also softer.
At the country level there has been improvement in Malaysian, Singapore, Thailand and Vietnam demand, offset by lower imports from Indonesia and Philippines. In terms of 2018/19, solid milkfat demand is expected to continue and some restocking activity is expected after a running down of inventories through the first part of 2018.

**COST OF PRODUCTION**

In short: the global cost of production for milk appears to have bottomed out in 2016/17. An increase in labour, feed, fertiliser, energy and capital costs are all set to turn the worm higher, raising the marginal cost of producing milk.

The International Dairy Federation calculates a standardised cost of production measure for the main producing and exporting countries. The analysis includes a capital charge on land and other capital employed. It also includes an opportunity cost for owner/operator labour. The milk equivalents have been standardised to 4% fat and 3.3% protein.

Key take-outs are:

- The weighted average cost of production for the top 15 export countries over the past several years has been around USD40/100kg milk equivalents. This translates into costs of around USD0.41 per litre. This has been about 10% below the previous period due to lower input costs in the form of feed, energy, capital and fertiliser.

- New Zealand milk was benchmarked through the last several years in the USD30-34/100kg milk equivalents range. This translates to approximately USD0.31-0.35 per litre, or NZD5.67-6.43/kg MS when using the average NZD/USD exchange rate of 0.725 over this period.

- The cost of milk production varies considerably amongst countries and across different farm systems within a country. Year-to-year variation also exists and is affected by weather conditions, inputs costs (i.e. feed) and decision making.

- Farmers in some regions are able to produce at lower cost than farmers in others due to a combination of natural factors (including climate, soil and proximity to feed) and man-made factors (including herd genetics, availability of technology and operator expertise).

- The cost of production has dropped for all major exporters over recent years and the gap between the upper and lower quartile closed to USD10/100kg milk equivalents, or USD1.37/kg MS. Southern Hemisphere producers continue to have a cost advantage over Northern Hemisphere rivals, but the gap has closed with the fall in the euro, as well as lower feed and energy prices.

- While New Zealand is still well placed, our traditional position as the lowest-cost producer continues to be challenged.

- China’s average cost of production is assessed to be between USD50-60/100kg milk equivalents.

The cost of production appears to have bottomed out with feed, wage, energy, fertiliser and capital costs all turning higher. A sustained move higher in all these major inputs would increase the cost of producing milk and require higher wholesale product prices to support milk supply growth. At present analysing the cost of milk production for the key exporters suggests a milk price of at least USD30/100kg milk equivalents is required for the lower-cost producers to be incentivised to increase production. In Europe and the US something around the USD40-45/100kg milk equivalent mark is required to stimulate additional
milk supply, although there are wide variations between regions and operators.

The global average cost of production at USD40/100kg milk equivalent translates into a milk price of around the USD0.41 per litre mark. Converted to a milk solids basis this is USD5.40 and a whole milk powder equivalent of around USD3,800/t. Analysing the more efficient European producers down to the bottom quartile, and doing some partial readjustment for an expected increase in costs, suggests a forward-looking breakeven band of USD0.33-0.45 per litre (for around 60-70% of global export trade). Turning this into a whole milk powder equivalent (i.e. including processing and transportation costs for an efficient processor) suggests prices need to be between USD3,200 and USD4,100 per tonne to encourage longer-term investment in supply capacity.

INTERNATIONAL PRICES & PRODUCT MIX RETURNS

With the WMP market broadly in equilibrium, prices continue to trade in a relatively narrow range of USD2,800/t to USD3,300/t. This range largely extends back to late-2016 when most dairy product prices recovered.

What remains peculiar is the unusual split in milkfat versus protein pricing. Milkfat prices, in the form of anhydrous milk fat and butter, have continued to outperform dairy protein, in the form of SMP and whey protein concentrate. This split has seen WMP sitting in the middle of both trends. However, when adjusted for the milkfat/protein composition of products, WMP has actually been the better-returning use of milk for local manufacturers compared with SMP/milkfat since the start of 2018. This is why WMP exports have lifted at the expense of other dairy products in 2017/18.
**NEW ZEALAND DAIRY UPDATE**

**Figure 20: SMP price spreads**

Source: ANZ, CLAL, Datum, USDA, GlobalDairyTrade

In the butter market European prices have recently bounced, which has supported prices from other origins. New Zealand pricing is currently in the middle, but is expected to follow the direction of the European market, which appear poised to push higher again over the second half of 2018.

**Figure 21: International butter prices**

Source: ANZ, CLAL, Datum, USDA, GlobalDairyTrade

**PRODUCT PRICE ASSUMPTIONS**

Broadly speaking, in 2018/19 we see global milk supply growing at or slightly below trend with a number of country-specific limitations and the marginal cost of production lifting (i.e. feed, energy and wages). This should support the durability of the current pricing cycle, but as always weather developments will be important too. The other support factor is forecast solid demand from a range of key markets.

It’s difficult to see the catalyst for WMP pricing breaking out of the well-defined USD2,800 to USD3,300/t range. An improvement in New Zealand supply is likely to cap upward pressure, but low season-end inventory from 2017/18 will provide manufacturers with flexibility should the spring flush surprise on the upside. Combined with solid demand from China, the rest of Asia needing to restock, and rising energy revenue lifting Middle East imports, it all makes for a favourable demand backdrop. The other support factor is that milkfat prices are expected to remain historically high, which will support WMP demand. This makes for a favourable pricing backdrop that could well break the top of the above range if milk supply in Europe or New Zealand were to disappoint at any time during the 2018/19 season.

**Figure 22: WMP price bands**

Source: ANZ, GlobalDairyTrade

While European supply could well bounce back, the other main offshore threats to WMP pricing seem to be fat-filled powder continuing to take market share in low-income countries, Chinese domestic supply miraculously bouncing back reducing import demand, trade disputes causing a dislocation in dairy trade flows, and/or a broad negative shock to all commodity prices. A combination of these factors could well occur, which would test the bottom of this range, but remain outside chances at present.

On the fat-filled powder front competitive pressure is expected to remain in certain areas, such as the Middle East. Northern Hemisphere supply (production and inventory) of SMP remains high; especially from Europe as the governments’ market intervention appetite reduces. New Zealand product is expected to retain a healthy premium due to labelling and product claim requirements. The extent of this will be governed by New Zealand milk supply, which is expected to be constrained, with WMP being the use of milk with the most attractive returns. One wild card is NAFTA negotiations and any dislocation this could cause for US exports to Mexico (nearly half of US exports) and knock-on competitive impacts in South-East Asia/base global prices.
The extent of WMP favourability over producing SMP+milkfat will be determined by the direction of milkfat prices. Broadly, this appears positive with a tight balance in Europe limiting export potential and very strong demand growth across a number of markets, but in particular through the foodservice channel. The main risks appear to be 1) that the US could be poised to increase its exports as domestic demand growth slows, and 2) some degree of consumer resistance to the high retail/wholesale prices could be seen for the likes of butter through the second half of 2018. Broadly we see Anhydrous milkfat trading a USD6,000-7,000/t range and butter following a similar track to 2017/18, moving back toward the USD6,000/t mark over the second half of 2018 before moderating again as seasonal demand subsides post November.

**SO WHAT DOES IT ALL MEAN FOR FARMGATE RETURNS?**

The NZD/USD has been trading a broad range of 0.70 to 0.74 in recent months. More recently it has been on the back foot, falling to the bottom of this range. The stronger USD has played a big part, although the liquidation of extreme speculative net NZD long positioning has no doubt contributed to the NZD’s underperformance on a number of crosses.

Figure 23: NZD/USD structural fair value

![NZD/USD structural fair value graph](image)

Source: ANZ, Bloomberg

While some consolidation is likely in the near term, we believe this NZD underperformance can continue over the coming months. That reflects our view that global growth – while still elevated – is becoming less synchronised; the global liquidity cycle is tightening as central banks embark on policy tightening; and market volatility is lifting. All of this should keep cyclical currencies like the NZD on the back foot.

In saying that, the downside should be limited by the fact that the domestic economic picture continues to look reasonable, with growth holding around trend and the prices for New Zealand’s key commodity exports remaining elevated. In fact, at around 0.71, the NZD is not too far from where our models suggest it should be in a medium-term structural context.

**Figure 24: Effective NZD/USD conversion rate**

![Effective NZD/USD conversion rate graph](image)

Source: ANZ, Fonterra

Given the foreign exchange hedging policy, while we have the NZD/USD averaging only 0.67 in 2018/19 the actual effective rate is likely to be closer to 0.70.

With WMP holding in a broad USD2,800 to USD3,300/t range, New Zealand SMP continuing to attract a premium, and milkfat prices following a similar pattern to 2017/18, this gives a farm-gate milk price range of mid-to-high $6/kg MS. At this stage we are more inclined toward the top of this range, around $6.75/kg MS.

Combined with a likely upgrade to the 2017/18 milk price of $0.05-$0.10/kg MS ($6.60-6.65/kg MS), modelled cash-flow for the average fully shared Fonterra supplier is indicating around $7/kg MS in 2018/19. While low operating costs have unwound somewhat since the downturn in returns, robust farm-gate pricing points towards a solid earnings backdrop of $1,750/ha, versus a 10-year average of $950/ha.

**Table 3: Possible milk price scenarios**

<table>
<thead>
<tr>
<th>Milk Price Component Scenarios (NZ$ per kg MS)</th>
<th>NZD/USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted basket of reference products (US$/t)</td>
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<tr>
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<tr>
<td>3,500</td>
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</tbody>
</table>

Source: ANZ
Our medium-term view has been $5.50 to $6.50/kg MS since August 2015. This was previously predicated on milk price models that didn’t include premiums for product of similar specification, but which were sold outside the GDT platform. It was also based on a fair value NZD/USD around the 0.73 mark, which we now see at 0.71. **These changes raise our medium-term view to $5.75 to $6.75/kg MS.**

**The other consideration is international product pricing.** Broadly we see WMP holding in the USD2,800 to USD3,400/t range for now – this has been our medium-term view since 2015. However, milk supply growth appears sluggish in several major producing regions due to structural drivers (environmental regulation, suitable land, profitability, succession issues, climatic challenges etc) while the demand backdrop is solid. This could well catch up with the market over the next two years, pushing medium term pricing back toward the mid-USD3,000 mark. If the NZD were to remain contained this would support a structurally higher farm-gate price during this period.
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