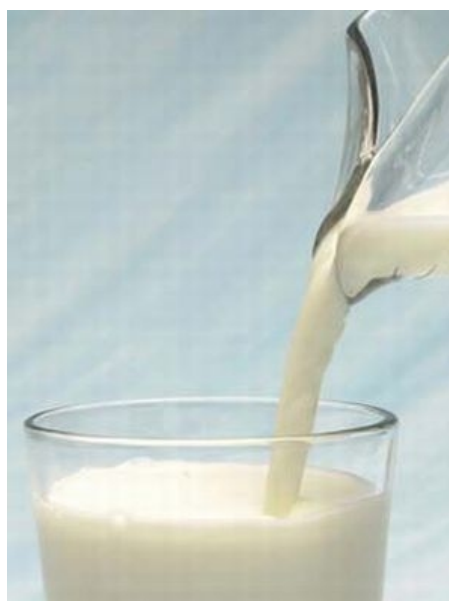


# **DAIRY MARKETS REVIEW**

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*An Assessment of the Short to Medium Term Outlook  
for Global Dairy Markets*



**September 24<sup>th</sup> 2009**



Dairy Markets Review Group

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# Dairy Markets Review

*An Assessment of the Short to Medium Term Outlook  
for Global Dairy Markets*

September 2009

# Foreward

On behalf of the Coordinating Committee I wish to thank the various contributors, both at home and abroad, who gave generously of their time and expertise in providing relevant information for this review.

The members of the Committee wish to thank in particular Trevor Donnellan of the Rural Economy Research Centre, Teagasc, Athenry who undertook the onerous task of distilling the many inputs received and who played a vital leadership role in the compilation of the review.

Karen Thompson, Joe O'Flynn, Tim McKenna and Sarah-Jane Hurley provided a range of data and literature and contributed extremely helpful comments on earlier drafts of this report. Thanks are also due to Kevin Hanrahan, Laurence Shaloo and Una Geary who also provided useful comments.

The review has been completed at a time of major concern for the Irish dairy industry arising primarily from exceptionally low product prices. It is hoped that the review will help to clarify the relative importance of the different factors that have contributed to recent market difficulties and will provide a valuable guide to the assessment of future market prospects.

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## Executive Summary

- This report has been produced to assess the short to medium term prospects for dairy markets in the light of the very low dairy product and farm milk prices observed in 2009.
- The report does not rely on its own commissioned research. It represents a synopsis of existing material that is publicly available, along with the views of international experts in the sector.
- The outlook in this report extends to 2015 and the report does not examine the relative merits of planned or potential policy changes that could emerge over the next 5 years.
- Low stock levels and adverse weather conditions in some regions provided the circumstances to destabilise global dairy commodity markets in 2007 and a dramatic rise in world dairy prices followed.
- The rise in dairy prices produced a strong increase in global milk production in 2008. At the same time higher dairy prices impacted negatively on demand for dairy products at both the consumer and food industry levels.
- The financial crisis which emerged in 2008 further depressed consumption levels and pushed world dairy prices well below the levels observed in advance of the 2007/2008 price spike.
- In the EU and US, governments have intervened to support dairy markets in 2009 through extended intervention measures, and the re-introduction of both dairy export subsidies and the Dairy Export Incentive Program. These measures have prevented domestic dairy prices from falling to even lower levels. However, global dairy stocks are now rising and these stocks will overhang the dairy markets and may limit the recovery in dairy prices in the short term.
- Over the medium term the potential for milk production growth in the EU is limited and production growth in the US will be modest. New Zealand, Australia and South America will contribute most to growth in world trade.

- While China is a country likely to experience strong consumption growth, it is likely that much of this increased demand will be satisfied through increased domestic production.
- In some instances food processors have reacted to volatile dairy prices by seeking out and substituting non-dairy alternatives that have more stable and generally lower prices. It is not expected that these food processors will restore dairy ingredients in their recipes despite the decline in dairy prices. As such the reaction by the food industry to higher prices may represent the loss of this market segment and amount to a permanent negative shift in dairy ingredients demand rather than a short term reversible response to price changes.
- There are several imponderables that could impact on the sector over the medium term. For the immediate future it is difficult to escape the broad conclusion that the global dairy sector has entered a phase of low dairy product and producer milk prices which will persist for a period. The sector will recover over time through a combination of slower growth in global production, in reaction to these lower prices, and stronger consumption growth, brought about by a recovery of the global economy.
- In the EU, it could take one to two years to emerge from the current trough in dairy prices and unless the recovery in the global economy is swifter than anticipated, it is difficult to see medium term price projections returning to the path that had been anticipated before the global economic crisis.
- The growing milk quota deficit in the UK will present export opportunities for increased Irish dairy exports to the UK, particularly in the case of Cheddar cheese.
- In spite of the trough in dairy prices in 2009, world dairy prices will recover and over the medium term should still average above the levels achieved in the first half of this decade.

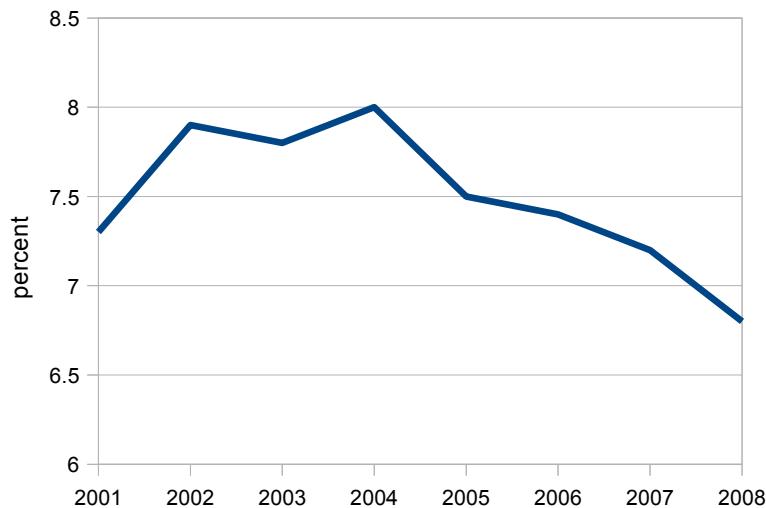
## Overview of Current Market Situation

Global dairy markets have experienced substantial price swings over the last two years. In 2007 and early 2008, a range of factors initially gave rise to a record increase in world prices across the full dairy product range. However, this was then followed by an even more dramatic collapse in world dairy product prices over the last 12 months. Numerous factors, on both the demand side and the supply side, played a role in the evolution of world dairy prices over the last three years.

*The percentage of world milk production that is traded is in decline*

It is frequently stated that the world market for dairy products is small relative to total milk production. Between 7 and 8 percent of total production is actually traded, as most dairy products are consumed in their region of origin. Consequently, even a small deviation between global production and consumption will produce a large change in the surplus available for international trade. For example, a 2 percent gap between global milk production and consumption is equivalent to about 25 percent of global dairy trade.

Figure 1: World Milk Production in International Trade 2001 to 2008



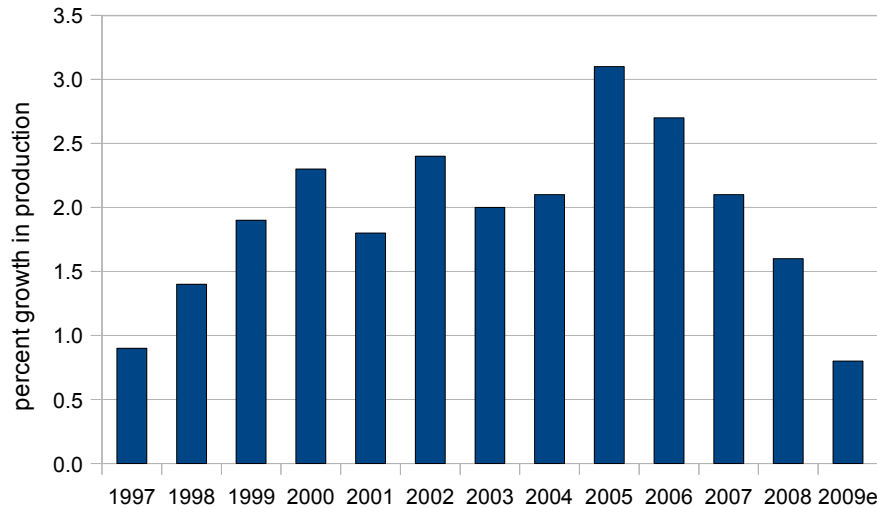
Source: IDB

*A decline in global dairy stocks and reduced exports, limited supply on to the world markets*

Normally stocks can address short term imbalances between production and consumption. However, a gradual decline in global dairy stock levels produced the right conditions for a price spike in the event of a production shock. Over the last couple of years, unfavourable weather had an adverse impact on production in Australia, New Zealand, Argentina and the Ukraine, while some

countries also placed restriction on exports to the world market as a means of dampening domestic food price inflation.

Figure 2: Annual Percentage Growth in Global Milk Production



*Global milk production growth has slowed*

Source: ZMB, IDF, FAOStat

On the demand side, strong global consumption growth had been a consistent trend in dairy markets in the current decade. Rapid economic growth in developing economies and in crude oil exporting countries stimulated demand for dairy products. In addition, population growth, increased urbanisation and the adoption of western eating habits have also boosted consumption.

*Through much of this decade, economic growth provided increased incomes and allowed greater spending on dairy products*

While the 2007 shortfall in actual global milk production relative to anticipated production led to a rise in prices, higher price levels did not initially lead to an offsetting reduction in global consumption. At this point conditions seemed to be in place to allow world dairy prices to be sustained at a higher average level over the medium term. To some degree the lack of adjustment in demand at this point can be explained by the fact that national prices did not immediately increase when world prices increased. This is because the increase in world prices, normally measured in US dollar terms, was offset by a weakening of the US dollar against other currencies. In addition, there are lags in the transmission of price changes from wholesale to retail due to contract pricing arrangements, so consumers were not immediately exposed to higher prices.

*The weakness of the US dollar contributed to the rise in world prices in US dollar terms*

The global price boom was transmitted to the EU dairy market and, rather than experiencing the expected price reductions following the Mid Term

Review of the Common Agricultural Policy (CAP), instead dairy producers in the EU experienced a milk price rise. Overall, in 2007 dairy producers temporarily experienced an income boom, as costs remained relatively stable while milk prices increased. In addition, decoupled compensation became available for the price drop that had been expected under the MTR.

*High oil prices and biofuel demand drove input prices upwards*

As we entered 2008 conditions were then in place for further growth in global dairy product production to restore greater product availability on world markets. However, the rise in dairy prices in 2007 and 2008 coincided with rapidly rising crude oil prices. As energy costs rose and the development of the biofuels sector continued, a surge in farm input prices followed and in the latter half of 2008 this offset the benefits for producers that the initial increase in dairy prices provided.

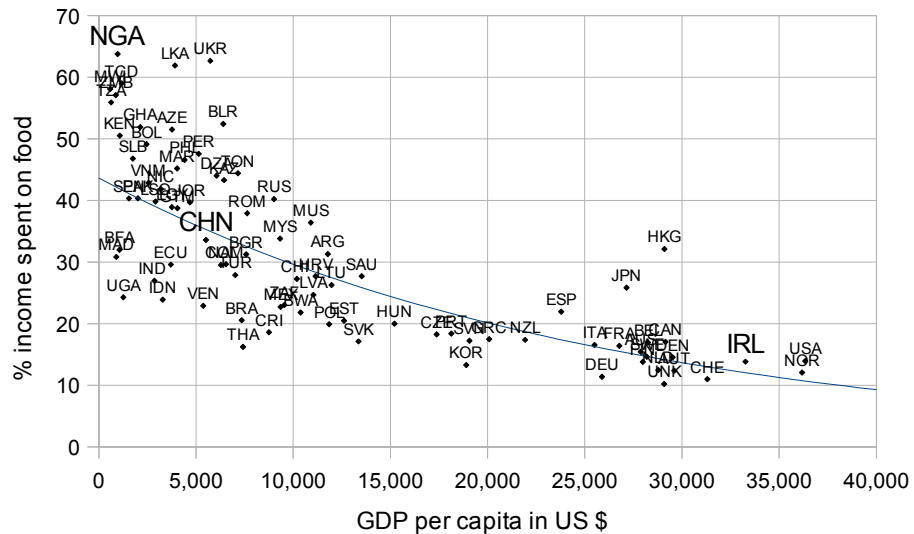
The next stage in the process saw a negative reaction in consumer and food ingredient demand to the increase in dairy prices over the course of 2008. Dairy product consumption per capita dropped around the world as consumers increasingly sought out value by buying cheaper products and smaller packets and by reducing domestic food waste through better monitoring of use by dates. Arguably, this downturn in demand could have been the end of the cycle and in 2009 prices might have been restored to levels that are more consistent with historical norms.

However, the economic and financial crisis which began to emerge in mid 2008, added further complexity to the dairy market picture. As income growth stalled in the face of recession, dairy product consumption contracted and global dairy prices fell dramatically in the second half of 2008.

*The economic crisis has led to a serious decline in international dairy demand*

It should be understood that while tight supplies over the short term have boosted prices for dairy products in the recent past, this has also been the experience with other soft commodities such as rice, wheat or maize. As a gradual price rise occurred over time across the soft commodity range, demand in developing countries for staples such as rice held up better than demand for foods such as dairy products which are not part of the staple diet. In some developing countries as much of 70 percent of income is spent on food, a much higher percentage than in the developed world. Food price increases force consumers in developing countries to change their diet.

Figure 3: Food Expenditure as a percentage of Income in Selected Countries



Source: OECD FAO (2009)

Note: Data are derived from the Per Capita Income and Food Weight in the CPI

*Food expenditure in developing countries comprises a much higher share of income than in the developed world*

In developed economies the global recession and credit crisis has generated a fear of unemployment. Negative consumer sentiment has led to increased saving and lower spending with negative consequences for dairy consumption.

The depressed market situation has persisted into 2009 and has led to government policy intervention in dairy markets, notably in the European Union (EU) and United States (US) through the restoration of EU export subsidies and the US Dairy Export Incentive Program (DEIP). Early in 2009 the EU also indicated that it will operate more flexible dairy intervention arrangements. Even 12 months ago that would have been considered politically infeasible under the current CAP.

*Governments have intervened to support dairy markets*

The dairy sector is a mature low growth sector. Taking into account the decline in global dairy stocks that took place in advance of the price boom/bust, global consumption at the time was growing at about 2.5 percent per annum. This consumption growth has now dropped to about 1 percent per annum. In a low growth sector small variations in growth can be very important.

*In a low growth sector, small variations in growth can be very important*

In Appendix A monthly world dairy prices are compared with comparable EU (Dutch) prices for the main commodities over the period of the cycle observed from mid 2007 to mid 2009. The initial run up and subsequent decline in world prices is notable both in pace and in magnitude. While EU dairy prices have declined considerably in 2009, it is notable that EU prices have not fallen

to the same extent as world dairy prices. The availability of export refunds and intervention have prevented an even more dramatic fall in internal EU prices.

Table 1: Global Milk Supply Balance (in Milk Equivalents) 2001 to 2008

*Stocks declined in the middle of the decade as consumption growth outpaced production growth*

|                 | 2001        | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  |
|-----------------|-------------|-------|-------|-------|-------|-------|-------|-------|
|                 | mill tonnes |       |       |       |       |       |       |       |
| Milk Production | 589.6       | 604   | 615.8 | 628.4 | 647.8 | 665.2 | 679.2 | 689.8 |
| Stock Change    | 0.5         | 3.6   | 0.0   | -1.7  | -2.7  | -2.0  | 0.0   | 4.0   |
| Consumption     | 589.1       | 600.4 | 615.8 | 630.1 | 650.5 | 667.2 | 679.2 | 685.8 |

Source: ZMB, FAOStat

*The decline in dairy product prices has hit both high value added and bulk dairy products*

Prices movements for higher value added products are more difficult to gauge than prices for the traditional bulk products, since direct contracts between processors and retailers make prices harder to observe. Nevertheless, prices for higher value added products will have followed the trend observed in dairy commodities. Processors such as Arla (DK) and Friesland Campina (NL) with strong portfolios of high value added products have recorded substantial reductions in their milk prices to just € 24.53 per 100kg and € 22.02 per 100kg (at 4.2% fat, 3.4% crude protein) respectively in July 2009.

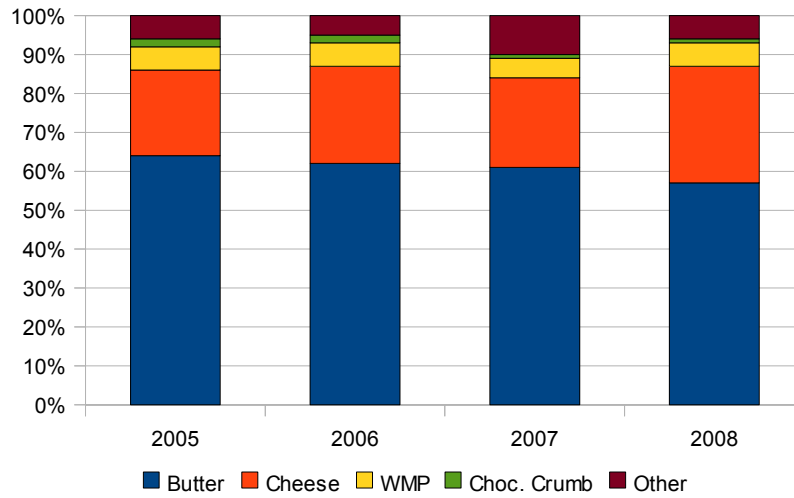
### **Ireland**

The Irish dairy product profile remains quite different from that of the EU generally. Important differences exist in terms of product composition, production profile and in terms of product destination. Approximately 10 percent of Irish whole milk is used for fluid (drinking) milk and the remaining 90 percent is used in the manufacture of a range of dairy products. Milk production is highly seasonal, with two-thirds of the milk processed between April and September.

In primary processing, butter production remains the dominant use of whole milk, although the proportion of whole milk used in cheese production has been rising gradually. The high proportion of milk going to butter production means that a substantial skim milk volume is available for use in the production of skim milk powder, casein and other products. In addition, there is a growing secondary dairy processing business, focused on infant nutrition, cream liqueur and confectionery products.

Figure 4: Irish Whole Milk Manufacturing Utilisation 2005 to 2008

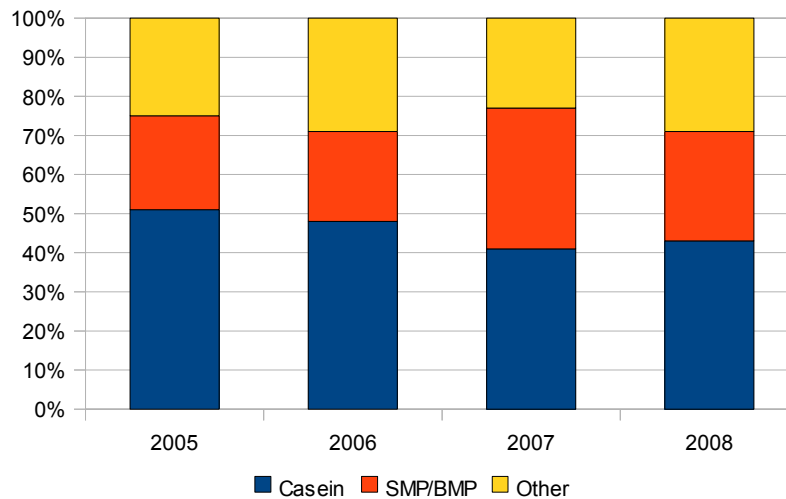
*The proportion of whole milk used in cheese is increasing, but butter remains the principal product in Ireland*



Source: IDB

Figure 5: Irish Skim Milk Manufacturing Utilisation 2005 to 2008

*In terms of Irish skim milk usage, casein is diminishing in importance*



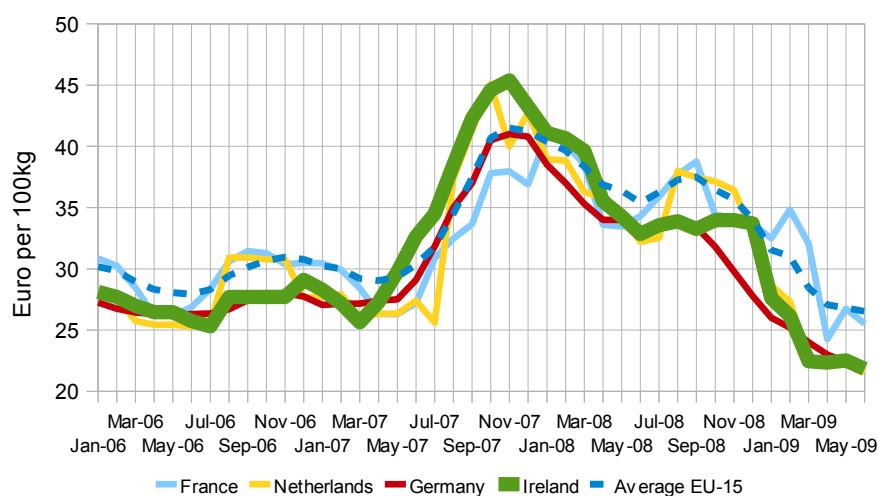
Source: IDB

While the unique characteristics of the Irish dairy sector is normally considered to be a disadvantage, it worked to the Irish dairy sector's advantage in 2007 and 2008 when the sector's commodity focused, seasonal production profile allowed the sector to benefit in two production years from a price spike which lasted just 12 months. Producer milk prices in Ireland in 2007 and 2008 averaged around 33 cent and 32 cent respectively per litre, which compares favourably with the average producer milk price for the EU15 Member States in that period.



Figure 6: Average EU15 and Selected MS Producer Milk Prices 2006 to 2009

*The Irish producer milk price has dipped towards the bottom of the EU15 price league*



Source: European Commission

However, the decline in the price of dairy commodities on the international market in 2009 has again exposed the structural weaknesses of the current Irish dairy product mix. Irish producer milk prices in 2009 are likely to be closer to the bottom of the EU15 milk price league, with an annual average price of just 23 cent per litre now likely in Ireland.

It must be said that milk price comparisons between processors and between countries over the short term may conceal as much as they reveal. Over the short term, the price paid for milk may be influenced by the political negotiations that occur between processors and producers and may not entirely be representative of the return from the market at a particular point.

Prospects for global dairy markets for the short term (next 18 months) and medium term to 2015 are considered in the next section of this report.

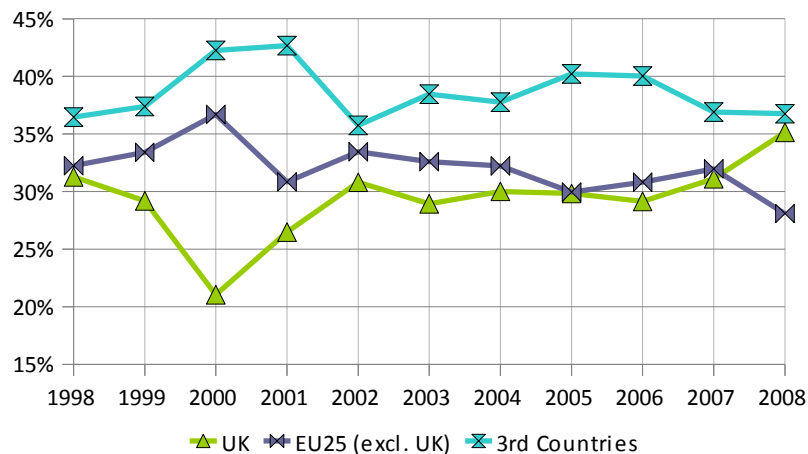
## Outlook for the Short to Medium Term

*This report does not consider policy issues. Its focus is on supply and demand conditions over the short to medium term*

The main purpose of this report is to establish the likely outlook for dairy markets over the short to medium term. It is important to emphasise that, in so far as is possible, this report specifically does not consider questions of future policy choice, such as an agreement in the Doha Round of the World Trade Organisation (WTO) negotiations, as such questions do not form part of its remit. The focus of the report is very much on the global dairy product production and consumption outlook and how this is likely to evolve in the period to 2015.

The structure that has been chosen for the report allows a focus on specific regions that are significant, either in production or consumption terms. These regions are considered in turn below and ultimately an overall conclusion on the dairy markets outlook is provided. Given that the report is produced with an Irish audience in mind, considerable focus is placed on the future outlook for the main dairy export markets for Irish dairy products, as well as future production in the main dairy exporting countries outside the EU.

Figure 2: Irish Dairy Exports (value basis) by Destination 1998 to 2007



*The share of Irish dairy exports by destination has been relatively stable over the last decade*

Source: Irish Dairy Board

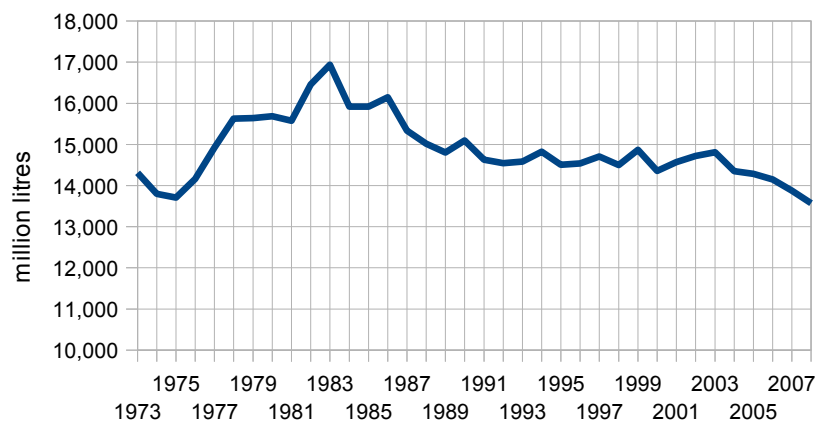
The report's medium term outlook is predicated on a recovery in global economic growth in 2010/2011, normal weather conditions and the absence of major policy reform in the period to 2015. There are many imponderables which may impact on the outlook and these are considered later in the section on External Factors.

## United Kingdom

The United Kingdom (UK) dairy market remains vital to the prospects for the Irish dairy sector. In value terms, almost one third of Irish dairy exports are destined for the UK and this share has been relatively constant over the last decade.

UK milk production has been in decline since the introduction of the milk quota system in 1984. In 2008 it reached its lowest level since the early 1970s.

Figure 3: UK Milk Production 1973 to 2008



*Since the implementation of the milk quota system UK milk production has been in long term decline*

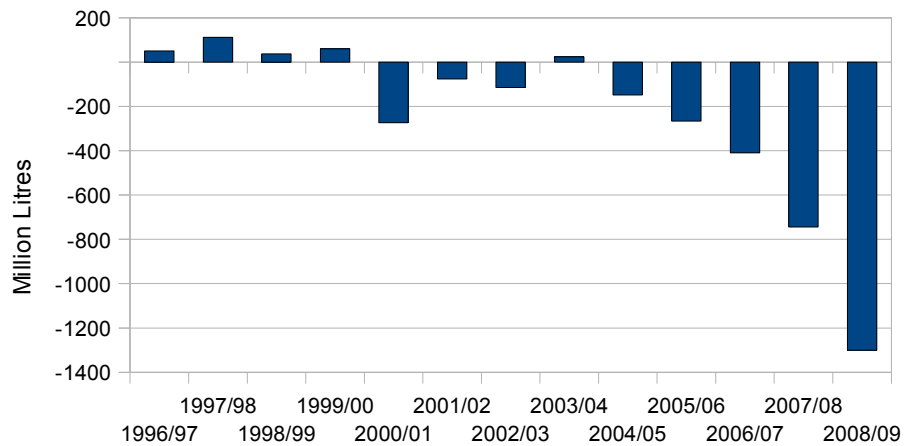
Source: DEFRA

Several reasons can be advanced for this decline in UK milk production in recent years. The industry has had a poor structure since the dissolution of the Milk Marketing Boards (MMB) and retailers market power has grown over time compounding the UK's tradition of low food prices. Low milk prices have led to low returns, while a perceived lack of interest in the agriculture sector on the part of the UK government, has also contributed to a lack of farmer confidence.

Productions shocks such as the BSE and FMD crises have created even more uncertainty and investment in the sector has declined as a result. Almost one fifth of milk producers in the UK are tenant farmers and again, this mitigates against investment and other aspects of long term planning. It can also be argued that milk producers in the UK have a better sense of the value of the farm asset than producers in other countries, and combined with a very liberal market in milk quota trade, this has hastened the rate of exit by producers from the sector in the UK. Cow fertility is also an increasing problem and is leading to an increase in the replacement rate and increased costs.

Looking more closely at production in recent years, it is notable that the UK has recorded a quota surplus in only one year in the current decade and the quota deficit position has been growing rapidly over the last 4 years.

Figure 4: UK Milk Quota Surplus/Deficit Position 1996/97 to 2007/08



*The UK milk quota deficit has been growing rapidly*

Source: Dairy Co

*Opinions are mixed on the future prospects for UK milk production*

Projections and expert opinion are mixed on how milk production in the UK will evolve over the medium term. One outlook sees milk production in the UK continuing to decline, as production growth at farm level is unable to keep pace with the production decline brought about by falling farm numbers. Under this pessimistic view, retailer influence over producer milk prices, together with, an inability on the part of producers to adjust towards cheaper, less grain dependent, production systems, are seen as having negative implications for overall UK production.

By way of contrast, the alternative outlook forecasts a stabilisation in UK milk production over the medium term. This perspective sees the UK's relatively large dairy farm scale allowing production to be sustainable despite low margins per litre and also points to the UK's improved international competitiveness due to the depreciation of sterling against other European currencies. There is also evidence that grass based milk production is expanding in some regions.

Notably, about one third of Northern Ireland (NI) milk production is now processed in Ireland. This represents an addition of about 10 percent to the milk produced under Ireland's milk quota allocation. Expectations are that this NI milk production will continue to be available for processing in Ireland. However, if milk production in Britain continues to decline, then there could

be an increasing requirement to source milk and dairy products from NI for the British market and this might have implications for NI milk exports to Ireland.

*Reduced UK dairy production will create additional export opportunities for the Irish dairy sector*

Sterling depreciated against the euro in 2008 and this impacted on the competitiveness of Irish dairy exports to the UK. While sterling has appreciated against the euro in the second quarter of 2009, it remains well below the historical average.

Overall prospects for the UK dairy market over the short term are largely tied to prospects at the EU level. Projections for UK milk production to 2015 from FAPRI point to further contraction in production into the future.

One impact of the fall in UK milk production is that drinking milk will continue to take an increasing share of UK milk utilisation, leaving a smaller milk pool available for manufactured dairy products. The drinking milk sector has increased its share of the UK milk pool over the last decade to over 50 percent. At present some UK supermarkets are discounting drinking milk but these discounts seem to be funded out of the retail sector's profits rather than through downward pressure on producer prices.

*There is considerable potential for increased Irish cheese exports to the UK, given the continuing decline in UK milk production*

The UK is an attractive market for Ireland as it has a large population base, is geographically adjacent and has a strong cultural affinity. Static or falling UK milk production will present opportunities for the Irish dairy sector. Exports of raw milk from Ireland to the UK are not seen as being economic therefore, where opportunities exist, this will allow increased dairy product exports to the UK.

Cheese is the UK's largest dairy import category. The UK is one of the largest markets for cheddar in the world. Given the reduced self-sufficiency discussed above, UK cheese production is expected to decline over the medium term. This offers potential for Irish exports to serve consumer retail, food service and food manufacturing customers. In addition, GIRA, the food consultancy, forecasts an increase in UK industrial cheese usage. Similarly, reduced UK butter production is also expected in the future, with import demand for this product consequently increasing. In recent years, consumer demand for butter has increased at the expense of other spreadable fats and margarine at retail level, and this trend is forecast to continue.

Having gone through a number of years when producer milk prices were amongst the lowest in the EU, UK dairy prices are now closer to the EU15 average. There is said to be some evidence to suggest that UK retailers are now more aware of the impact of retailer price pressure on UK milk production. While these price pressures will not disappear, retailers will be concerned to ensure that milk deliveries are adequate to meet their requirements.

*Consumer concern in relation to the carbon content of food is increasing in the UK*

One concern for the Irish dairy sector is the increasing interest in the UK in so called 'sustainable' food production. Of particular concern is the carbon content of food and the prospect of consumer driven carbon labelling of food products by some supermarkets. However, there is evidence to show that the Irish grass based milk production systems produces less emissions per kg of product than the typical high input UK system. This is a positive attribute that can be used in the marketing of Irish dairy products in the UK (and in mainland Europe). This is considered in more detail in the section on External Factors.

Overall, contracting UK production could cause retailer pressure on farm gate milk prices and farm margins to dissipate and, along with a tighter production/consumption situation, could allow for better dairy product and producer milk price prospects than would otherwise exist. It seems that the UK's dairy import requirements will increase over the medium term which will be positive from the perspective of the Irish dairy sector.

## European Union

In value terms about one third of Irish dairy exports are destined for the continental EU market. Germany, the Netherlands, Belgium and France are the four largest export destinations for the main Irish dairy products. The data tend to overstate the importance of the Netherlands and Belgium, as some of the trade with these countries is trans-shipped to other destinations.

*Even though EU consumption is growing, the EU still has a milk self-sufficiency of 109 percent*

In spite of the presence of milk production quotas, the EU dairy market is characterised by an excess of production over consumption. In 2008 EU milk self-sufficiency was 109 percent. Third country imports are small relative to total consumption and are limited by tariffs barriers, which protect the EU market and allow internal EU prices to exceed prices on the world market.

Nevertheless, special import arrangements allow for a range of imports into the EU by other dairy exporters: New Zealand has 75,000 tonnes of butter, 4,000 tonnes of cheese for processing and 7,000 tonnes of cheddar, all at reduced tariffs. Australia has 500 tonnes of cheese for processing and 3,711 tonnes of cheddar also at reduced tariffs, while Canada has 4,000 tonnes of cheddar, again at reduced tariffs. In addition to the above concessions, there are several non-country specific quotas for reduced import tariffs covering 11,360 tonnes of butter; 84,000 tonnes of assorted cheeses and 69,000 tonnes of SMP. There are numerous bilateral trade arrangements between the EU and other countries, normally at zero duties. These cover cheese from Norway and South Africa as well as miscellaneous concessions to Switzerland, Turkey and ACP countries.

*Import protection measures and export subsidies are used to support internal EU dairy prices*

Exports subsidies have been used by the EU to make it possible to export excess production to third countries at prices that are lower than internal EU prices. Intervention is used at times of market weakness to remove additional volumes from the market when consumption is depressed.

The Mid Term Review (MTR) of the CAP and the Health Check which followed, reduced the level of intervention support and set in train a process of milk quota removal. These changes, in common with a commitment to cease the use of export subsidies by 2013, established a basis for EU dairy policy liberalisation, which may be deepened in the event of a WTO agreement. The issue of WTO is considered in more detail in the section on External Factors. Decoupled support payments were introduced as part of the MTR to

compensate for anticipated decreases in dairy product and producer milk prices, which were expected to be a consequence of the liberalisation of dairy policy in the EU.

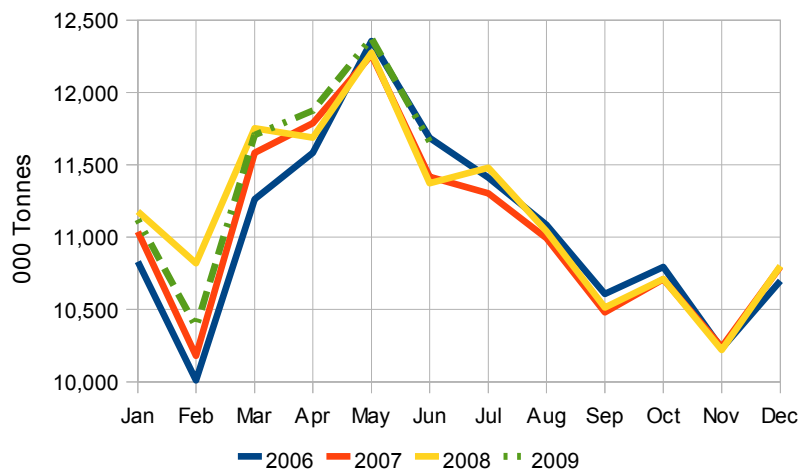
*The EU dairy product mix remains substantially different from that of Ireland*

Some 40 percent of the EU milk supply is used for cheese production and a further 30 percent is used in fresh dairy products. These two product areas have been the drivers of growth in dairy consumption in the EU over the last decade. The remaining 30 percent of EU milk production is mainly used in the manufacture of butter, powders and casein. Thus the dairy product mix at EU level is substantially different to that in Ireland.

Due to higher than anticipated international demand, it has only been in the latter half of 2008 and into 2009 that producer prices have fallen below the price levels that prevailed at the time of the MTR negotiations. The decrease in producer milk prices in 2008/09 has had an impact on monthly milk production around the EU. In spite of the increases in the EU milk quota the monthly production profile in the 2008/09 quota year is only slightly ahead of the 2008/09 quota level. Weak domestic consumption and exports in 2008 and 2009 have led to extended intervention measures and a restoration of dairy export subsidies, which had been set to zero by the EU Commission in 2007.

Figure 5: EU27 Monthly Milk Production 2006 to 2009

*EU milk production is currently depressed by low milk prices. The increased EU milk quota is not being filled.*



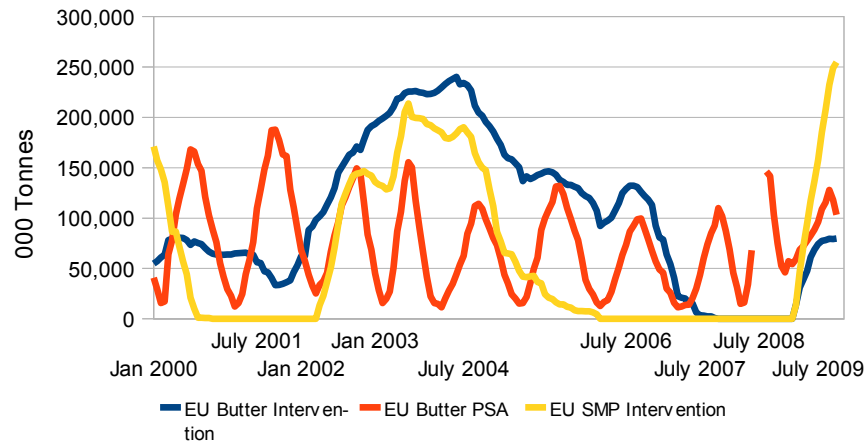
Source: European Commission

Within the EU the impact of the recession and the downturn in international dairy prices is being felt at present and EU intervention stocks are building. EU butter stocks at almost 80,000 tonnes are equivalent to about 4 percent of EU annual production, while EU SMP stocks at 250,000 tonnes are close to 30



percent of annual EU production (August 2009). The impact of intervention purchases and export subsidisation over the short term is to prevent an even greater decline in EU producer milk prices. However, stockpiled intervention products have to be released to the market at some future point. The EU Commission's selling off strategy for these stocks will influence market prices over the short term.

Figure 6: Evolution of EU Butter and SMP Stocks 2000 to Sept 2009



*EU stock levels of butter and SMP have risen rapidly in 2009*

Source: Dairy Co

*High dairy prices have caused processors to remove dairy ingredients from processed products*

As of August 2009 there are no official data with respect to EU higher value added dairy product consumption in 2009, but anecdotal evidence suggests that consumption levels have decreased. Consumers have moved down the value chain to cheaper substitutes and private label (own brand) products. In addition, food ingredients consumption has been adversely affected by a switch away from the use of dairy products as a food ingredient in favour of non-dairy substitutes whose prices are less volatile.

*A permanent inward shift in food industry demand for dairy ingredients may have occurred, reflecting a change in technology*

While the motivation for this substitution was a change in relative prices following the dairy price spike, it now appears that there may be an asymmetric response to the reduction in dairy prices. The food industry has not restored dairy products in its product recipes to the extent that might have been expected now that dairy prices have fallen. It should be noted that this strategy of removing dairy ingredients also fits with the objective of removing trans-fats from food recipes. The ending of the disposal aid scheme for butter in the pastry and ice-cream sectors has also had adverse consequences for dairy ingredients demand. When expressed in economic terms, this raises the possibility that, rather than leading to a movement

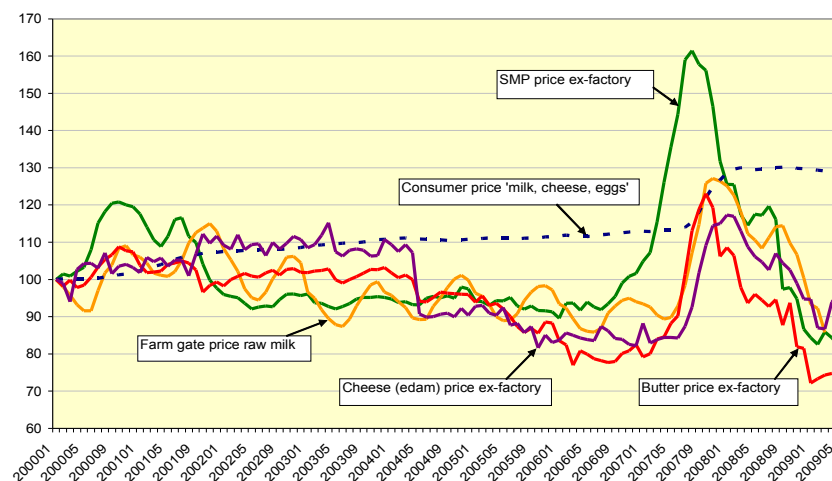
along the demand curve, the rise in dairy prices may have induced a technology change and an inward shift in the demand curve for this dairy product market segment.

In the Communication from the Commission to the Council on the dairy market situation in 2009, the EU Commission has noted that retail dairy prices have demonstrated stickiness and have not adjusted downward to reflect the fall in wholesale dairy product prices. It is notable that consumer and retail prices diverged in the period before the price spike and further analysis would be required to determine whether this is due to increasing processing and transport costs or increased processor and/or retailer margins.

There are reasons to expect a lag in the adjustment of wholesale dairy product prices and retail dairy prices. Due to contractual pricing arrangements, the wholesale spot price for dairy products may not be a reflection of the price actually paid under contract by retailers, which may have been negotiated in advance and set at a level higher or lower than the spot price. What is clear is that in the aftermath of the spike in factory dairy prices, retail prices have not yet adjusted downwards.

*Following the decline in EU wholesale dairy prices, retail prices have not adjusted downwards*

Figure 7: EU Producer Milk Prices, Wholesale Dairy Prices and Consumer Prices



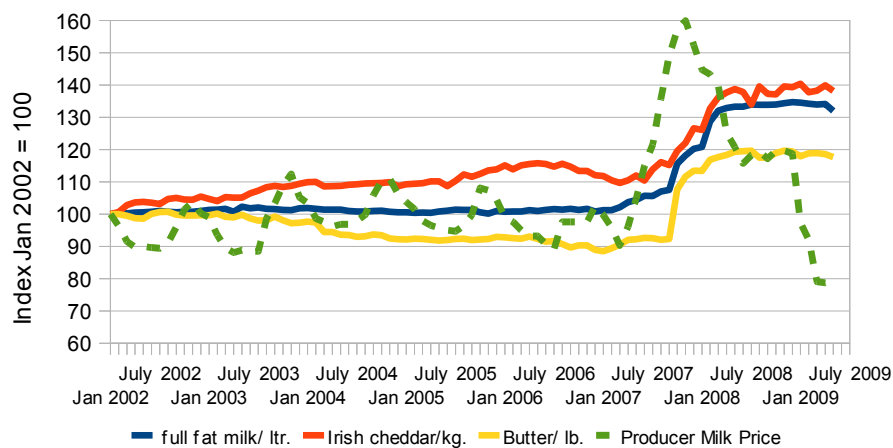
Source: European Commission

In its report the EU Commission refers to the lag in price adjustment as inefficiency in the supply chain and recommends increased price transparency along the chain. One view is that price transparency currently exists and that producer prices and market prices are readily available for scrutiny.

When similar analysis is conducted for the producer milk price and the price of retail dairy products in Ireland a similar pattern emerges to that found for the EU generally, although this must be interpreted with greater caution given that only about 20 percent of Irish milk production is consumed on the home market.

Economic growth in Ireland led to inflationary pressures for processors and retailers (labour, energy, transport) whose impact coincided with the rise in commodity prices. These other costs remain an issue, but it is unclear to what extent these costs can be used to justify existing wholesale/retail price spreads, now that raw material prices have fallen.

Figure 8: Irish Retail Dairy Prices and Irish Producer Milk Price 2002 to 2009



Source: Central Statistics Office

There is frustration within the processing industry with the balance of purchasing power in the food chain. Rationalisation within the European retail sector has delivered retail buying power unmatched by the rest of the supply chain.

While numerous initiatives are being considered at national and European level, the processing industry view is that the retailer/supplier power balance is unlikely to change where a small group of retailers purchase from a large number of suppliers. Farmers, consumers, retailers and policy makers may hold different views.

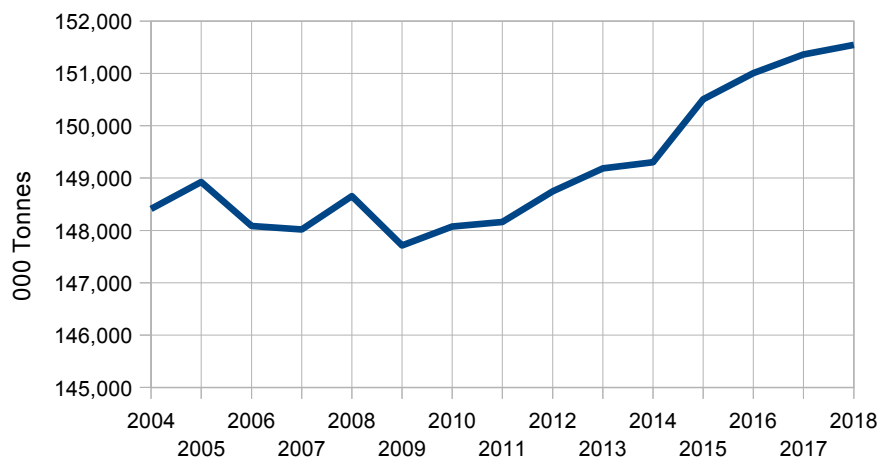
The short term outlook for the EU dairy sector is that production will be below milk quota in 2009/10, that stocks will continue to feature through the rest of calendar year 2009, and that any recovery in EU prices is likely to be very

gradual. The presence of substantial intervention stocks will delay the recovery in EU prices, even when international prices begin to rise. Depending on the supply response to the current low prices this situation may persist into 2010. A higher than average annual reduction in the EU dairy cow herd could tighten supplies, but it is not clear for how long producers in financial difficulty will try to persevere in the current downturn. To some extent this will depend on their own resolve, but the willingness of banks to advance credit in a tight cashflow situation will also be a consideration.

*Indications are that dairy cows slaughtering in the EU is running at a higher than normal level.*

EU Commission data indicates that cow slaughter in 2009 is higher than in 2008. While these data do not decompose beef and dairy cow slaughter, given that more than two thirds of the EU cow herd is dairy, it is likely that dairy cow de-stocking is taking place in the EU.

Figure 9: Projected Evolution of EU Milk Production



Source: OECD

Projections point to a decrease in milk production in the short term (although possibly less than suggested in the OECD projections above) followed by a medium term recovery, but prices are likely to be weaker than the levels projected in advance of the economic crisis. Over the period to 2015, EU milk production should recover as prices improve and EU milk production should keep pace with the annual milk quota increases agreed in the Health Check. The trend of declining milk production in southern Europe and the maintenance of production at quota levels in much of northern Europe will continue.

*Weak EU consumption growth is likely in response to the recession*

Growth in EU cheese and fresh product consumption, the drivers of growth in the EU dairy sector, will be weak due to lower income growth prospects. EU dairy export competitiveness will need to recover by 2013 or the EU may find it politically difficult to eliminate export subsidies.

*The need for export subsidies in the EU may remain unless EU butter production contracts.*

The European Commission view is that the elimination of export subsidies is a realistic objective as the EU butter surplus will decline over the period to 2015 due to lower levels of butter production and greater production of cheese and higher value added products. This perspective is consistent with a view that intervention and export subsidies will not be required in the future.

However, this view of how the EU market will evolve is not consistent with the opinion of some market experts who consider that the EU butter surplus will continue into the future, as EU butter production will not decline to the extent envisaged by the European Commission. The basis for this view is an expectation of increased availability of butter fat due to the increased production of lower fat dairy products in the EU.

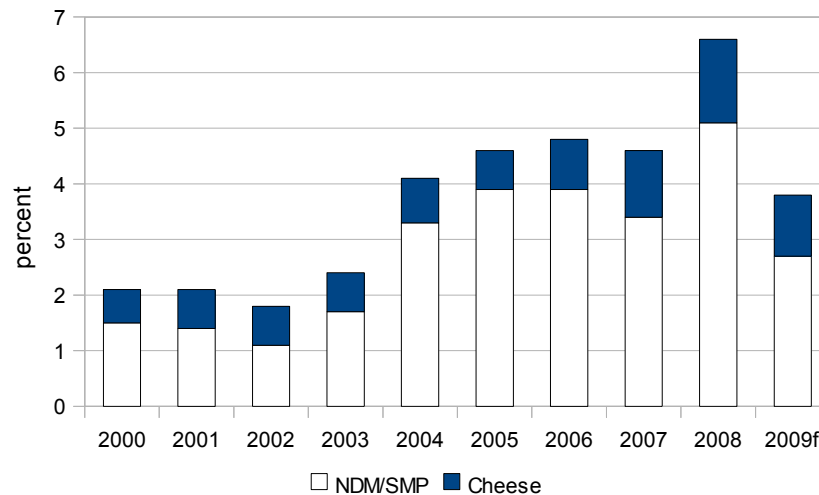
## United States

Historically the US has not been a market of major consequences to the EU dairy sector. In general, import barriers have limited dairy trade with the US. To a large extent the US has been more or less self sufficient in dairy products and has not traditionally had a sizeable exportable surplus.

However, a characteristic of US dairy markets over the last four or five years has been that production has grown at a faster rate than consumption. The growth in US dairy consumption has been running at about 1 percent per annum, while production has grown by 2.5 percent per annum. This has created an exportable milk surplus of around 3 to 5 million tonnes of milk.

Figure 10: US Dairy Exports as a percentage of Milk Production 2000 to 2009

*The US export surplus is declining as unfavourable income over feed costs lead to stagnation in US milk production growth*



Source: USITC (Blimling's and Associates forecast for 2009)

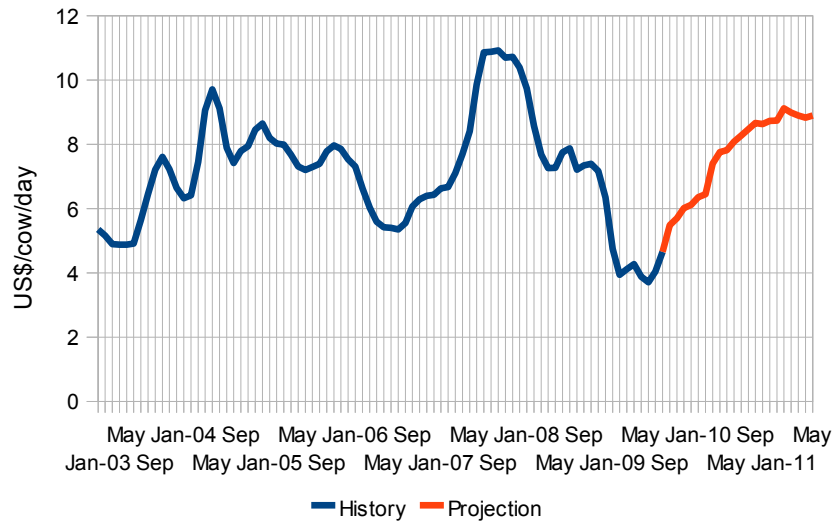
It is important to note also that the US dairy exports to the world market are less reliant on export subsidies than are dairy exports from the EU. The recent weakness of the US dollar relative to the currencies of other key exporters has aided the competitiveness of US dairy exports (see Appendix B).

The origins of the US dairy export surplus were high margins as illustrated in the high US income over feed cost (IOFC) on dairy farms which prompted strong growth in US milk production. However, the IOFC measure has decreased considerably over the last 6 months, due to falling milk prices and stable feed costs and once more US dairy export capacity is in decline, but this may only be a temporary set back. Irish Dairy Board analysis based on future

market prices suggests that the IOFC may recover through the rest of 2009 and into 2010.

Figure 11: US Dairy Income Over Feed Costs 2006 to 2009

*In the US dairy sector income over feed costs have fallen sharply in 2009, but more favourable milk and feed prices will lead to a recovery over time*



Source: Historical data Bliming's. Projections courtesy of IDB  
 Note: IDB projection based on future market prices observed on 2<sup>nd</sup> Sept 2009

The farm scale of US milk production has been growing rapidly. While the average herd size is 120 cows, the emergence of large scale herds in excess of 2,000 cows continues. At the current rate of progress just 500 farms will soon produce one third of US milk production. The emergence of these large operations suggests that this may now be the most economic means of producing milk in the US. These large scale feedlot systems represent the extreme opposite of the typical Irish grass based operation.

Table 1: Size Structure of US Dairy Farms in 2000 and 2006

|   | Herd Size    | Number of operations |               | % change     | Percent of Production |            |
|---|--------------|----------------------|---------------|--------------|-----------------------|------------|
|   |              | 2000                 | 2006          |              | 2000                  | 2006       |
| <i>Large scale feedlot operations now account for 1/3 of total US milk production</i> | 1-29         | 30,810               | 21,280        | -31.0        | 1.8                   | 1.2        |
|   | 30-49        | 22,110               | 14,145        | -36.0        | 7.7                   | 4.9        |
|   | 50-99        | 31,360               | 22,215        | -29.2        | 19.4                  | 14.3       |
|   | 100-199      | 12,865               | 9,780         | -24.0        | 17.3                  | 13.0       |
|   | 200-499      | 5,350                | 4,577         | -14.4        | 18.0                  | 15.0       |
|   | 500-999      | 1,700                | 1,700         | 0.0          | 13.7                  | 14.3       |
|   | 1000-2000    | 695                  | 870           | 25.2         | 11.6                  | 13.9       |
|   | 2000+        | 280                  | 573           | 104.6        | 10.5                  | 23.4       |
|   | <b>Total</b> | <b>105,170</b>       | <b>75,140</b> | <b>-25.5</b> | <b>100</b>            | <b>100</b> |

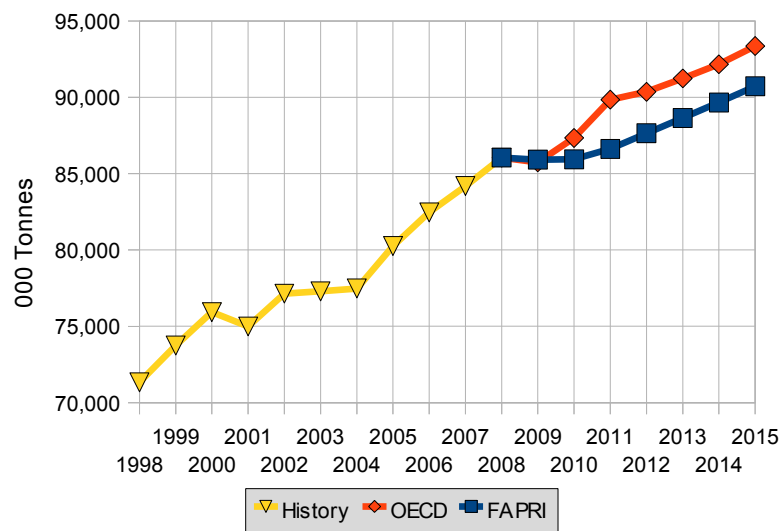
Source: USDA

It is not clear whether this expansion of large scale operations can continue or whether it will be constrained in the future by environmental concerns, or a lack of access to water or the unavailability of low cost labour.

In reaction to the current low level of milk prices, the US government has subsidised exports and has announced that it will raise US support prices from August through to October 2009.

Projections to 2015 from the OECD and FAPRI differ in terms of the outlook for US milk production to 2015. OECD is more optimistic about the growth potential for dairy in the US.

Figure 12: Evolution of US Milk Production



*US milk production is projected to contract in 2009 and 2010 by 1 percent per year.*

Sources: OECD, FAPRI

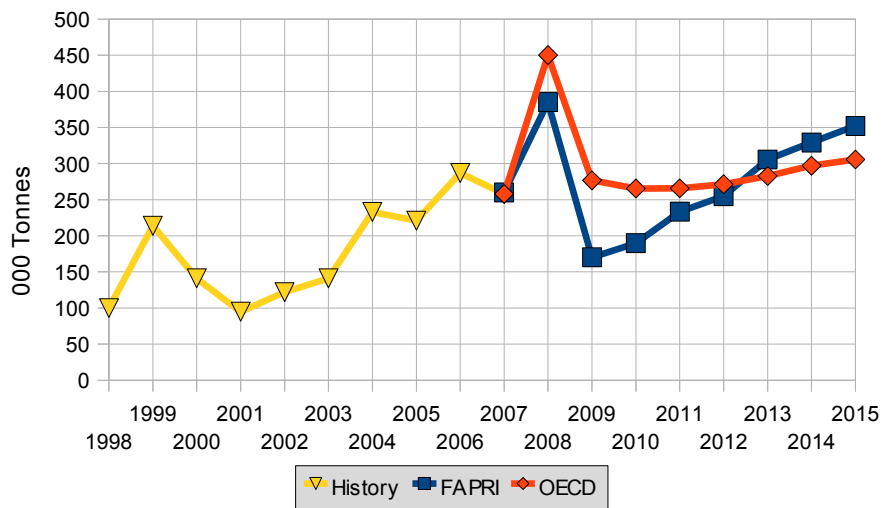
It is considered that a reduction in US milk production is required to generate any upward movement in dairy commodity and producer milk prices. The USDA has been gradually revising down its outlook for US milk production in 2009. Early USDA estimates for 2009 suggested that US milk production would actually be up about 1 percent on the 2008 level. However, increased slaughtering under the US Cooperatives Working Together (CWT) program (a cull cow incentive scheme) along with low margins, is leading to a fall in US dairy cow numbers. A modest increase in milk yields is likely this year but this will not offset the fall in cow numbers. Also of note in the US is the increasing use of sexed semen leading to increased heifer availability, which may facilitate the future expansion of production.



Latest US milk production estimates from USDA (August 2009) are that production in 2009 will decline by 1 percent on the 2008 level, with a further 1 percent contraction projected for 2010.

In 2009 US dairy exports have declined relative to 2007 and 2008 and the US dairy market is again fundamentally focussed on domestic demand. USDA figures on US dairy exports for the first half of 2009 show exports of butter are down over 80 percent and exports of SMP have halved, while cheese exports are down by a third on the corresponding period in 2008. Just as in the EU, US dairy stocks are building at present for most dairy products, including butter and cheese. However, US SMP stocks have declined month on month since the beginning of 2009.

Figure 13: Evolution of US SMP Net Trade



Source: OECD, FAPRI

The short term dairy outlook in the US is not good from a US dairy farming perspective and the consensus is that US production will contract slightly in 2009 and 2010. The outlook over the medium term will depend on a recovery in milk prices and affordable feed costs. More modest production growth of 5 to 6 million tonnes is achievable in the period to 2015 and this will be mainly channelled to cheese production for consumption on the home market.

Exchange rate movements will impact on international competitiveness and the weak outlook for the US dollar will create an environment to support US dairy exports.

*The weakness of the US dollar will aid US dairy exports*

## Oceania

Dairy prices in Oceania remain depressed given that the region has a particular exposure to the world market for dairy commodities. Weather related constraints on production growth in Oceania were a critical factor in explaining the recent volatility in dairy and other agricultural commodity prices.

### Australia

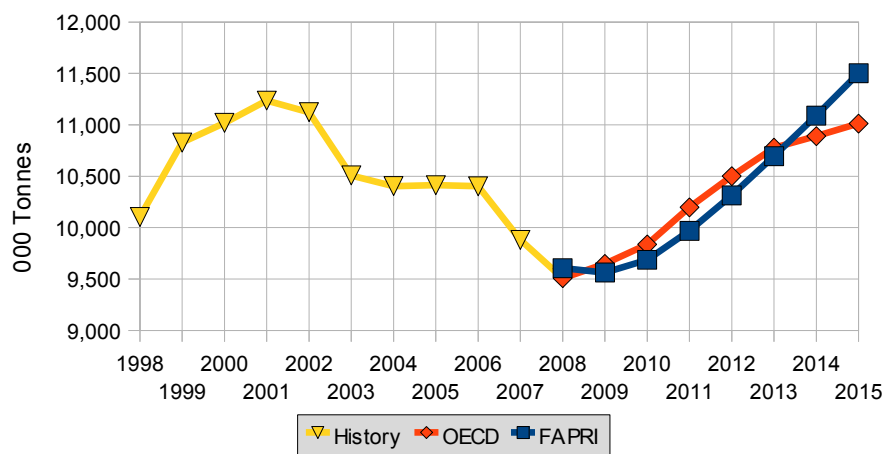
There is a strong view that the recovery in the Australian dairy sector will be very weak. The importance of access to water for the Australian dairy sector cannot be understated. Drought conditions have been an ongoing problem for producers in Australia over the last decade. Access to irrigation water has become a key concern and has affected both yields and herd investment decisions in Australia. In Northern Victoria, urban areas are taking precedence over agriculture and water allocations are being redirected to towns in the region. Water stocks in the Murray-Darling Basin remain low and water access rights will continue to be restricted. Estimates suggest that it may take a full decade to replenish these water reserves.

*Water access remains a problem in Australia*

Milk production in Australia has now begun to show a recovery for the first time in a number of years, up 2 percent in 2008/09, but the country's exports remain significantly below those of a decade ago.

*A fragile recovery in Australian dairy production is under way.*

Figure 14: Evolution of Milk Production in Australia



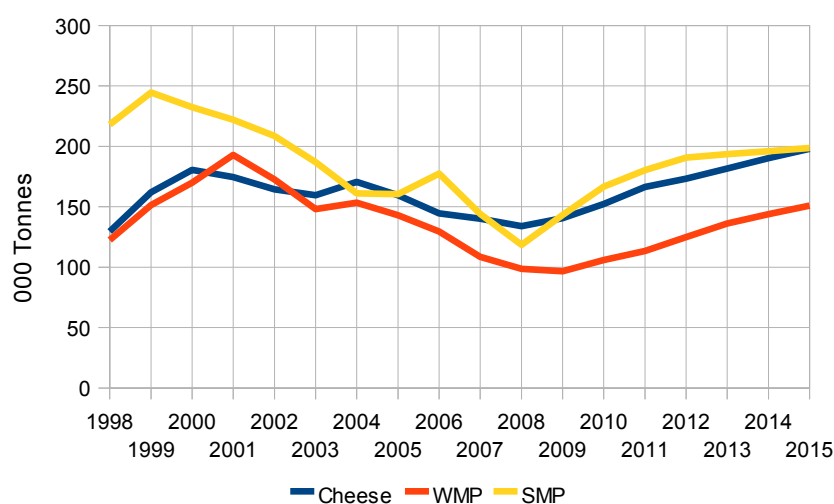
Sources: OECD, FAPRI

In Australia it is anticipated that producer milk prices for the new production season could be 15 percent lower than the 2008/09 average, which itself was down 20 percent on the 2007/08 price level.

Drought conditions have caused some producers to exit and many of those that remain have reduced their herd size. FAPRI and OECD projections suggest that milk production in Australia will not recover to its 2002 peak until 2015. Most of the additional milk produced in Australia will go towards the manufacture of cheese and WMP, but much of this will be for the home market. Nonetheless, overall exports of SMP, cheese and WMP should increase.

Figure 15: Evolution of Australian Dairy Net Trade

*Australian dairy production should recover to its historical peak by 2015, but only under suitable weather conditions*



Source: FAPRI

### New Zealand

New Zealand (NZ) is the largest dairy exporter in the world, with over 95 percent of its milk production being exported. The New Zealand dairy product mix is somewhat similar to Ireland's, with an emphasis on butter/powder production and cheese being of lesser importance. In recent years New Zealand has particularly increased its whole milk powder, casein and ingredients exports.

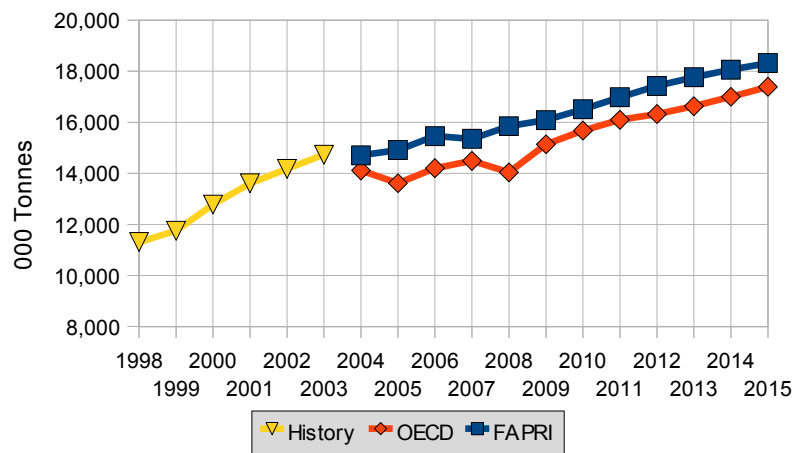
*Production growth is slowing in New Zealand. Dairy expansion is increasingly focussed on the South Island*

New Zealand production has not been affected to the same degree as Australia, but adverse weather conditions still depressed production by as much as 3 percent in the 2007/08 milk year, with a resultant impact on export capacity. NZ milk production recovered well in the 2008/09 year and finished

the year 8 percent ahead of the 2007/08 year. Commentators expect NZ production to continue to grow over the short to medium term. This growth will be driven on the one hand by increasing yields, through increased feed supplementation, while farm conversions to dairying from sheep finishing on the South Island will continue to provide additional land for dairy cows. At present dairy cow numbers are falling on the North Island.

The average annual rate of NZ milk production growth since 1990 has been about 4 percent. However, it is considered that expansion will be more costly in the coming decade than in the current decade and that production growth rates will be lower as a result. Consequently growth of 3 percent per annum is possible over the short term with growth easing back to 1 percent per annum by 2015. Given the grass based production system in NZ, weather can be expected to exert an impact on production, which will add further variability around these average annual growth rates.

Figure 16: Evolution of New Zealand Milk Production



Sources: OECD, FAPRI

While the NZ milk production system retains its very low cost, grass based focus, there is evidence of a trend towards increased utilisation of concentrate feed and fertiliser and this is impacting on production costs. In this context, milk and feed price relativities will become more important and this may have negative implications for the resilience of some elements of the NZ dairy sector in periods when milk prices are low. Environmental constraints are becoming an increasing issue which may also hinder growth in the sector. In spite of these concerns, some commentators remain optimistic and consider that the outlook over the next five years for New Zealand production

*Some experts consider that the growth potential in New Zealand dairy will not dissipate over the medium term*

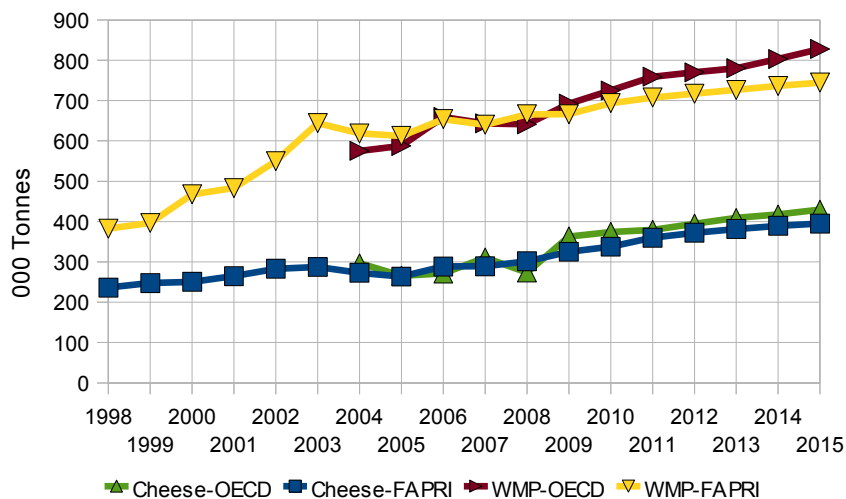
*Some experts consider that the growth potential in New Zealand dairy will not dissipate over the medium term*

growth will be stronger than the major international agencies are projecting. There are some concerns that low milk prices and the current credit crunch will place significant cash flow pressure on NZ producers, particularly recent entrants into the dairy sector with a higher cost structure.

In international trade terms, exchange rate movements are of critical importance for the New Zealand dairy sector. The NZ dollar has appreciated by almost 20 percent against the US dollar since the beginning of 2009. This has impacted on the competitiveness of the country's exports and further depressed world dairy price when expressed in NZ dollars terms.

There is a notable difference between the FAPRI and the OECD-FAO dairy outlook for New Zealand in terms of how dairy product production will evolve. FAPRI see cheese as growing in importance, while OECD sees WMP being the main area of production and trade expansion in NZ. Expansion of WMP production is seen as more likely given that cheese is a very capital intensive product and requires storage for maturation and refrigeration. Cheese production also involves significant working capital requirements. The capital costs for WMP production facilities are not as substantial, the product does not require refrigeration and be brought to market more quickly than cheese.

Figure 17: Evolution of New Zealand Dairy Net Trade



Source: OECD, FAPRI

Overall, barring adverse weather, it would seem that New Zealand will maintain its position as the leading dairy exporter. Export growth will continue, albeit at a declining rate.

### South America

South America is growing in importance as a dairy exporting region. Aside from the US, over the last five years Brazil and Argentina have recorded the largest growth in net exports of dairy products.

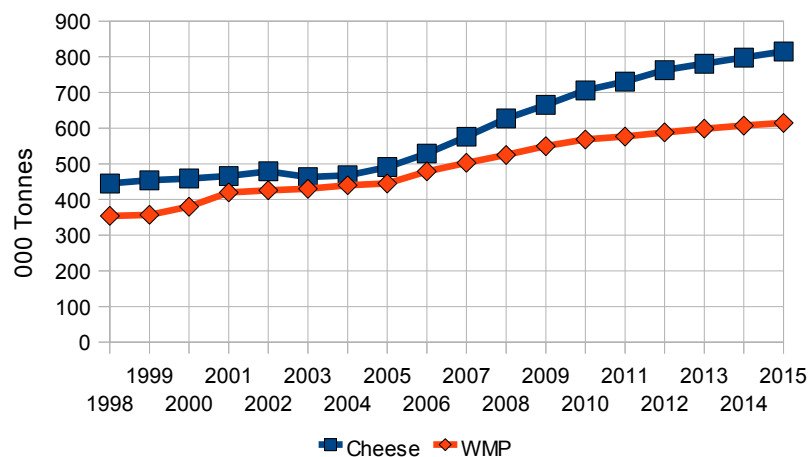
The traditional markets for dairy exports from South American countries are their neighbours in that region. It is also notable that when South American dairy processors seek to export further afield, their export market tends to be Africa rather than Asia. In turn this puts South American dairy exports in direct competition with EU dairy exports to markets in Africa. South American dairy exports are less likely to compete directly with New Zealand exports to dairy markets in Asia.

### Brazil

Traditionally Brazil was a net importer of dairy products. Brazilian dairy exports have grown through the decade and Brazil has had a net export position in dairy products since 2004. Whether Brazil continues to increase its net exports will depend not alone on its production growth, but also on the expansion of Brazilian dairy consumption.

It is acknowledged that potential for growth in Brazilian dairy consumption exists, as per capita consumption lags behind Argentina by about one third. It is considered that a combination of population growth and per capita income growth should boost Brazilian consumption over the medium term.

Figure 18: Evolution of Brazilian Cheese and WMP Consumption



Source: FAPRI

*Good prospects for growth in dairy production in Brazil, but some of it will be absorbed by domestic consumption growth.*

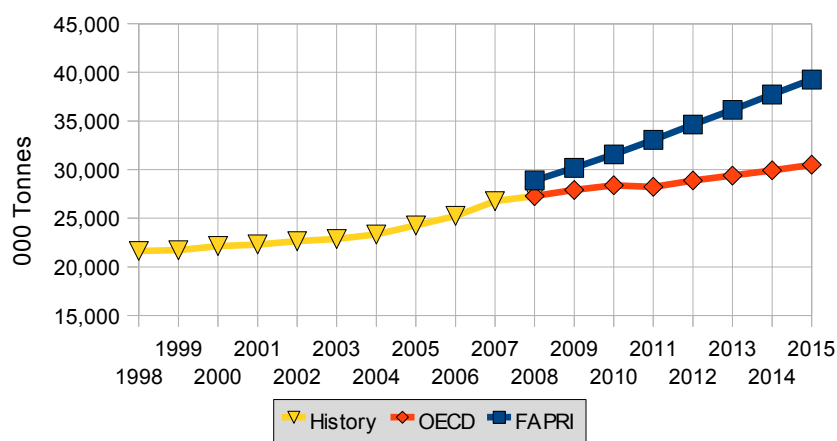
*There are differing perspectives on the likely growth rate for Brazilian dairy production.*

Economic growth in Brazil will occur at a higher rate than in more developed economies and this will mean that consumption growth should be strong. Reduced income inequality and the growth in the size of the Brazilian middle class should also aid the growth in the consumption of dairy products. Overall, consumption growth will be concentrated in cheese and drinking milk with more modest growth in the consumption of milk powders. Growth in demand for drinking milk will be driven by lower income families and this will be met by indigenous production. Middle income families will drive the growth in cheese consumption.

The rate of growth in Brazilian milk production has accelerated as we move through the current decade. FAPRI projections indicate that the production growth will accelerate further in the period to 2015 and by then a doubling of production relative to 2000 is possible. OECD takes a less optimistic view of the growth potential in Brazil in comparison with FAPRI.

Figure 19: Evolution of Brazilian Milk Production

*Competition from other crops such as biofuels creates uncertainty about Brazil's growth potential in dairy*



Sources: OECD, FAPRI

A feature of Brazilian agriculture in general is low land and labour costs and low intensity, low input production systems. This is also true of its milk production, the bulk of which is grass based, with average yields of just 1,700kg per cow, which cannot be considered comparable to the pasture systems in Ireland or New Zealand. Large scale intensive grain based US type confinement operations also exist, but they represent a small percentage of production. Increased rates of feed supplementation could increase yields without an overly adverse impact on the cost of production.

This would mean that Brazil's exportable dairy surplus will continue to increase in the period to 2015. The growing domestic market for cheese and drinking milk will largely be satisfied by local production and this will mean that increased exports will be focused around WMP and, to a lesser degree butter/SMP.

If there are uncertainties as to how Brazilian milk production will evolve, they relate to competition for land from other enterprises including biofuels. Furthermore, in the absence of government support for the sector which could make it more difficult for the sector to cope with future price volatility

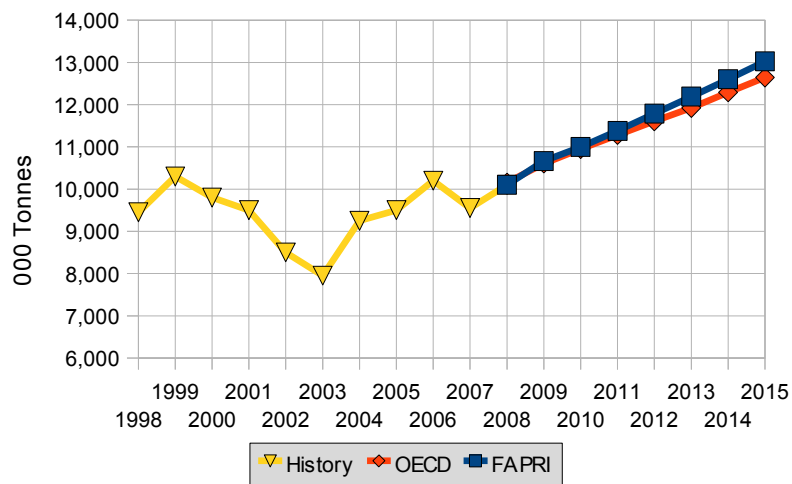
### Argentina

Government intervention has led to a loss of confidence among producers in Argentina and this has resulted in a stagnation in milk production in recent years. High international prices boosted exports in 2007 and 2008. This prompted inflationary pressure in the domestic dairy market and led to the introduction of export taxes by the government.

Over the medium term production growth is projected to re-emerge, allowing milk production to increase by 20 percent over the period to 2015. However, strong growth in cheese and WMP consumption will absorb much of this increased milk production. Argentina should be able to maintain its current level of net exports in the period to 2015, but may not become a bigger player on the world market.

*Production growth in Argentina should keep pace with growing demand. There will be limited scope for additional exports*

Figure 20: Evolution of Argentinian Milk Production



Sources: OECD, FAPRI



## Other Regions

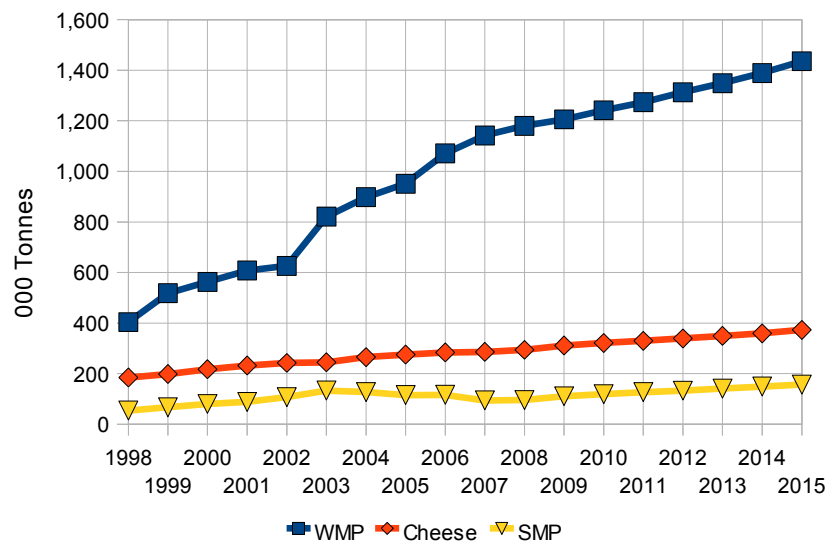
### China

*Rapid growth in Chinese WMP consumption should continue*

GDP in China is now ten times the level it was in 1980 and the Chinese market has become a major element of global consumption growth in dairy products over the last decade. Increased urbanisation, higher incomes and evolving consumer preferences have led to greater interest in dairy products, which traditionally were not part of the Chinese diet. China now has a relatively affluent and growing middle class of over 100 million people. Over the medium term, lower than anticipated economic growth due to the current recession could slow the growth in dairy product consumption in China.

Growth in WMP consumption has been the main driver of increased Chinese dairy consumption and this is expected to be the case over the next decade also. By 2015 Chinese WMP consumption could reach almost 4 times the level in 1998. SMP consumption growth has been less impressive and consumption has actually fallen in recent years. Modest growth is projected in the period to 2015.

Figure 21: Evolution of Chinese Dairy Consumption

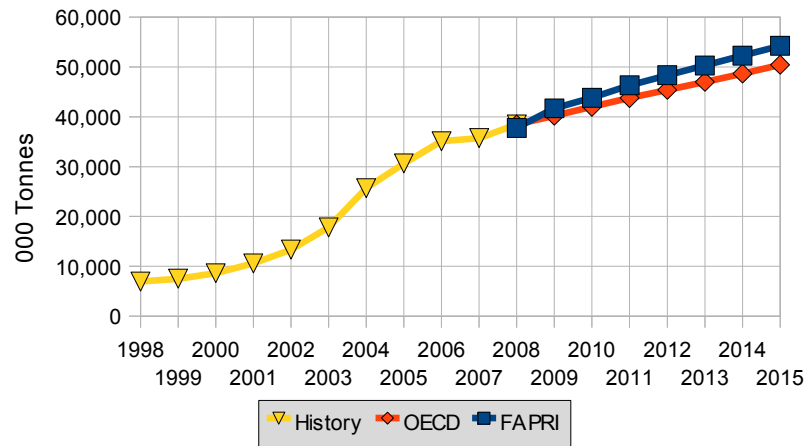


Source: FAPRI

The expansion of Chinese milk production over the last decade has been extremely rapid. While it has not matched the pace of growth in dairy product consumption, it has meant that only some of the growth in Chinese dairy consumption has stimulated increased imports of dairy products. It is

projected that production growth will continue, but that growth will be at a slower pace than in the current decade.

Figure 22: Evolution of Chinese Milk Production

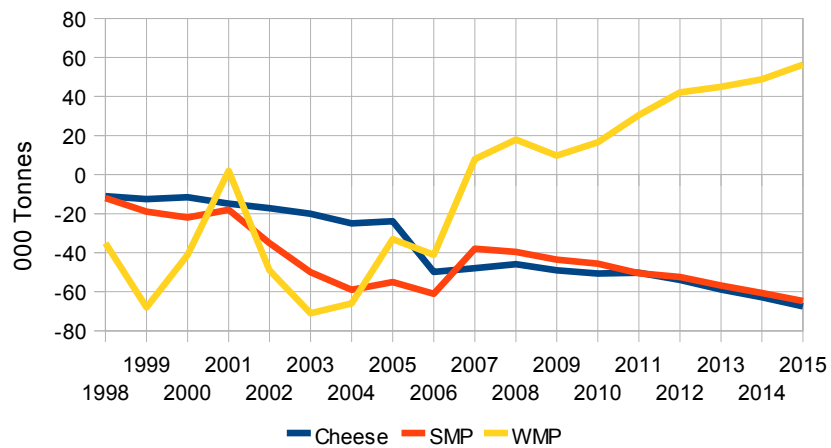


*China's exports of WMP will increase significantly. Imports of cheese and SMP will continue to grow.*

Sources: OECD, FAPRI

The expansion of indigenous milk production should mean that overall Chinese import demand over the medium term will be lower than might have been projected two years ago. Over the medium term Chinese imports of cheese and SMP will increase, while the growth in Chinese exports of WMP will continue.

Figure 23: Evolution of Chinese Dairy Product Net Trade



Source: FAPRI

Note: Negative values indicate net imports

The recent melamine contamination of infant formula in China led to increasing infant formula imports, and these import volumes should be

maintained until such time as consumers' faith in indigenously produced infant formula is restored.

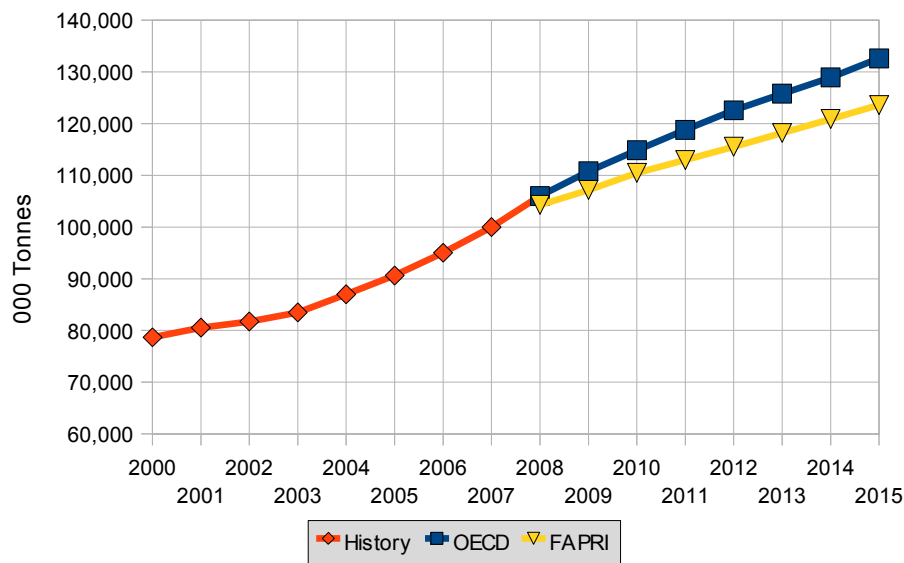
## India

India is the world's largest milk producer and in absolute terms its growth in milk production over the medium term is projected to considerably exceed that of any other major milk producing region. Animal productivity in India's traditional milk production regions continues to improve. Buffalo milk, which has higher constituents than cows' milk, represents an increasing share of total milk production and this trend is expected to continue.

However, consumption growth in India will absorb much of this increased milk production due to growing population, additional demand for value added products and increased incomes levels among the middle classes.

Figure 24: Evolution of Indian Milk Production

*Milk production growth in India will be strong, but much of this growth will be required to meet domestic consumption growth.*



Sources: OECD, FAPRI

India's net trade in dairy products is unlikely to change considerably over the medium term. Even though FAPRI sees milk production in India growing at a slower rate than OECD, FAPRI also considers that consumption growth will be slower and hence India's export capacity in SMP increases over the period.

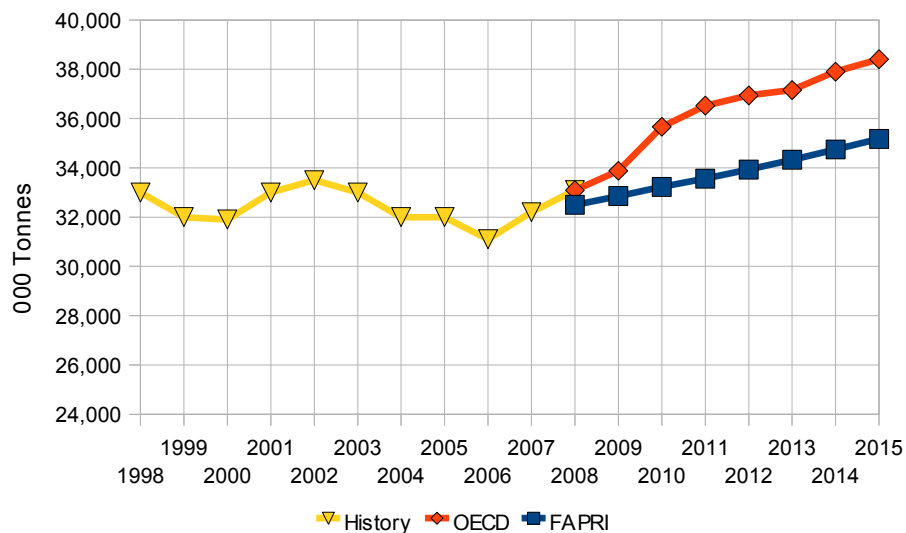
## Russia

Commentators agree that milk production in Russia will recover over the medium term. Low yielding cows are being replaced by higher yielding imported stock and considerable government investment is being made in a new dairy cattle breeding programme. For food security reasons Russia would like to boost its self sufficiency in dairy products from just over 70 percent at present to 95 percent. A milk production target of 37 million tonnes has been set for 2012. As the rural population continues to decrease it is considered that this will create an environment for an expansion in commercial dairy farms.

The OECD is considerably more optimistic than FAPRI on Russian milk production prospects for the medium term and expect the 2012 milk production target to be achieved. As a consequence there are differing views on whether Russia's import requirements will increase or decrease over the period. The FAPRI perspective is that Russian imports of both butter and cheese will increase. OECD sees Russia's cheese import requirements increasing, but projects Russia's imports of butter will decrease, albeit from a high base, as Russian milk production grows faster than consumption.

*Russia will remain an important destination for cheese and butter exports*

Figure 25: Evolution of Russian Milk Production

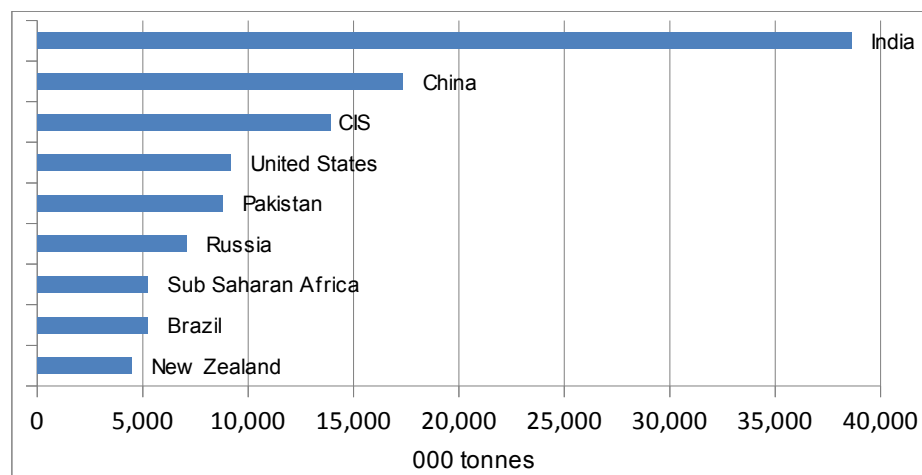


Sources: OECD, FAPRI

## Global Summary

The main regions of growth in milk production over the medium term will be developing regions and these will also be the main regions of increased dairy product consumption.

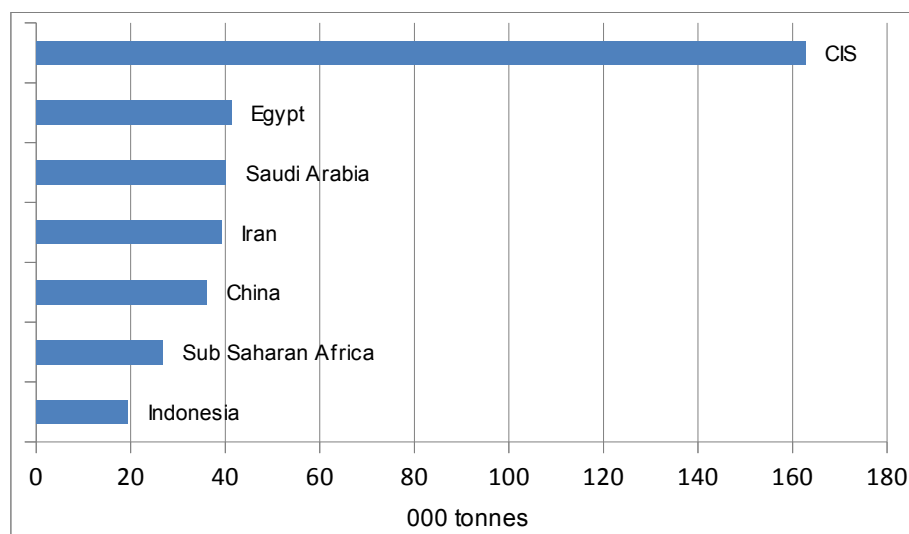
Figure 26: Projected Milk Production Growth in Selected Regions 2009 to 2018



Source: OECD

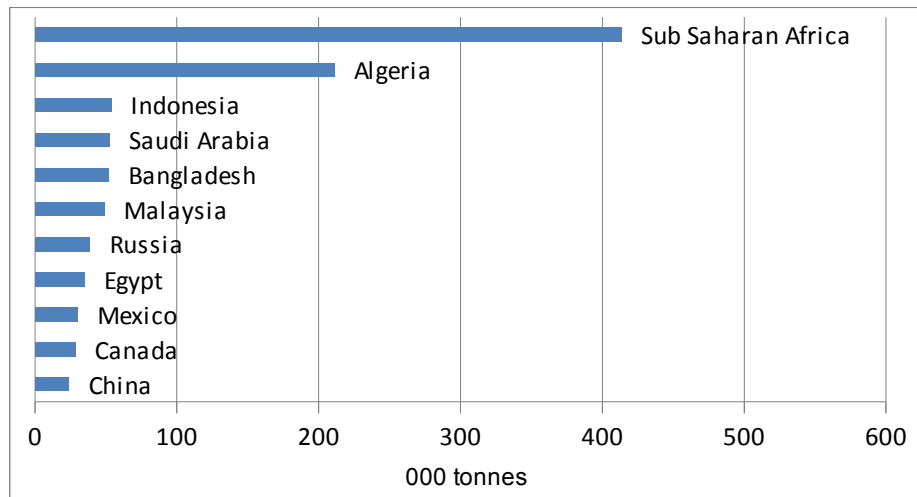
Russia and the other former Soviet republics (CIS) will remain the largest butter importers. Sub-Saharan Africa and Algeria will remain the main WMP importing regions and imports are expected to grow substantially. Mexico, Algeria and China should increase their imports of SMP. Imports of cheese by Russia and Mexico in particular should increase over the period.

Figure 27: Butter Net Import Projected Position in 2018



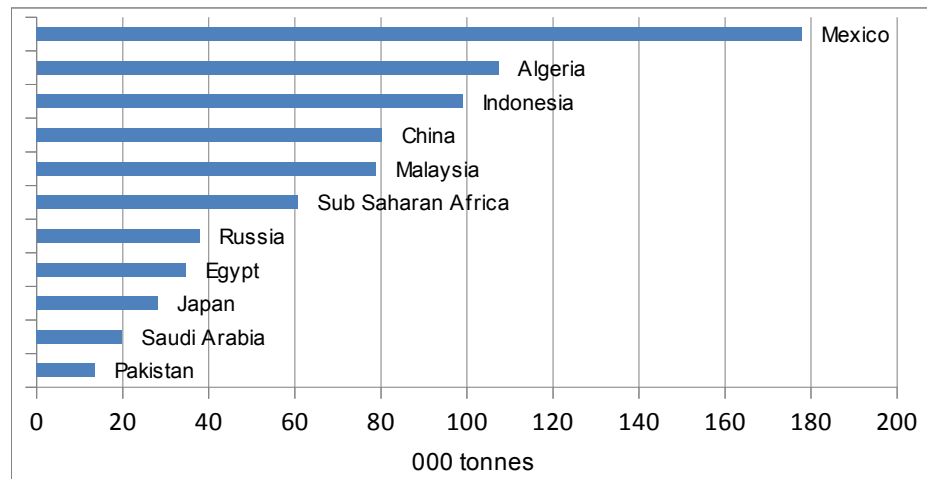
Source: OECD

Figure 28: WMP Net Import Projected Position in 2018



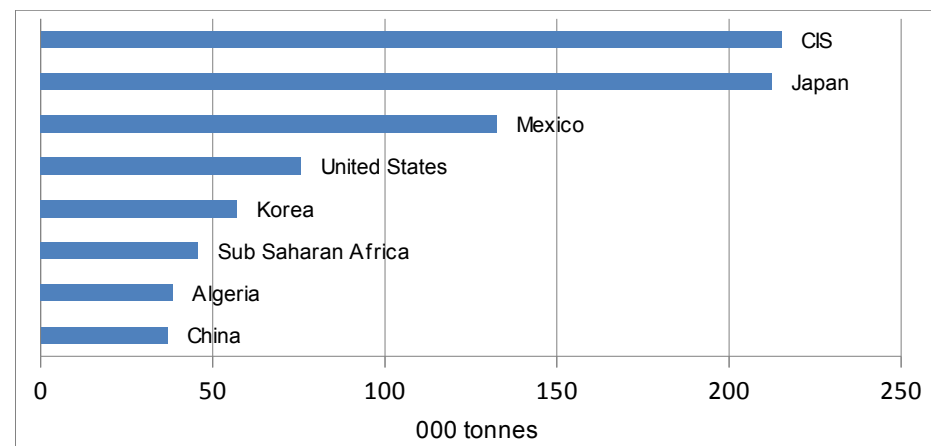
Source: OECD

Figure 29: SMP Net Import Projected Position in 2018



Source: OECD

Figure 30: Cheese Net Import Projected Position in 2018



Source: OECD

## External Factors

### Weather

*Weather events will continue to contribute to dairy product price volatility*

Market outlook projections depend on assumptions of normal weather conditions. Weather events (especially drought) that occur have negative impacts on the supply of dairy products and, particularly when stock levels are low, contraction in supply leads to the price spikes such as was seen in 2007/08. The timing of such weather events cannot be anticipated and, where they arise, this will impact on the accuracy of any production and price projections. For example, El Niño related weather variations may disrupt dairy production in the Southern Hemisphere.

### Energy Prices and Input Prices

Energy prices are exerting an increasing influence on agricultural markets, including dairy markets. Higher energy prices were experienced in 2007 and 2008 and this drove up input prices, particularly in the case of fertiliser prices. This relationship between energy prices and input prices is familiar.

*Rising energy prices will have an impact on dairy production costs and dairy demand*

Less familiar, on the supply side, is the impact of high energy prices on the demand for energy crops, on competition for land between energy crops and other enterprises, on the price of grains, on the price of animal feed and ultimately the costs of milk production.

There are additional consequences on the demand side also. First and foremost, high energy prices have an impact on economic growth in that they drive up production costs, lead to inflationary wage demands and can lead to lower global economic growth rates. On the other hand high energy prices lead to higher economic growth rates in oil rich nations, some of whom are significant dairy importers. This can lead to greater demand for dairy products from these countries.

Also on the demand side, high fossil fuel prices drive up the price of renewable oils which in turn has an impact on the value of dairy fats. Energy prices also impact on shipping and refrigeration costs.

Medium term projections for crude oil do not see prices rising to the extreme high levels observed in 2007/08. However, over the medium term energy prices are likely to reach a higher average level than was the case in the first half of this decade.

## **Exchange Rates**

*Exchange rate movements will impact on export competitiveness*

Exchange rates impact on the competitiveness of a nation's exports. Leaving aside speculative behaviour, exchange rates should change to reflect the demand for a country's output. In countries such as New Zealand and Brazil agricultural trade is large enough to impact on the value of the national currency. When world dairy and other agricultural product prices are high (low) the New Zealand Dollar should appreciate (depreciate) making these exports less (more) affordable. This partially insulates producers in these countries from the impact of price volatility.

However, in the EU agriculture is a small component of the EU economy and EU trade and agricultural market conditions do not exert any impact on the value of the euro against other major currencies. A further appreciation of the euro could make it more difficult to export from the EU and make it possible for some tariff paid third country imports into the EU. This would have an adverse price impact on the EU dairy sector. Selected exchange rates can be found in Appendix B.

## **Macro Economic and Population Growth**

*The rate of recovery in dairy demand will depend on the recovery in global economic growth*

In 2008 and early 2009 projections of macro economic growth over the medium term were revised down in the context of the ongoing recession. The consensus view is that the worst is now over and that a revival in the global economy can begin in 2010 and this is reflected in the projections that agencies such as OECD, the European Commission and FAPRI use. However, if the recession becomes protracted, then the negative impact on demand for dairy products will extend further into the future and further delay a recovery in dairy prices.

Population growth is likely to be less adversely affected by the recession. Most of the growth in the global population over the next 30 years is projected to take place in developing countries and it is anticipated that this will generate increased demand for dairy products. An important consideration here is to what extent the growing populations of developing countries will have sufficient income to increase their demand for dairy products, rather than the traditional staples in their diets. If macroeconomic growth rates fall below projected levels then this will adversely impact on the demand for dairy products in the developing world, and the growth in



population will not provide the level of increased dairy product demand that might be anticipated.

Other factors that will promote increased dairy consumption, particularly in developing countries, include greater urbanisation of populations and the trend towards western eating habits.

### **Agricultural Policy and Trade Policy Changes**

Generally the projections in this study do not consider alternative policy options and instead assume a continuation of current policy. In the period under examination there are likely to be changes in policy, both in terms of the CAP and in terms of global trade policy (WTO reform).

*Policy issues remain to be decided and will impact on the outlook for the dairy sector*

The current overall EU budget and the CAP budget extend to 2013 and the debate is now beginning on the future of the CAP beyond 2013. There will be pressure for a reduced overall CAP budget and a reallocation of the budget in favour of Member States with low levels of current support. This could involve an equalisation of CAP support across the EU through the introduction of a flat area payment system. The implication of such a reform for the EU dairy sector would depend, in the first instance, on the size of the new overall CAP budget and secondly, on the extent to which funds are redistributed between Member States.

In terms of trade reform, reduced levels of EU protection and the removal of export subsidies, are likely under a future WTO agreement. The impact of such reforms on the EU dairy sector will depend to some extent on the health of the global dairy market. The smaller the gap between EU and world dairy prices, the more likely the remaining EU market protection mechanisms will continue to be effective. It is likely that WTO reform will have some adverse impact on EU dairy market prospects.

### **Environmental Policies & Consumer Preferences**

*Environmental concerns will exert an increasing influence on agriculture, including the dairy sector*

In many developed nations, there is increasing consumer interest in the environmental consequences of food production. The principal environmental concern amongst consumers is climate change and the carbon content of food is increasingly an issue.

The implementation of climate change policies may have implications across the dairy industry. The EU Climate Change Package makes a commitment to a

minimum 20 percent reduction in GHG gases by 2020. Carbon costs will therefore have to be added to European dairy products and will compete with products with lower carbon costs. Dairy output in countries with small populations will become challenged as carbon output is measured relative to population. Environment policy will become increasingly relevant to dairy production levels.

Supermarkets are aware of these consumer concerns and at some point carbon labelling of food products may be introduced. Under the simplistic metric of carbon content, livestock products will compare unfavourably with grain based products and this could have adverse consequences for the demand for dairy products.

### **Renationalisation of Dairy Demand**

*The renationalisation of dairy demand would have an adverse impact on Irish dairy exports*

Renationalisation of demand has been a feature of meat markets in the EU. Marketing campaigns have tended to stress the perceived superior qualities of the domestic product over imported product in an effort to protect domestic production on the domestic market from export competition. Increasingly this renationalisation may become important in respect of dairy products. If such dairy focussed campaigns are successful at national or local level, this will mean that imported dairy products will increasingly have to compete on the basis on price and sell at a discount relative to the domestically produced product.

### **Nutrition and Health Agenda**

*The health benefits of dairy product consumption may be undermined by legislation on labelling*

The EU Nutrition and Health agenda is progressing with the ratification of new wide ranging legislation that will have direct implications for dairy products. Negative health claims concerning animal fats generally, or dairy fats in particular, continue to be an area of concern for the dairy industry. These negative claims, along with legislation, have the capacity to suppress demand for dairy products leading to stagnation or even contraction in demand among some demographic groups.

It is likely that new labelling requirements will not favour high fat dairy products irrespective of their natural origin. The marketing of high fat products with enhanced nutritional benefits will be restricted by the implementation of the nutrition and health claims legislation and the

adoption of nutrient profiles. The dairy industry will need to look for solutions across the entire dairy product range if dairy consumption levels are to be maintained.

Negative health claims relating to dairy products can be countered by evidence of the benefits of dairy product consumption. Dairy foods provide carbohydrates, protein, riboflavin and vitamin B<sub>12</sub> and their consumption has been demonstrated to be beneficial in maintaining a healthy body weight, stronger bones and lower blood pressure.

### **Animal Welfare Concerns**

Animal welfare concerns related to food production continue to grow among consumers in the EU. Concern is quite high for example in some important markets for Irish exports, such as the UK. It is not easy to consider how these concerns will evolve or how these concerns will impact on dairy trade. Arguably, our grass based production system may be seen by consumers as preferable to confinement operations.

## **Concluding Remarks**

Following a period of strong consumption growth, the rate of increase in global dairy consumption has slowed as a result of the recession. Some of the strongest consumption growth has been in countries where dairy products are not a mainstream part of the diet and hence this consumption has been susceptible to decrease as income growth has slowed.

On the production side, high dairy prices in 2007/08 have brought a strong supply response in exporting countries, with the potential to effectively flood the world dairy market in 2009 and ultimately leading to a build up of dairy stocks. Governments have intervened to support the sector in various parts of the world.

Producers and processors recognise that milk production capacity cannot easily be removed over the short term and this means that supply is slow to contract when prices fall. Dairy markets in 2009 are in a transition period where production growth is slowing, but where most of the market adjustment to balance supply and demand is still being achieved through lower dairy prices. However, there are signs that milk production capacity around the world is adjusting downward in response to the fall in dairy prices and that a better production/consumption balance is emerging, which will contribute to a recovery in dairy prices.

Milk production in the UK is likely to remain well below the milk quota and may even contract further. Milk production in the US is set to contract over the next two years. Production growth will be limited in the continental EU, with milk quota deficits in the southern regions of the EU continuing to grow. In the southern hemisphere strong production growth will continue in New Zealand, while production growth prospects in Australia will remain tied to a sustained improvement in weather conditions over the short and medium term.

On the demand side, the apparent contraction in demand in the dairy ingredients markets is a source of concern. However, reduced UK milk production will create additional export opportunities for the Irish dairy sector. There is considerable potential for increased Irish cheese exports to the UK, given the continuing decline in UK milk production.

The sector will need to wait until 2010 to see a market based recovery in consumption and there are positive signs that some regions of the world will emerge from the current recession sooner than might have been considered possible at the beginning of 2009. The build up of stocks in the EU means that a recovery in the EU dairy sector may lag behind other regions globally. The selling off strategy that the EU Commission adopts in relation to intervention stocks will be important in this regard.

The potential for the US to become a bigger player on the world dairy market remains a concern for the future. US dairy exports will be particularly competitive if the US dollar remains weak.

A range of ongoing and emerging issues will need to be monitored by stakeholders in the sector, These include macroeconomic growth prospects, agricultural and trade policies, energy prices, weather, human health and nutrition, environmental and animal welfare concerns. All of the above present challenges, but only some of these challenges are unique to the dairy sector and several are common to the broader economy.

Looking beyond next year, market prospects for world dairy product prices will improve as dairy consumption growth recovers and the rate of expansion in milk production remains moderate. The extent to which the EU dairy market can benefit from a recovery in world dairy prices will depend on the way in which the EU dairy market is managed in the coming years. The trend towards low levels of dairy product stock holding will increase the likelihood of further spikes and troughs in producer milk prices in the future. Over the medium term, while EU milk prices will be higher than the 2009 level, milk prices at the levels observed in 2007 and 2008 will not be achieved.

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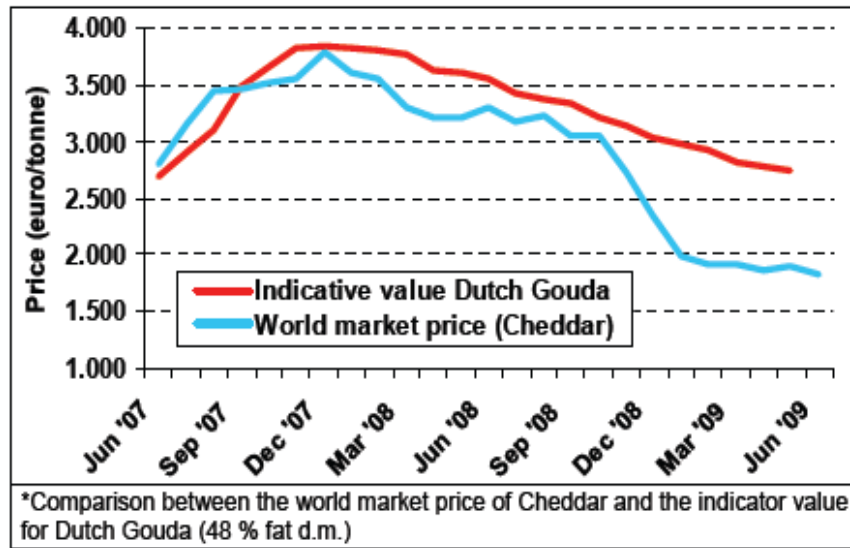
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# Appendices

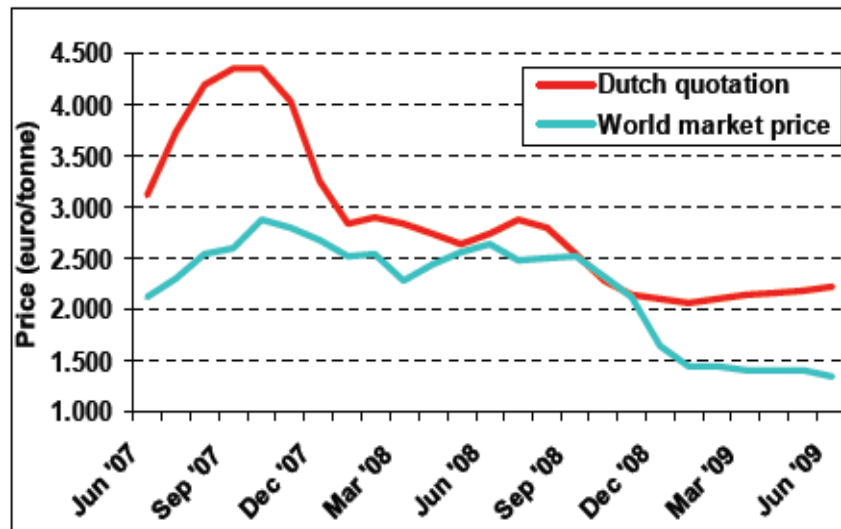
## Appendix A: Comparison of EU and World Prices

Figure A 1: Cheese - EU Prices and World Price 2007 to 2009



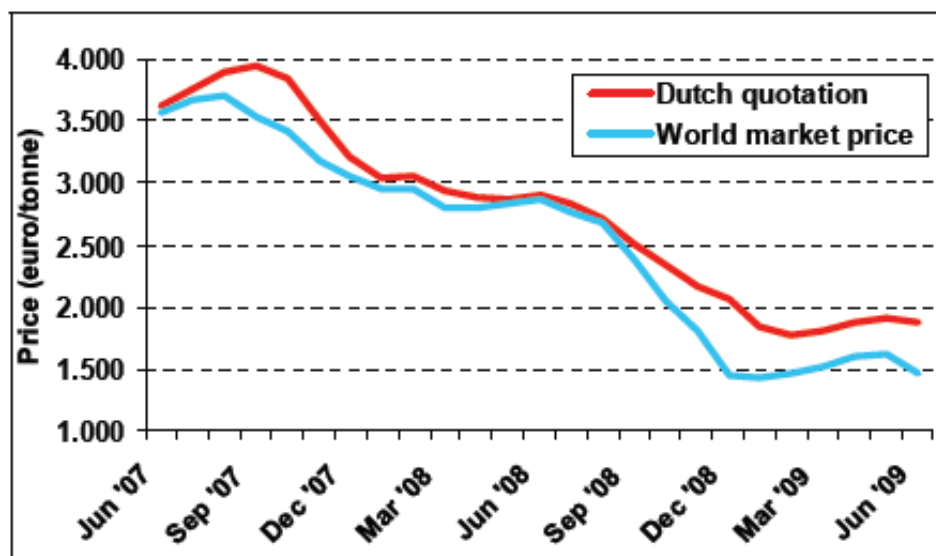
Source: Dutch Dairy Board (2009)

Figure A 2: Butter- EU Prices and World Price 2007 to 2009



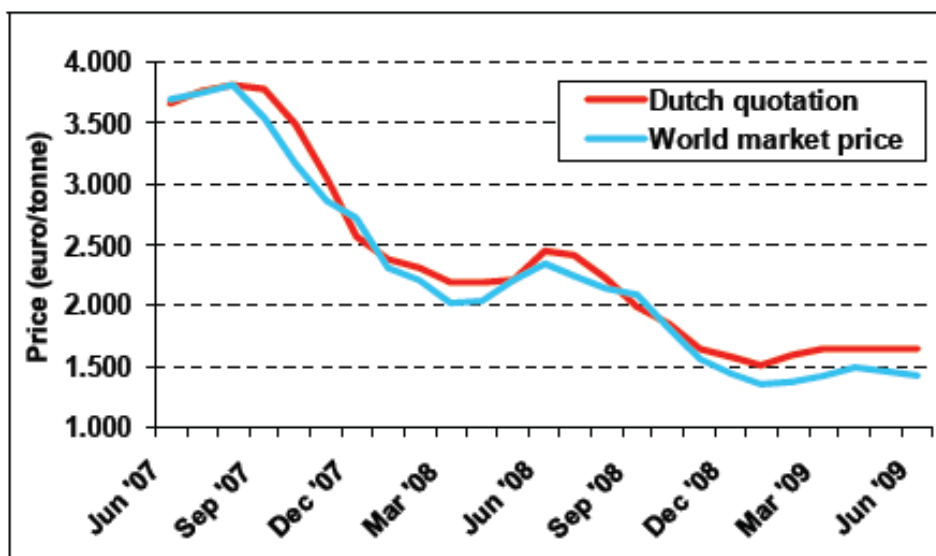
Source: Dutch Dairy Board (2009)

Figure A 3: WMP - EU Prices and World Price 2007 to 2009



Source: Dutch Dairy Board (2009)

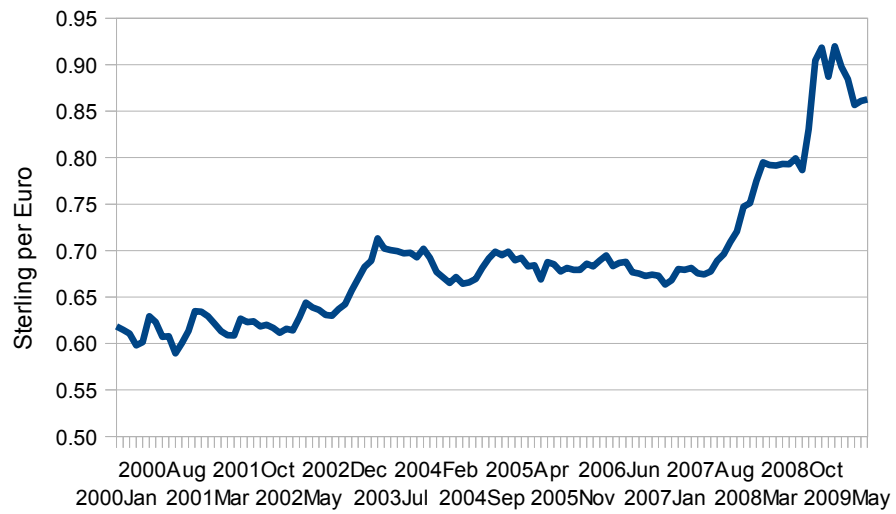
Figure A 4: SMP - EU Prices and World Price 2007 to 2009



Source: Dutch Dairy Board (2009)

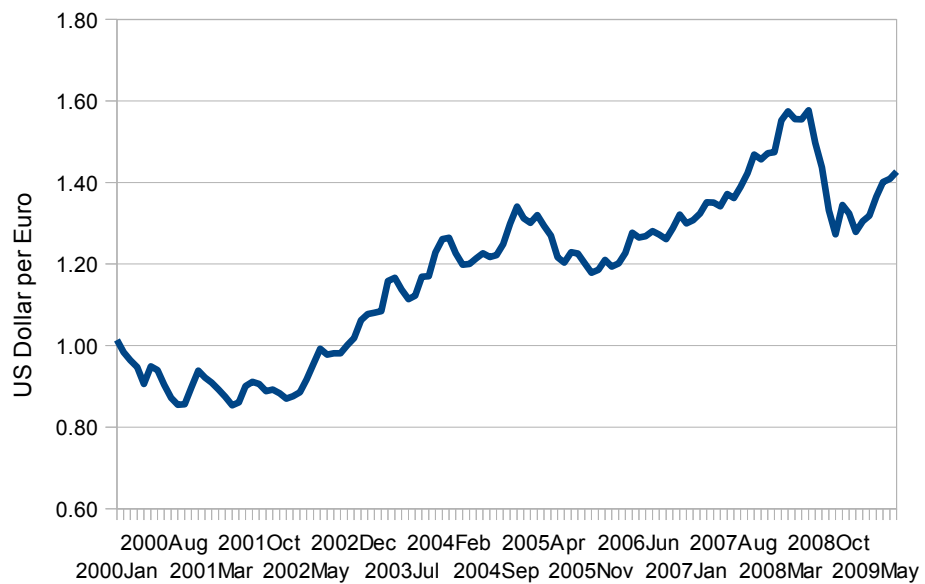
## Appendix B: Selected Exchange Rates

Figure B 1: Monthly Average Sterling/Euro Exchange Rate 2000 to 2009



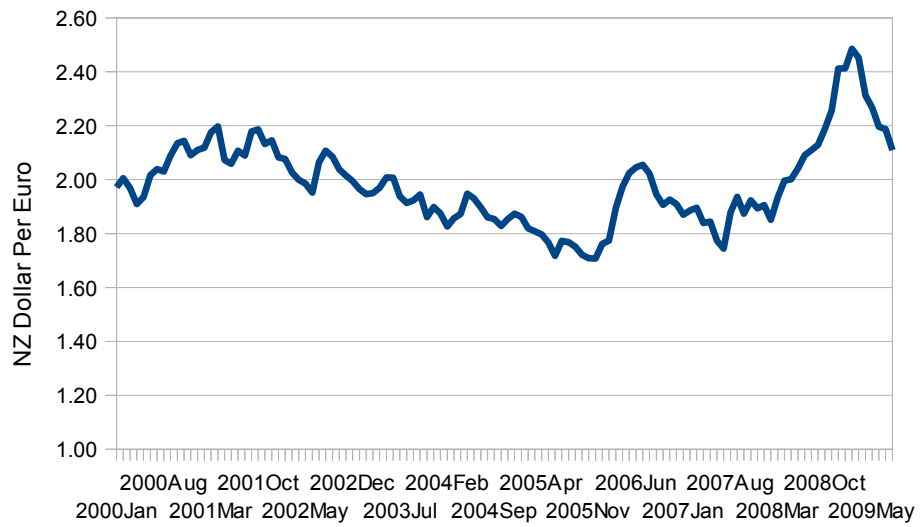
Source: European Central Bank

Figure B 2: Monthly Average US Dollar/ Euro Exchange Rate 2000 to 2009



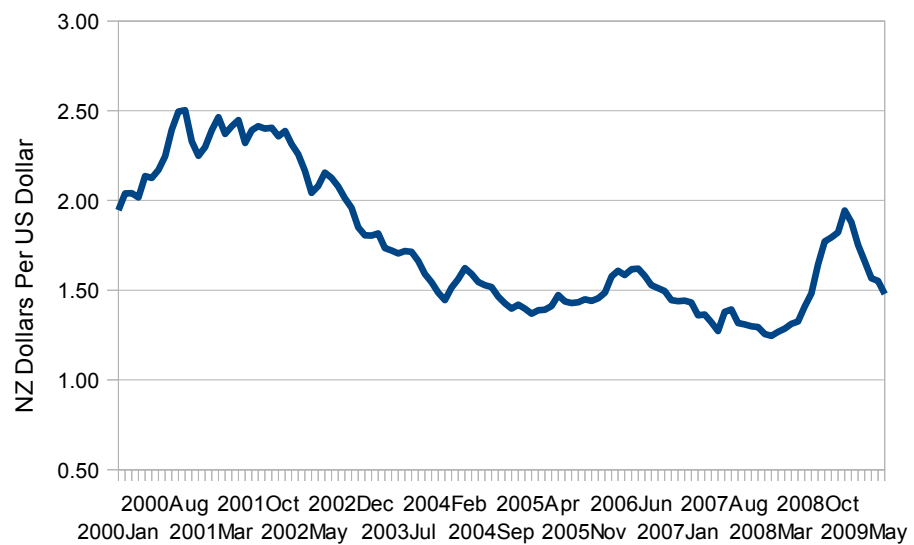
Source: European Central Bank

Figure B 3: Monthly Average NZ Dollar/Euro Exchange Rate 2000-to 2009



Source: European Central Bank

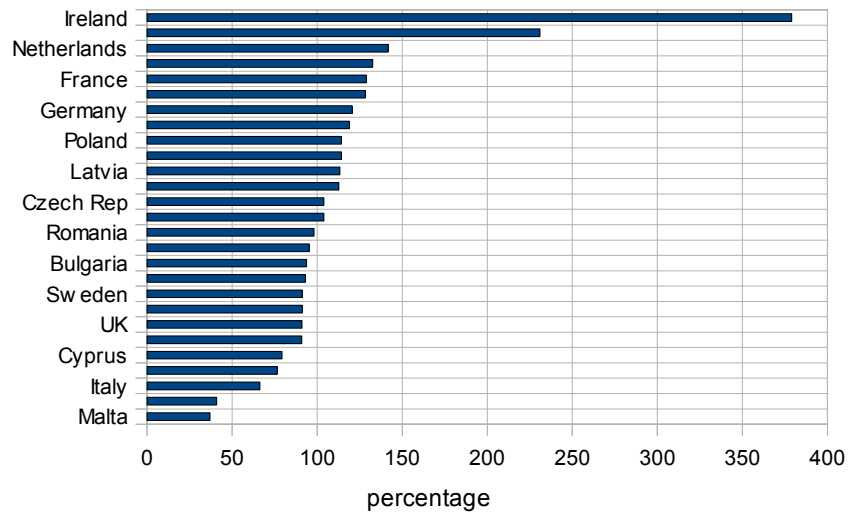
Figure B 4: Monthly Average NZ Dollar/US Dollar Exchange Rate 2000 to 2009



Source: European Central Bank

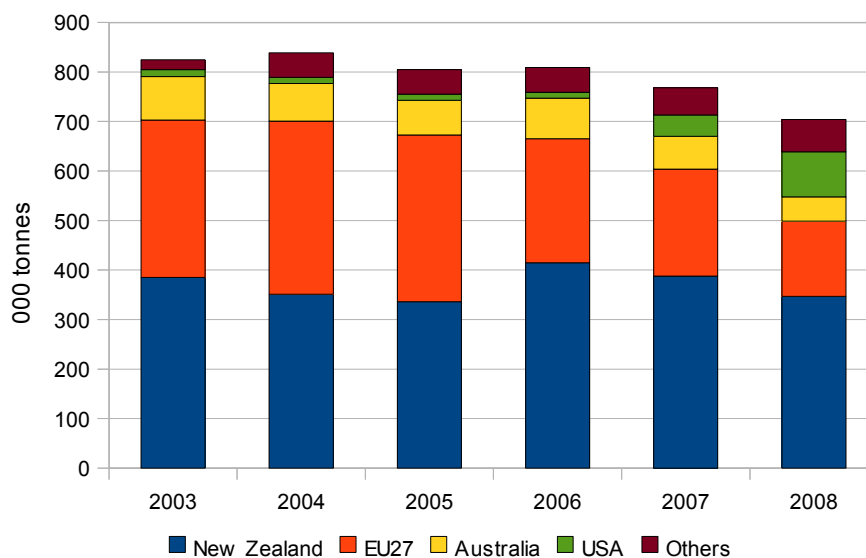
## Appendix C: Miscellaneous Data

Figure C 1: EU Member State Milk Self-sufficiency (2003 to 2007 average)



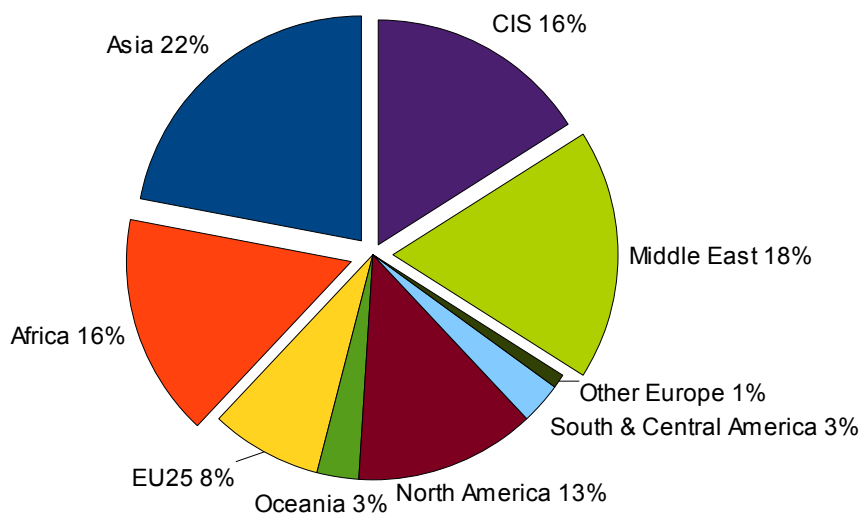
Source: IDB

Figure C 2: Butterfat Exporting Countries (2003-2008 Average)



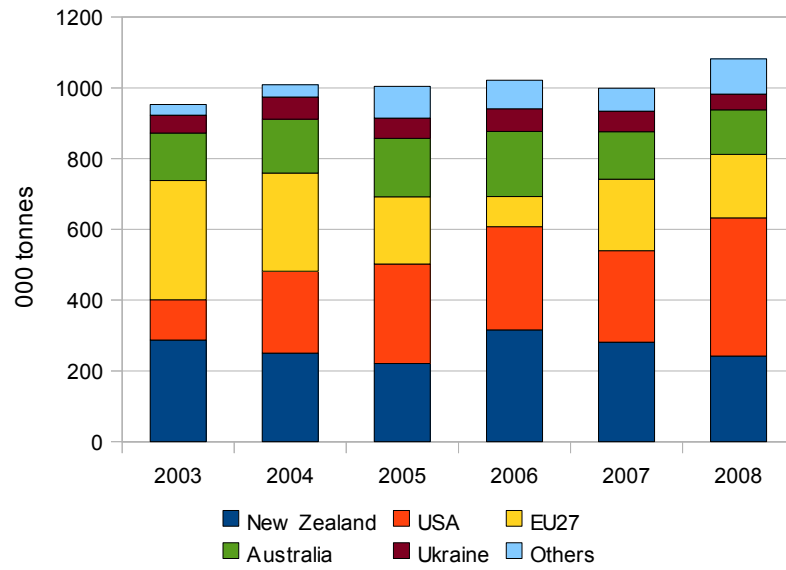
Source: GTIS based on Exports by EU, USA Argentina, Brazil, Uruguay, China, India and Ukraine  
 Note: EU Exports based on External Trade Only

Figure C 3: Butterfat Imports by Region (2003-2008 Average)



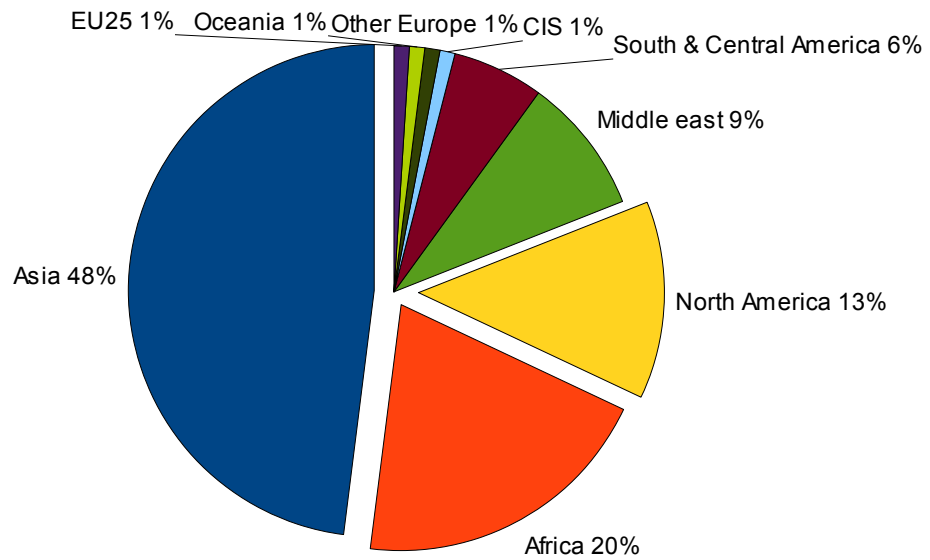
Source: GTIS based on Exports by EU, Oceania, USA, Argentina, Brazil, Uruguay, China, India and Ukraine

Figure C 4: SMP Exporting Countries (2003-2008 Average)



Source: GTIS based on Exports by EU, USA Argentina, Brazil, Uruguay, China, India and Ukraine  
 Note: EU Exports based on External Trade Only

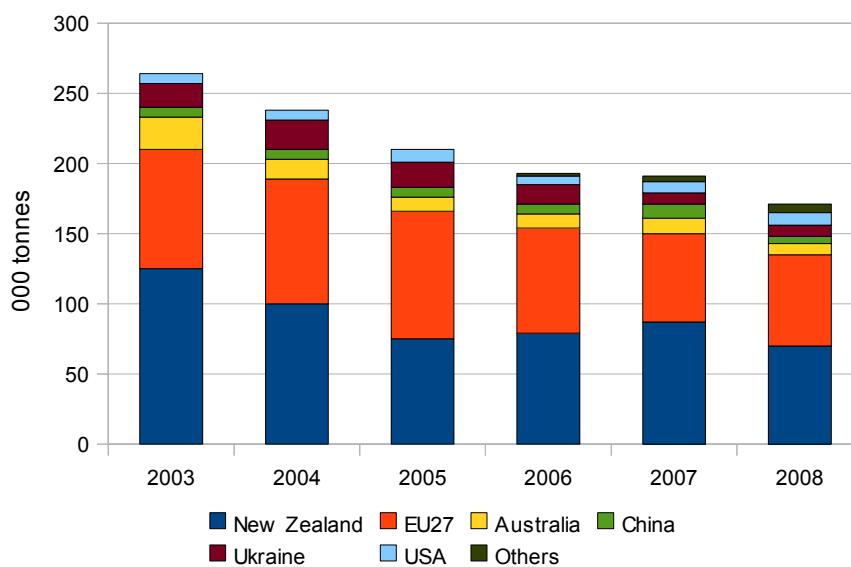
Figure C 5: SMP Importing Regions 2008



Source: GTIS based on Exports by EU, Oceania, USA, Argentina, Brazil, Uruguay, China, India and Ukraine



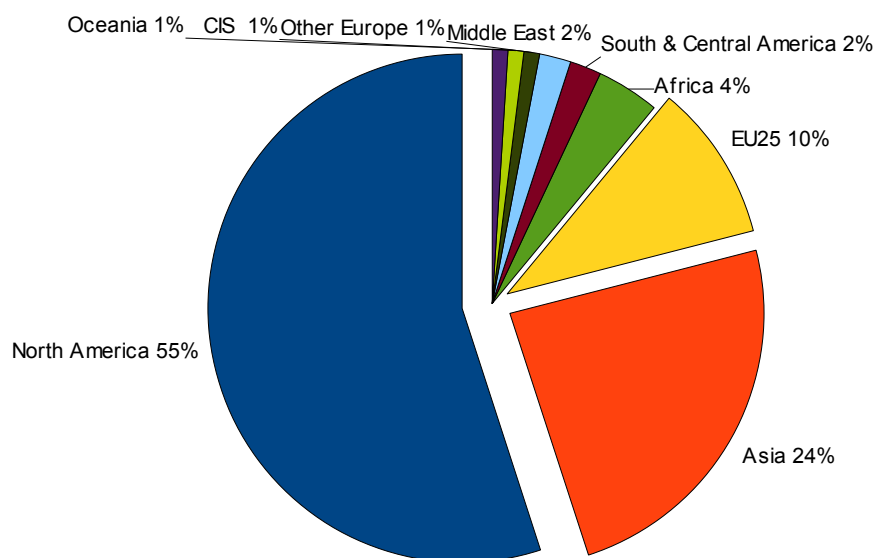
Figure C 6: Casein Exporting Countries (2003-2008 Average)



Source: IDB

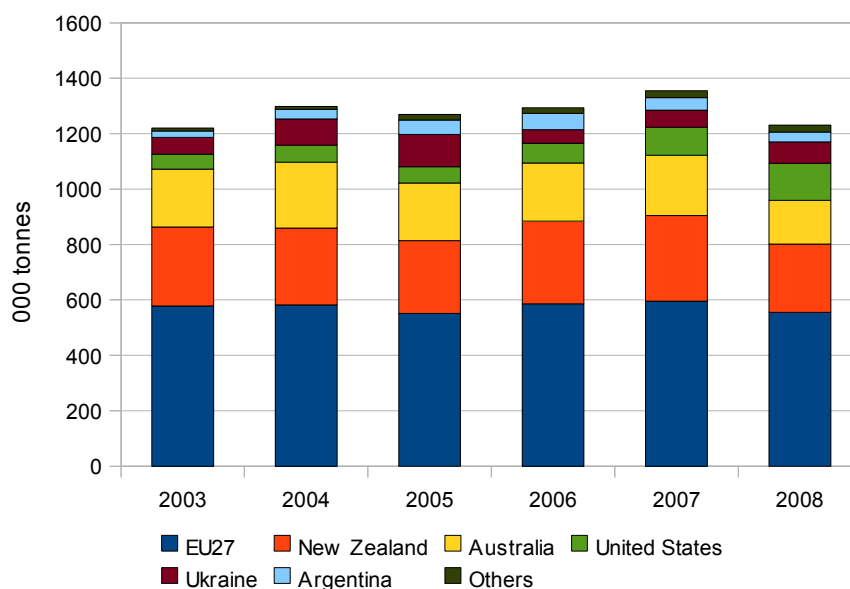
Note: EU Exports based on External Trade Only

Figure C 7: Casein Imports by Region 2008



Source: IDB

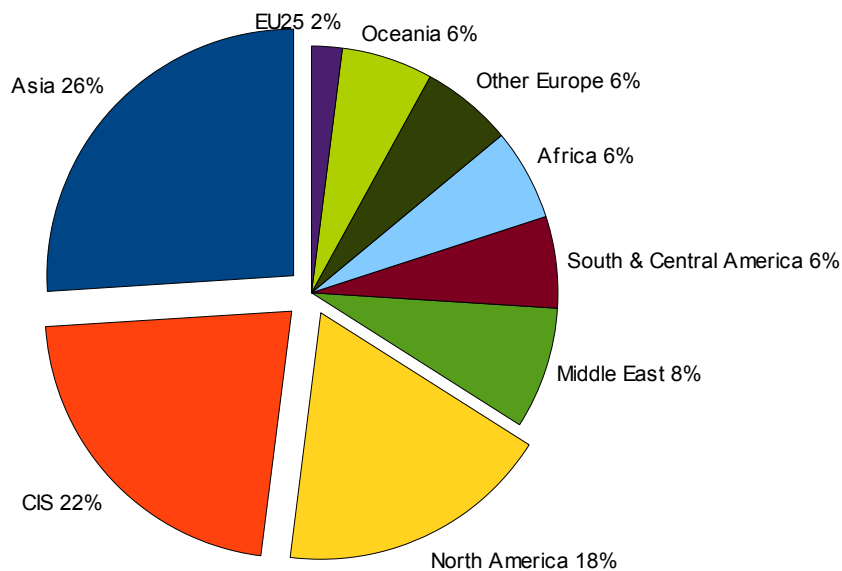
Figure C 8: Cheese Exporting Countries (2003-2008 Average)



Source: GTIS based on Exports by EU, USA, Argentina, Brazil, Uruguay, China, India and Ukraine

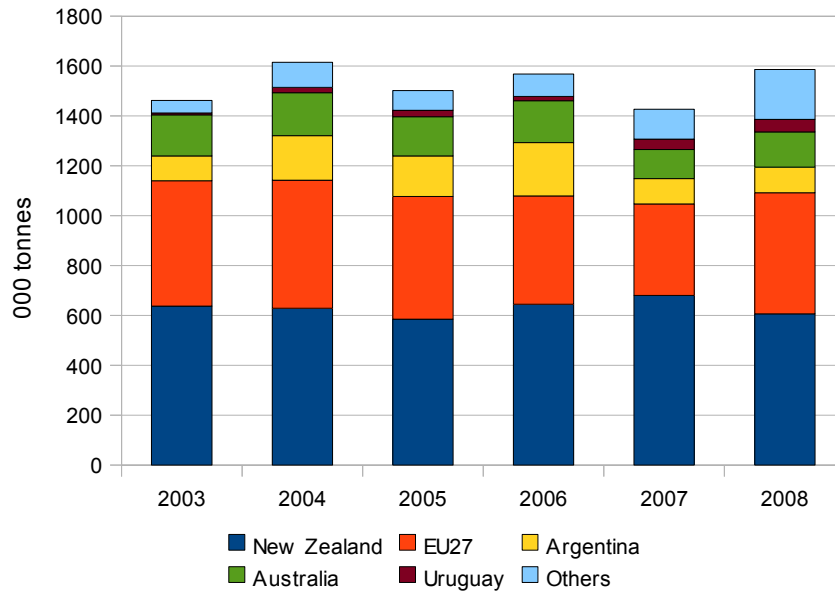
Note: EU Exports based on External Trade Only

Figure C 9: Cheese Imports by Region 2008



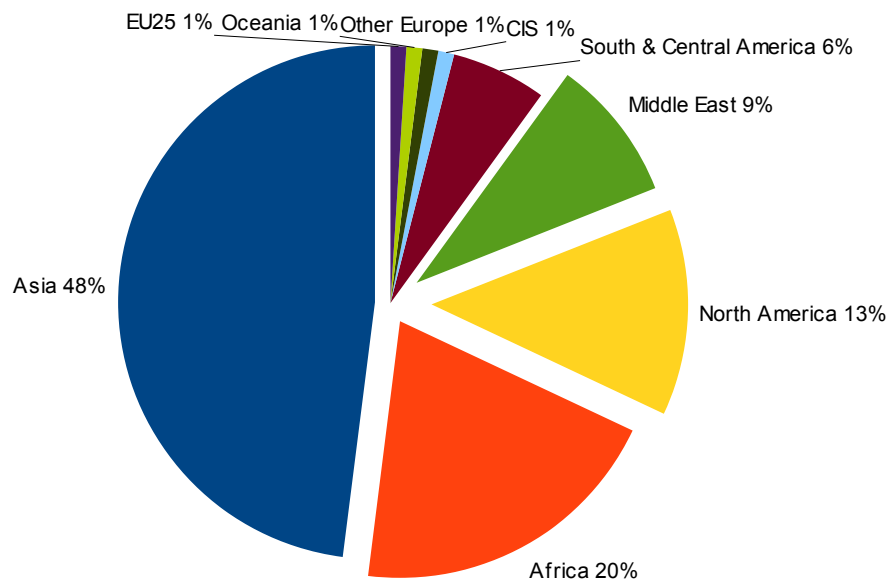
Source: GTIS based on Exports by EU, Oceania, USA, Argentina, Brazil, Uruguay, China, India and Ukraine

Figure C 10: WMP Exporting Regions (2003-2008 Average)



Source: GTIS based on Exports by EU, USA Argentina, Brazil, Uruguay, China, India and Ukraine  
 Note: EU Exports based on External Trade Only

Figure C 11: Main WMP Import Markets 2008



Source: GTIS based on Exports by EU, Oceania, USA, Argentina, Brazil, Uruguay, China, India and Ukraine