

Commodities, Dairy Prices and the New Zealand Economy

**A speech by Reserve Bank Governor Alan Bollard to the
Waikato Grasshoppers**

Strictly embargoed until 3.30pm, 12 June 2007

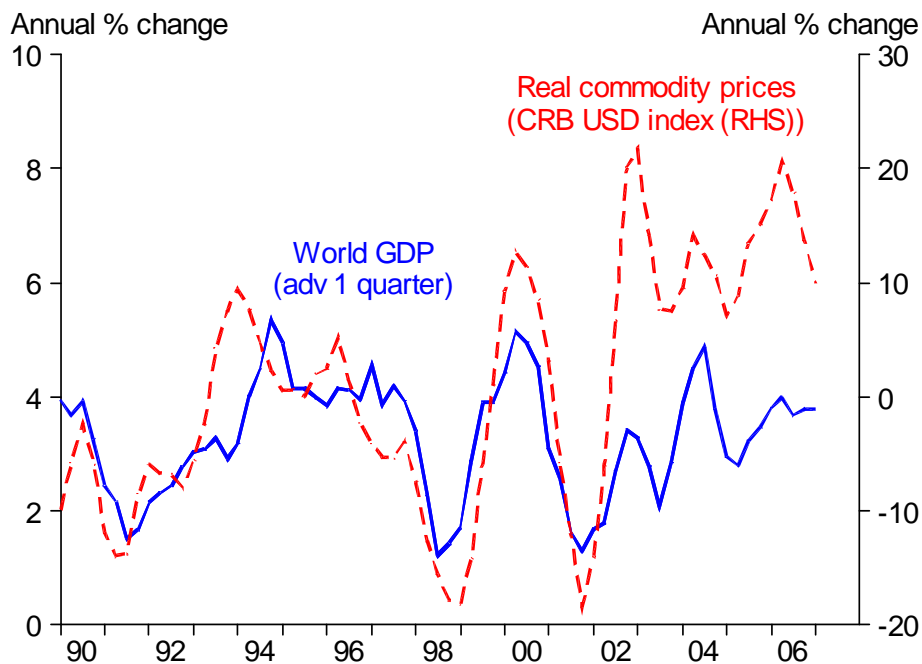
Prepared by Dr Bollard and Mike Jones

For much of the 20th Century the fortunes of the New Zealand economy were linked to the world commodity markets. As these markets declined through the 1980s and 90s, so too did our competitiveness. Over the last year, the signs are that commodity prices are changing again. This is very good news for the New Zealand economy, offering better terms of trade, higher growth, and a reduced trade deficit. This speech looks at what this might mean for New Zealand, focusing on dairy prices and some consequences for monetary policy.

World commodity prices have increased sharply in the last five years. The commodity price boom has coincided with a period of buoyant global growth. However, the sheer size and speed of this commodity price boom is somewhat unusual in a historical context, and, in fact, has seen commodity prices ‘decouple’ from the global growth cycle (figure 1).

Part of the explanation likely lies with China. The rapid pace of industrialisation of China, coupled with its relatively low per capita endowment of natural resources, has led to a sharp increase in world commodity demand. For example, according to the International Monetary Fund, China was responsible for 51 per cent of the growth in the world copper market from 2002-2005, 54 per cent of the increase in the steel market, 48 per cent of aluminum growth and 87 per cent for nickel.¹

Figure 1: Global growth and growth in real commodity prices²



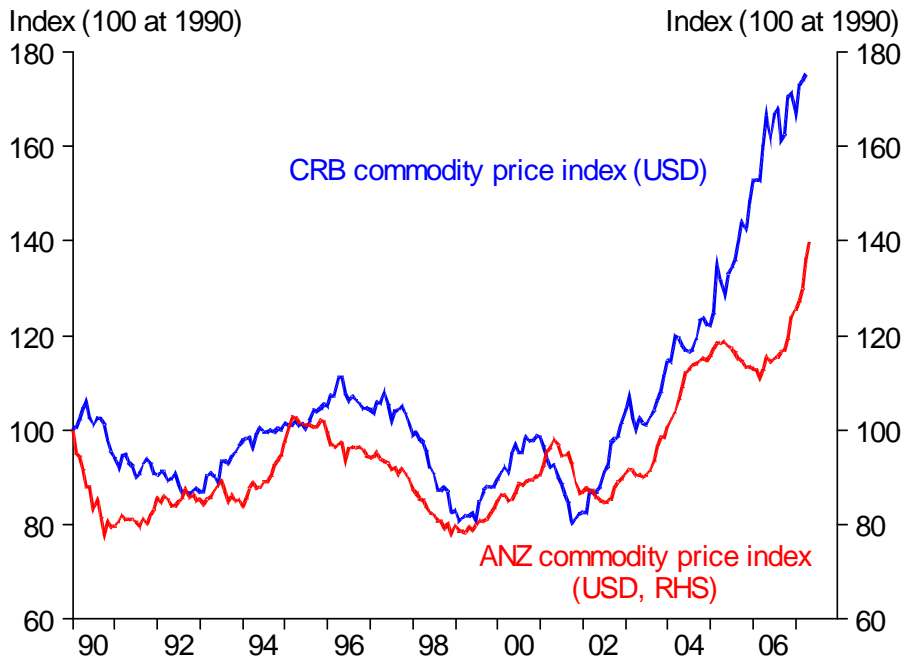
Source: Consensus Economics Inc., Commodity Research Bureau

Initially, the increase in world commodity demand was most obvious in the oil price boom, followed by industrial commodities. More recently, many of the same factors that have driven the boom in global commodity prices have also driven a surge in world prices for some of New Zealand's commodity exports.

¹ Quoted in *Financial Times* (2007) “Non-financial risks series: Mining groups encounter tough lessons” June 4.

² The CRB commodity price index measures movements in global commodities, both ‘hard’ and ‘soft’. It includes energy, grains, industrials, livestock, precious metals, and soft commodities.

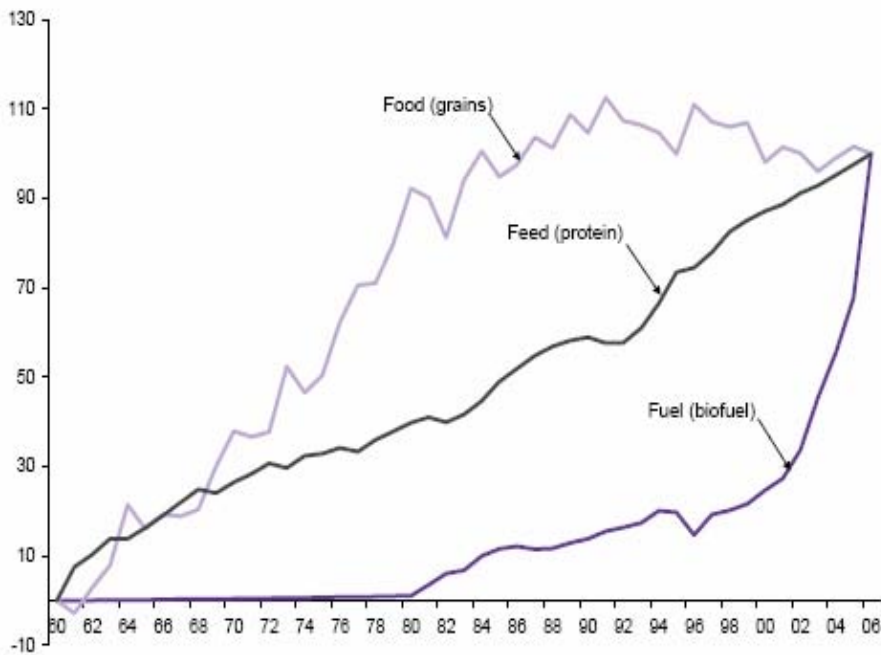
Figure 2: World commodity prices and world prices for New Zealand's commodity exports



Source: ANZ National Bank Group, Commodity Research Bureau

We appear to be going through an interesting (and only partly predicted) phase of world development. Emerging market economies in the 1960s and 70s significantly increased their per-capita consumption of food grains. In the 1980s and 90s we started to see protein increases which were mainly generated from animal feed grains. This decade has seen an intriguing new phenomenon: the conversion of acreage to biofuels production. Figure 3 gives a visual picture of just how big this consumption trend has been. The implication is that a country which can produce animal protein from pastoral production has a big competitive advantage.

Figure 3: Consumption of food, feed and fuel

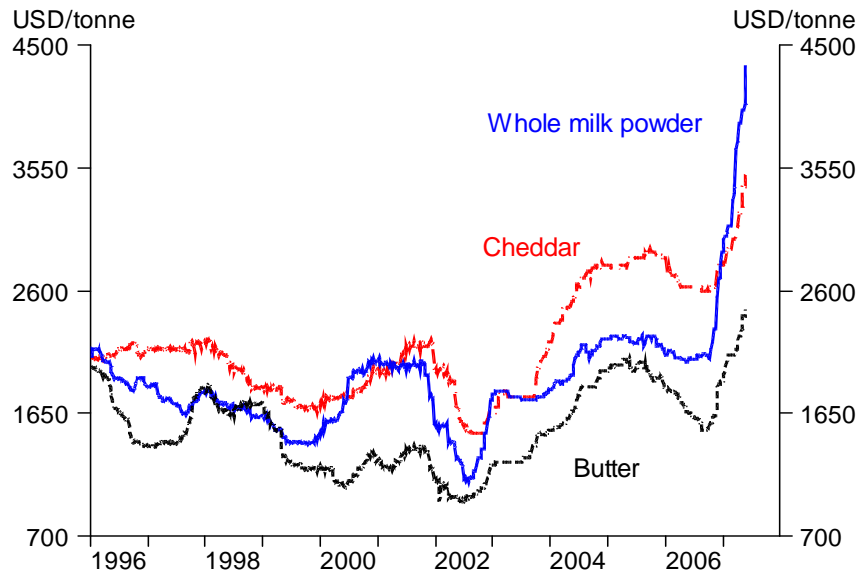


Source: Goldman Sachs Commodities Research

What has been happening to world dairy prices?

The most marked increases have been in dairy prices. Over the last year, dairy prices have increased by 73 percent. Milk powder prices have led the way, rising almost twice as fast as other dairy products.

Figure 4: World dairy prices

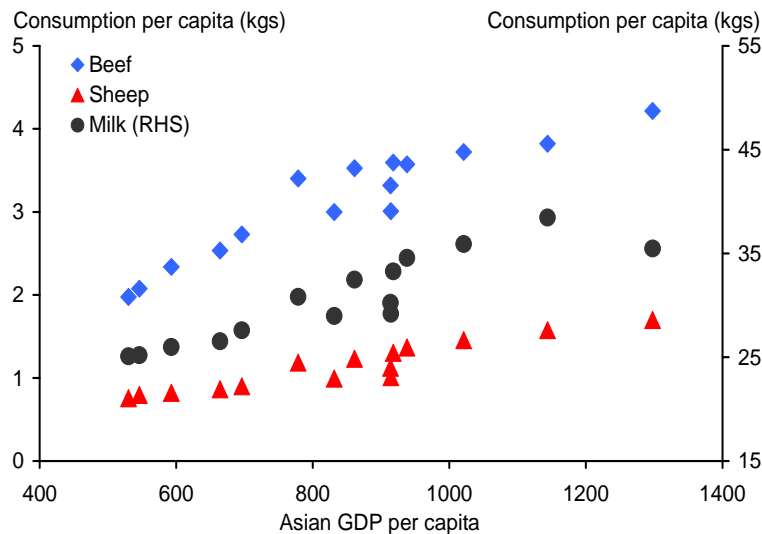


Source: ASB.

In large part, the recent gains in dairy prices can be traced back to a basic imbalance between global demand and supply.

Global demand for protein has been on a structural uptrend for some time. Demand for protein is very income sensitive (figure 5) and rising income levels in emerging markets have led to improvements in diet, incorporating more meat, eggs and milk. In recent years, the strongest growth in consumption of dairy products has come from emerging Asian markets, particularly China.

**Figure 5: Asian incomes and consumption of agricultural products³
(annual observations, 1990 to 2004)**



Source: Food and Agricultural Organisation of the United Nations, United Nations Statistics Division.

³ Includes China, India, Indonesia, Korea, Malaysia, Philippines, Thailand, and Vietnam.

At the same time, dairy production from the major exporting regions, such as New Zealand, Australia and the European Union (EU), has been relatively lacklustre, hampering the ability of global dairy supply to meet the growth in demand.

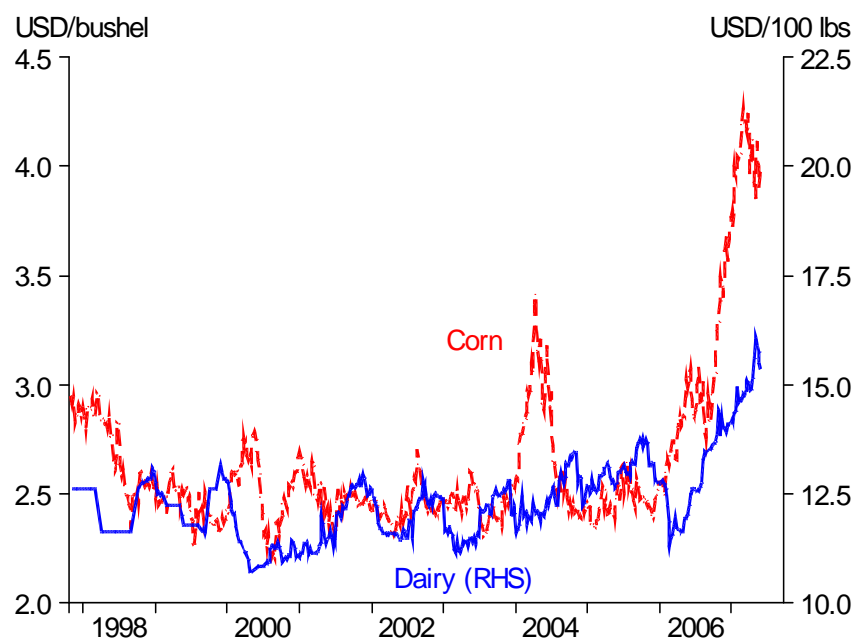
In the EU, exports of milk powder have now fallen significantly following the removal of export subsidies for milk powders. The elimination of milk powder subsidies has encouraged European dairy farmers to shift from exporting milk powder to supplying higher value added products (such as cheese) to their own domestic markets. Dairy stock levels in the EU have also been run down as a result which, combined with similarly low stocks in the US, has seen milk powder stocks globally hit very low levels.

Australia is in the midst of one of the worst droughts on record. Despite the drought, dairy exports have held up remarkably well, sitting at around similar levels to last year.⁴ However, with production well down on last year, some easing in dairy exports seems likely going forward. Further, it is unlikely that production will ever fully recover to pre-drought levels.

New Zealand dairy exports have recorded relatively modest growth over the past three years (around 3 percent p.a.).

The recent boom in biofuel demand has further hindered global dairy supply. Strong demand for ethanol has seen corn prices, the primary source of livestock feed, advance over 50 percent in the past six months.

Figure 6: Dairy and corn futures



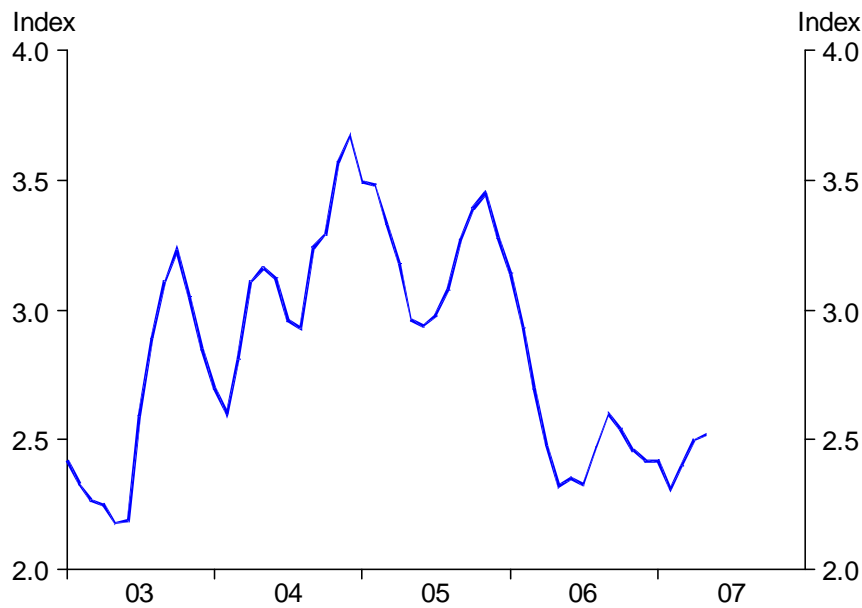
Source: Chicago Board of Trade, Bloomberg.

This has significantly increased the cost of dairy production for farmers overseas. Higher corn prices have also seen the ratio of milk prices to feed prices (for grain-fed cattle) worsen over the past year or so, meaning there is now less of an incentive for overseas farmers to increase dairy output (figure 7). And with more land in the US now being used for ethanol production there is less land available for any expansion in feed and/or dairy production.

⁴ Dairy Australia.

All of these factors may act to slow further expansion in the global dairy herd.

Figure 7: Milk-feed price ratio



Source: USDA

Where will dairy prices go from here?

Any discussion about the outlook has to be heavily qualified. Predictions of future dairy prices involve a range of uncertainties and we shouldn't pretend that the outlook is clearer than it really is. The evolution of global demand and supply for dairy products depends on a wide range of factors including complex interactions with other commodity markets. Even if one can identify the predominant drivers of the dairy market, translating those into accurate predictions about prices is another matter. We shouldn't forget that the marked run-up in dairy prices over the past six months is a development that largely took the industry by surprise even if it can be rationalised in hindsight. Moreover, even if dairy prices are moving to new structural levels, it is reasonable to think they will still be subject to cyclical fluctuations.

That said, current spot market shortages do seem to suggest dairy prices are likely to remain at high levels in the short term. Looking further ahead, the future path of world dairy prices depends on the ability of global supply to respond to higher prices, as well as the ability and willingness of consumers to pay higher prices.

There is certainly no compelling reason to suggest that strong global demand for dairy products will slow markedly soon.

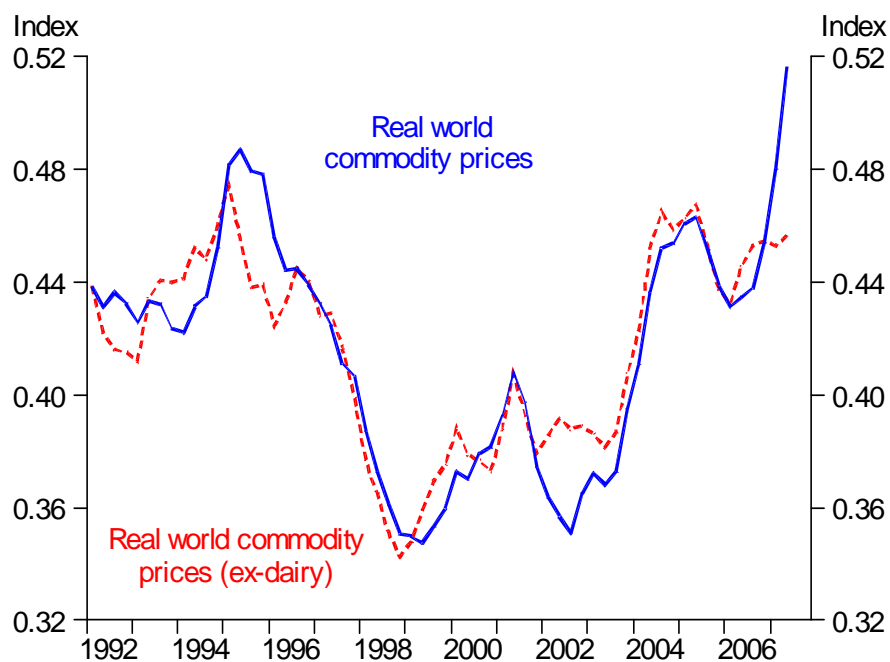
Supply responses in dairy are slow inevitably slow. And with the boom in biofuel demand sending production costs in many parts of the world soaring, the ability of supply to 'catch-up' to demand will be constrained further. As a result, any increase in global dairy supply may well rest on the prospects for emerging exporters such as Argentina and the Ukraine, along with the ability of China to increase production to meet its own demand. It is certainly possible that we could be heading into a 'new era' for dairy prices.

Developments in other soft commodities

Dairy prices look set to be the star performer amongst New Zealand's export commodities over the next few years. But that is not to say the outlook for other commodities is bleak. In fact, the global backdrop seems likely to turn increasingly favourable for prices for meat and forestry, New Zealand's second and third largest commodity exports respectively.

Forestry prices have been increasing since 2005 on the back of strong Asian (particularly Chinese and Korean) demand for logs. Pulp prices have also joined the fray lately due to the increased bio-fuel demand already mentioned. And looking ahead, prices could press even higher. Russia is set to increase its tax on log exports in large incremental steps over the next three years, with the first increase starting in July. This should provide support for log prices given Russia's strong presence in international log markets.

Figure 8: Real commodity prices: total and ex-dairy



Source: ANZ National Bank Group Ltd, RBNZ estimates.

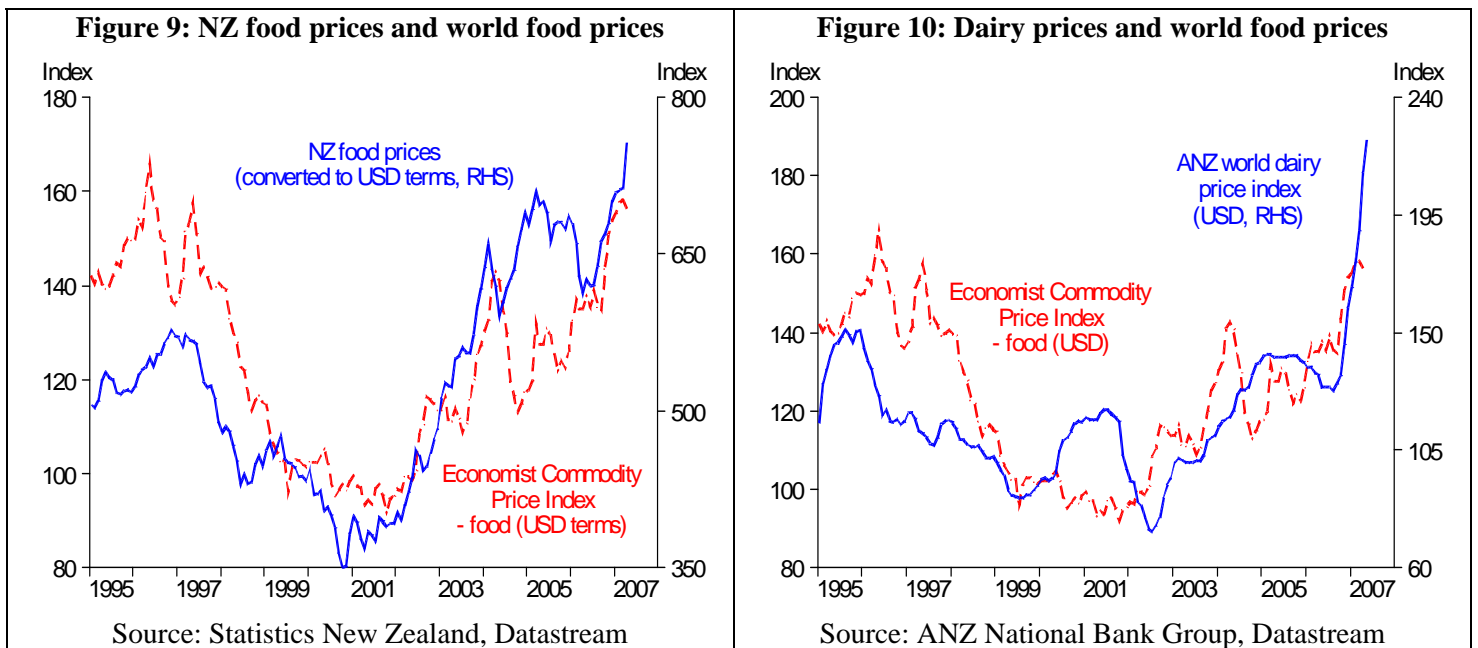
Beef and lamb prices have come under pressure in recent months as drought conditions overseas have induced higher than normal rates of slaughter. Prices, particularly for lamb, have fallen as this 'wall of meat' has hit world markets. But, of course, higher slaughter now means lower slaughter later. As meat producers in drought stricken regions rebuild their herds, global prices for both meat and beef should recover. There is also potential for prices to remain permanently higher if increased feed costs (bio-fuels again) prevent some of this herd re-stocking.

All of this means that, even if dairy prices were to correct downwards, buoyant prices for some of our other key export commodities may well provide some offset, limiting the downside to our commodity export returns overall.

Other effects internationally

Surging prices for dairy products, as other well as for other soft commodities such as wheat, corn, and oats, have sparked international fears over food price inflation.

There is growing concern within the food industry that the present upswing in prices is structural rather than temporary and, indeed, food companies overseas have already begun passing these price increases onto consumers. Development agencies providing protein supplements to vulnerable third world countries are being particularly affected.



This partly explains the accelerating rates of food price inflation in other parts of the world. US food prices have risen by 6.7 percent since the beginning of the year while UK food price inflation recently reached 6 percent. In comparison, annual growth in New Zealand's food price index has been more muted, around 4 percent in annual terms. However, with dairy and other food prices continuing to increase there may be additional upward pressure on New Zealand's food prices in future. This has implications for monetary policy, which will be discussed later on.

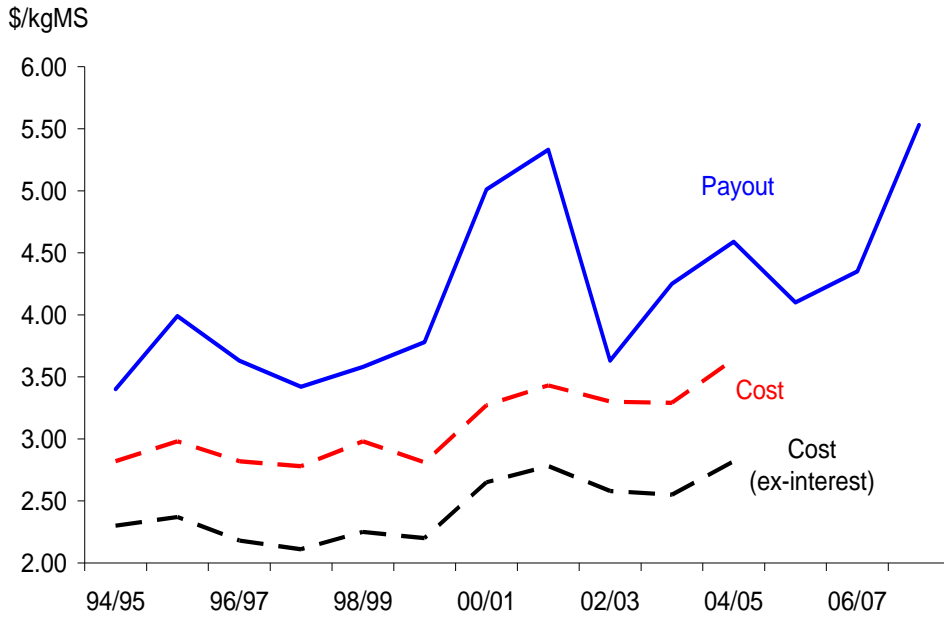
Impacts of higher payouts on NZ dairy industry

Higher dairy prices will flow through into a higher payout for New Zealand's dairy farmers. We estimate that Fonterra's recent upward revision to its payout forecast for this season and next will add an extra \$2 billion to dairy farmers' incomes (at current production levels).

Just what farmers do with this extra income remains to be seen. The cash windfall is likely to be spread across repaying debt, increasing savings, upgrading equipment, buying more cows, fertiliser and other farm inputs, purchasing/converting land, and, to some degree, cars and holidays. There are also the downstream, multiplier effects to consider, which could see a bigger boost to the rural economy than the \$2 billion payout increase alone would suggest.

But let's not forget the cost side of the equation. Farmers often remind us that the cost of producing milk has increased substantially over the last few years. Significant cost increases could dampen the overall impact of higher payouts on the rural economy.

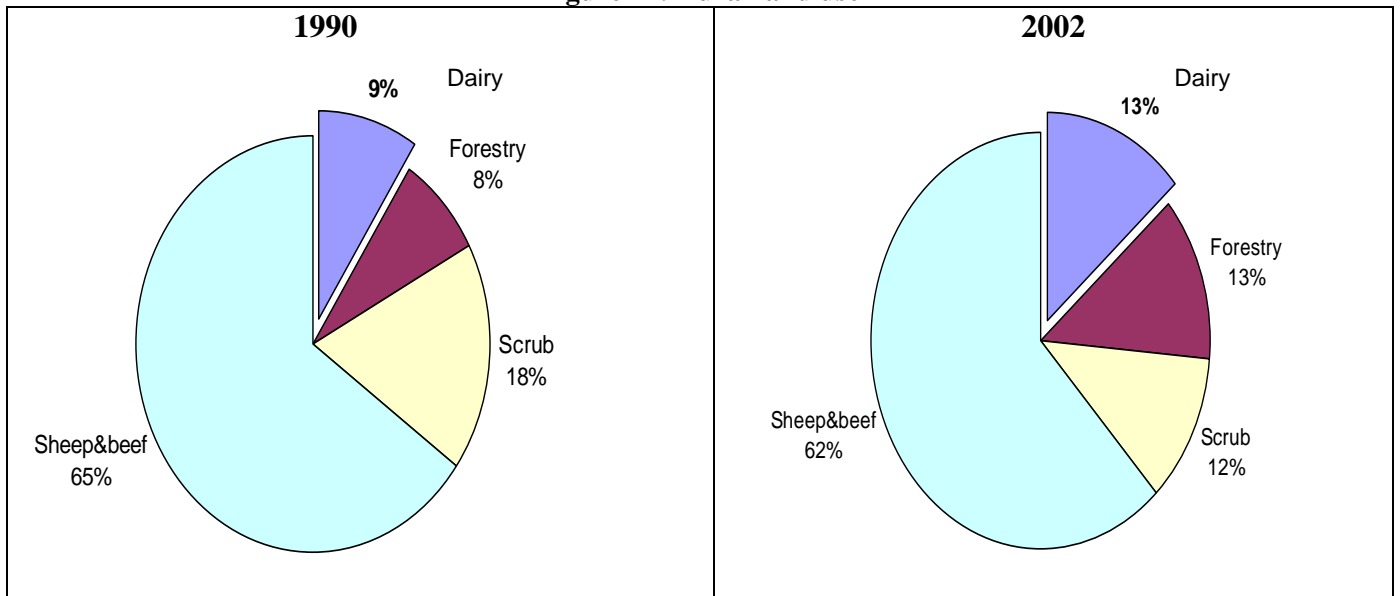
Figure 11: Dairy payout and cost (per kilogram of milk solids)



Source: Dexcel

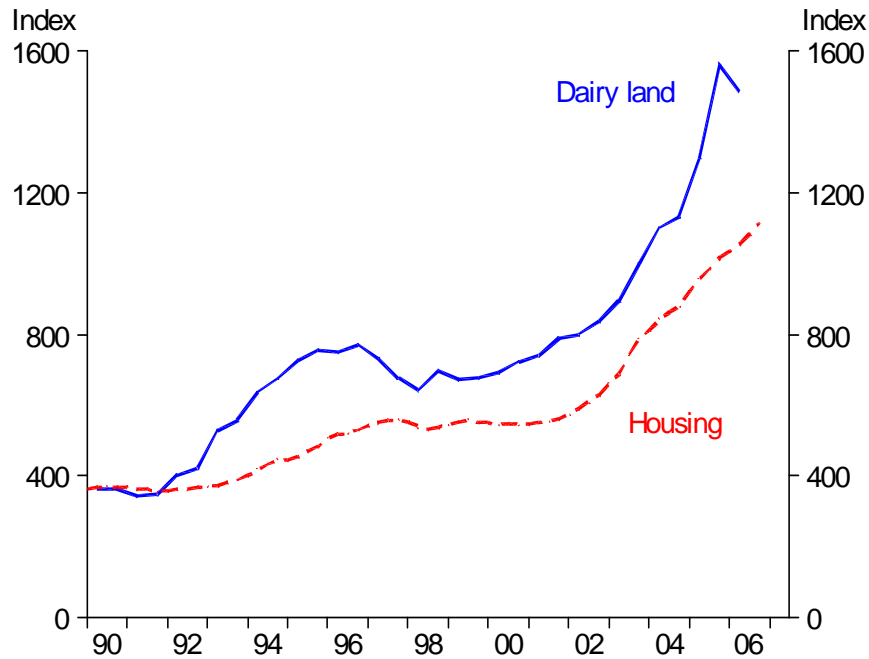
Higher payouts may also spur a fresh wave of dairy conversions, which was certainly the experience following the record 2001/2002 payout.

Figure 12: Rural land use



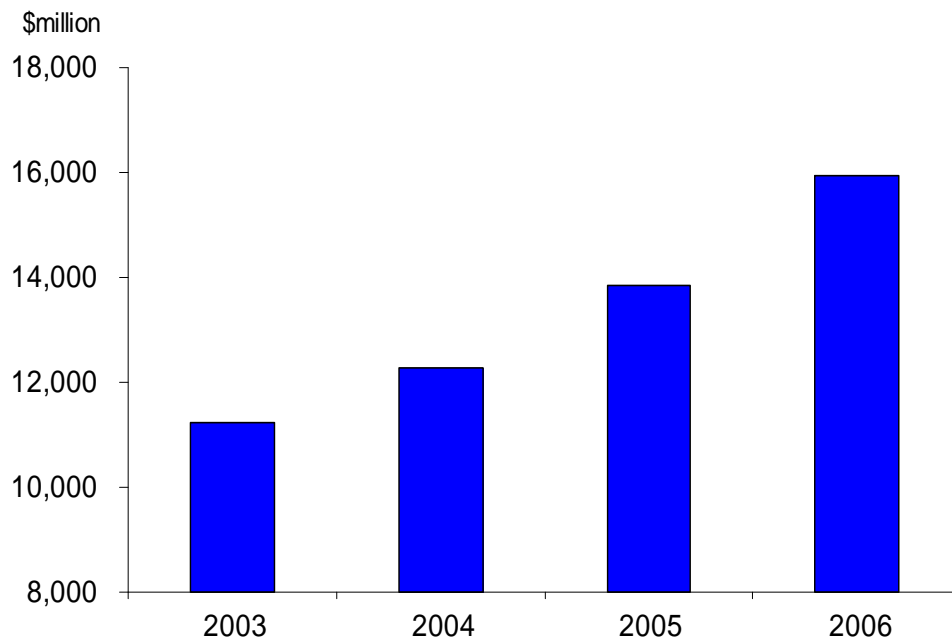
Source: Motu Economic and Public Policy Research

Before the recent dairy price increase, dairy farm prices were looking very top-heavy, and hard to justify on the basis of expected payouts. The rate of increase has been even higher than for house prices. The commodity price increases may have saved some farmers from difficult liquidity positions.

Figure 13: Dairy land prices and house prices

Source: Quotable Value Limited

More conversions seem all the more likely considering the less favourable returns available from sheep and beef farming at present. The implications of a higher conversion rate would be another step-up in on-farm investment which would in turn lead to further increases in dairy sector debt levels.

Figure 14: Dairy sector credit

Source: RBNZ

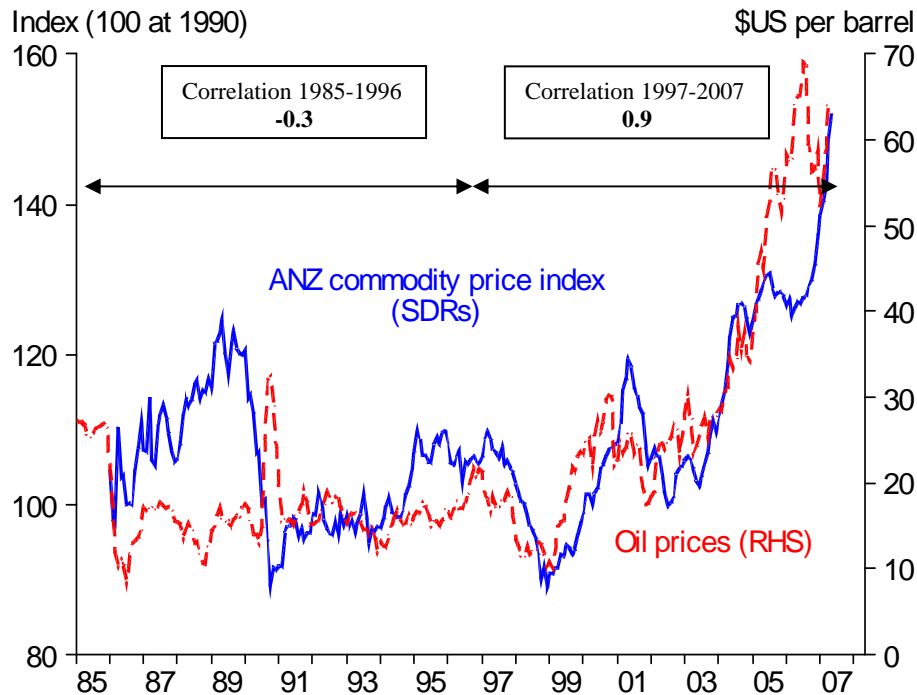
Changing land use would also bring fresh consideration of the environmental impacts arising from increasing milk production. Examples include water allocation for irrigation in

Canterbury and the run-off implications of intensive nitrogen use. In a world where customers pay increasing attention to the environmental footprint of production, this is a serious issue.

Other impacts on NZ activity

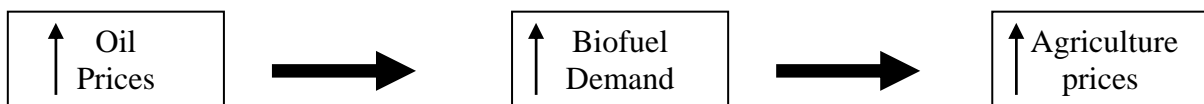
There is some evidence to suggest that prices for agricultural commodities are becoming increasingly linked to prices for other commodities, particularly energy.

Figure 15: Oil prices and world prices for New Zealand's key export commodities



Source: ANZ National Bank Group Ltd, Datastream

Strong growth in demand for biofuels suggests greater convergence between agriculture commodities and energy commodities in future.



Arbitrage from the oil market may support some agricultural commodity prices (in New Zealand's case mostly dairy prices and, to a lesser extent, beef prices) at structurally higher levels, as long as high oil prices are sustained.

But, if we are going to see dairy prices remain at high levels, there are some other 'winners' and 'losers' to bear in mind.

We know that higher world commodity prices are typically associated with a higher exchange rate. And, while the recent appreciation in the exchange rate has dampened returns to dairy farmers to a degree, it has, at the same time, effectively distributed some of these income gains to consumers via lower import prices.

However, as the increase in commodity prices has mostly been in dairy, the higher exchange rate has reduced New Zealand dollar returns for many other exporting industries, including

some farm production. This phenomenon is known as “Dutch Disease”: very high prices for one export sector can crowd-out competitiveness in other export sectors.

Monetary policy implications

It bears repeating that we cannot be sure about the path of dairy prices over the next few years following their recent run-up. Assuming dairy prices do remain at elevated levels there are likely to be many benefits for New Zealand, including higher growth and a reduced trade deficit. However, from a monetary policy perspective, a terms of trade shock of this magnitude poses some challenges. It is likely that higher dairy prices will affect inflation in a number of ways.

Firstly, as alluded to previously, increases in world dairy prices will lead to higher domestic dairy product prices. This has already begun to occur. Milk and milk based products are part of the CPI, increases in domestic dairy prices are likely to have a fairly prompt (though likely small) impact on CPI measured inflation.

Secondly, and most importantly, higher dairy prices will provide a substantial boost to rural incomes. Of course, for many this is very good news. However, we are dealing with a stretched economy at present. Domestic demand is already strong. Capacity is tight. If this extra income is spent and/or invested by farmers it will add to this domestic demand pressure. It may be that a large portion of this extra income is saved or used to repay debt. But to the extent that some of it is spent, it may make it harder to achieve our medium-term inflation target. This effect could be compounded even further if these higher incomes become reflected in higher rural land prices. A reacceleration in land prices risks adding to domestic demand pressures through wealth effects and equity withdrawal.

These two strong influences on inflation will be partly offset to some extent by the strong exchange rate. The high New Zealand dollar will dampen medium-term inflation pressures by suppressing activity in those exporting sectors not lucky enough to be receiving high commodity returns.

We should not lose sight of the fundamental message: the trend we are seeing in commodity prices is very good news for the New Zealand economy. Assuming they are appropriately conservative in their spending, dairy farmers have a real chance to contribute to our growth.