Fortnightly Agri Update

5 December 2018

A changing landscape

Whether it's surprise at discovering dairy farms in the McKenzie Basin, amazement at the extent of urban sprawl in Tauranga or stumbling upon hemp growing in the Waikato, it's obvious the New Zealand landscape is changing. Understanding how and why these changes are taking place is complicated with many different forces and complex interactions at play. In this week's Agri Update we highlight some of the big changes in New Zealand's rural landscape taking place and discuss some of the factors that might influence changes in land use going forward.

In recent times, one of the biggest changes in New Zealand's landscape has been the increase in land use for dairying. Between 2002 and 2016, land used for dairying grew by more than 42% from 1.8 million ha to 2.6 million ha. The biggest increases were in Canterbury, Southland and the Waikato, with the increase in land use for dairying in these three regions accounting for than three quarters of the increase in dairying land nationwide over this period. In contrast, land used for sheep and beef farming has reduced by almost 20% between 2002 and 2016. While urbanisation is part of the reason for the decline in total agricultural land area, there has also been an increase in the area of land managed by the Department of Conservation (from 7.4 million hectares in 1990 to 8.5 million hectares in 2016).

We think this shift in New Zealand's rural landscape toward dairying has probably run its course. While, as we explain below, there are a wide range of factors that influence land use decisions, we think these factors suggest the expansion

We have revised down our forecast for the farm gate milk price this season to $6.10. While we saw an improvement in dairy prices in last night's GlobalDairyTrade auction, this wasn't enough to fully compensate for weakness we observed in dairy prices through November. See the back page of today's Fortnightly Agri Update for further detail.

GlobalDairyTrade Auction Results, 5 December 2018

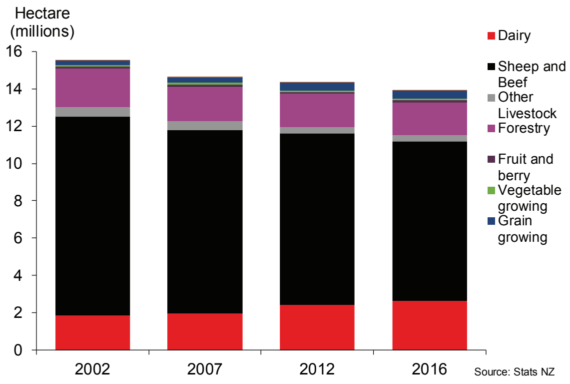
	Change since last auction	Price index USD/Tonne
Anhydrous Milk Fat (AMF)	3.9%	$4,755
Butter	2.7%	$3,745
Butter Milk Power (BMP)	-	$2,973
Cheddar	-2.2%	$3,184
Lactose	0.5%	$918
Rennet Casein	2.0%	$5,167
Skim Milk Powder (SMP)	0.3%	$1,970
Whole Milk Powder (WMP)	2.5%	$2,667
GDT Price Index	2.2%	865

Farmgate milk price forecasts

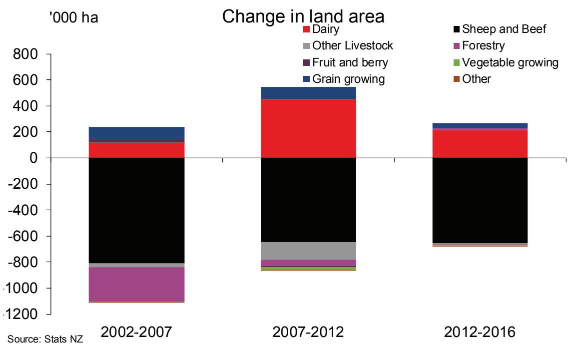
	2018/19		2019/20
	Westpac	Fonterra	Westpac
Milk Price	$6.10	$6.25-$6.50	$6.75

of dairy land will stall, while the area of land used for activities such as horticulture and forestry could increase.

Agricultural land use by type in NZ



Change in land area



There are many factors that influence land use. On one hand there are economic drivers. In part, this comes down to the profit that can be generated from the land with this in turn influenced by commodity prices and the availability of inputs such as labour, capital and infrastructure.

These economic drivers have been an important reason behind the shift toward dairying in recent decades. At an aggregate level, the value of NZ dairy exports relative to meat exports trended higher between around 2000 and 2013 on the back of higher dairy prices and increased dairy production. According the latest data published by Dairy NZ and LIC, dairy cow numbers increased by 55% to almost 5 million in the two decades to 2018. In the 1999/2000 season, the average cow produced around 288 KgMs. By the 2013/14 season, this had increased to 371KgMs (almost a 30% increase). This has probably been a combination of productivity improvements such as genetic improvements, advances in farm management practices and technology improvements. But to some extent, the lift in dairy production has also been due to greater use of inputs such as water, fertiliser and supplementary feed (as well as land). Average stocking rates have also increased, from 2.53 cows per hectare to 2.87 between 2000 and 2014.

Going forward economic factors are likely to continue to be a critical driver of land use change. In general these look set to be less favourable for the dairy industry. Tighter environmental standards are likely to lead to increased costs for dairy farmers. In additional, the inclusion of agriculture in the ETS will probably have a bigger impact on dairy relative to other industries.

Improved economic returns are often followed by capital – which can be critical to financing a change in land use. For example, bank lending to the dairy sector rose sharply between in 2015 and 2016. While lending to the dairy sector is $41.5 billion, sheep and beef lending is $14.1billion and 'other' agriculture lending is 6.3bn. Growth in lending to dairy has 1% over the past year, while "other agri lending is up 13%. Beyond the banking sector, organisations such as MyFarm Investments, iwi or Pāmu Farms (formerly Landcorp) are increasingly dipping their toes into rural industries outside dairy, including sectors as diverse as Manuka honey, hops or even deer milk.

Access to capital is key when developments that rely on changing land use can take some time to reach maturity (and provide a cashflow). For example, if dairy land was being converted to a kiwifruit orchard, the land owner can't continue to graze dairy cows on a freshly planted kiwifruit orchard, meaning some other source of cash flow (or very deep pockets!) are required. This could mean any diversification proceeds incrementally.

But there's much more than just economic returns that influence land use. The physical characteristics of land are also critical. This includes the type of soil, the slope of the land and availability of water.

To some extent, the physical characteristics of the land can't be changed that much. That said, advances in technology can still be a key way of adapting what land is used for. For example, the advent of large scale irrigation in Canterbury has been a key influence enabling the development of a dairy industry in the region. New technologies can also bring productivity improvements, ultimately allowing farmers and growers to do more with less. Higher yields produced by new varieties of kiwifruit are one example, but so is the targeted application of fertiliser, or the ability to monitor stock movements remotely.

Of course there's much debate about whether the change in land use we've seen in New Zealand in recent decades has been desirable. And it's here that regulation plays a key role. Ultimately, the opportunity for landowners to profit from a change in land use is balanced against any broader costs or benefit to society via regulation. In New Zealand, the development of mechanisms for water, nitrate and carbon allocations all remain a work in progress. That said, increased regulation looks likely to favour sectors with a smaller carbon footprint and relatively less environmental impact.

There's no doubt New Zealand's rural landscape will continue to change in the coming decades with changes driven by a combination of factors including (but not limited to) economic returns, regulation and changes in technology. We expect this means growth in the use of land for dairying in New Zealand will stall, and could even go backwards. Meanwhile we may see the area of land used for activities such as horticulture and forestry increase. Importantly, any changes are likely to be incremental, as marginal land is converted to its next best alternative use.

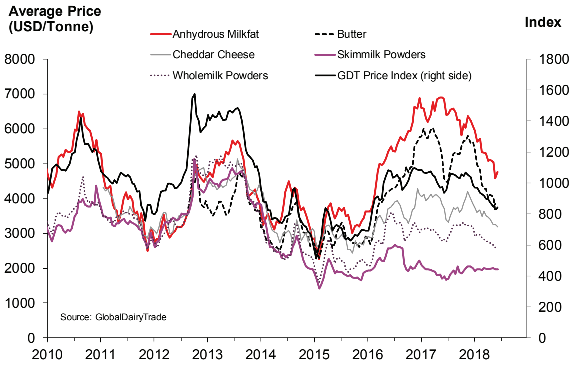
Anne Boniface
Senior Economist

Beyond the farm gate

Dairy

	Current price level compared to 10 year average	Next 6 months
Trend	Average	➔

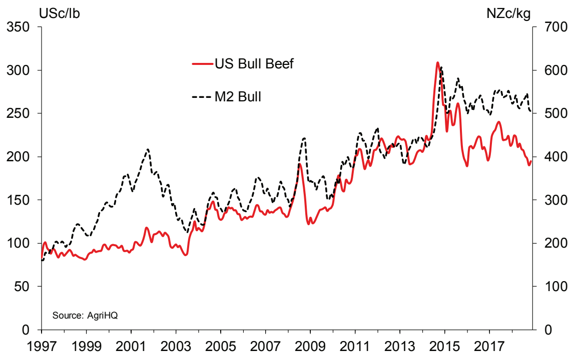
Dairy prices improved in last night's GlobalDairyTrade auction with the aggregate price index lifting 2.2%. In the detail, there was a 2.5% lift in whole milk powder prices, while butter and AMF prices also rose, partially unwinding the big falls we saw in the previous auction. Despite this stronger than expected outturn, last night's lift in prices doesn't fully unwind the weaker dairy prices we saw through November. Local conditions for most dairy farmers remain very favourable, and strong momentum in New Zealand milk production likely continued in November. Consequently, we have shaved 15 cents off our farm gate milk price forecast, and are now expecting a $6.10 milk price this season. As we've noted previously, this forecast continues to assume we see a modest improvement in dairy prices in early 2019, with the risk of a further downward revision if this fails to eventuate in the coming months.



Beef

	Current price level compared to 10 year average	Next 6 months
Trend	High	➘

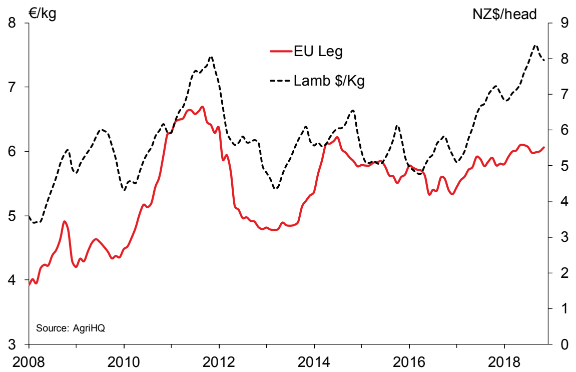
Imported beef prices in the US have stabilised in recent weeks. However, we expect they could come under further downward pressure in the coming months. Markets have become increasingly nervous about the wider outlook for the US economy, questioning how much further the Fed will raise interest rates. While we remain positive about the prospects for the US economy from here, we do anticipate that the trend of growing domestic supply in the US has not fully run its course.



Lamb

	Current price level compared to 10 year average	Next 6 months
Trend	Average	➘

Beef and Lamb NZ recently published its 2018 crop report. It showed a lift in lambing percentages to 129% this season on the back of mostly favourable weather through spring. That's up 1.7% on last season, and 8% higher than the average of the last ten years. Despite this, declining ewe numbers mean Beef and Lamb NZ expect lamb export volumes in the 2018/19 season are expected to be down 1.7%. This will contribute to the tight global lamb supplies we expect to keep a floor under any decline in lamb prices next year.



Note: Trend arrows indicate direction of change in world prices.

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