



Global Dairy Market Review

Key points

- Emerging dairy product demand in China has the potential to underwrite the global dairy industry.
- The NZ industry has already benefited greatly from the rise of the Chinese Dragon. Drought limited Australia's benefits.
- The passing of the east coast drought and above average rain in 2010 will result in a rebound in Australian production.

Summary

The dairy industry is one of the largest and most dynamic global agricultural industries. *Dairy farming* is an agricultural activity that refers to the production of milk from farm animals. The *dairy industry* encompasses businesses from the farm gate through to food manufacturing. And *dairy products* include any food product originally derived from animal milk.

To say the global dairy industry has had a colourful past would be an understatement. A history of interventionist government policies has resulted in ructions in the supply side over the past four decades, particularly in the once highly regulated European dairy industry. The slow removal of highly distortionary policies has contributed to rationalisation in European dairy production.

Dairy consumption has also undergone a wild ride in the past few decades. Consumption of dairy products has historically been volatile. But notwithstanding the GFC, the past decade has provided some promising signs for future dairy consumption. Per capita dairy consumption in developing nations is starting to close the gap to the rates of consumption observed in advanced nations. Only a partial westernisation of diets in China would provide an enormous opportunity for the world's dairy producers. As rates of dairy consumption improve, China will evolve from their current status as *dairy minnows* to *dairy mammoths*.

The growth in Chinese dairy consumption is already having large implications for global production and trade in dairy products. Dairy trade traditionally absorbs less than 5% of global cow milk production, but global trade is already starting to lift with the expansion of Chinese demand. Chinese dairy imports have doubled in the past 5 years, lifting them from 9th on the league tables to the 6th largest dairy importer. In another 5 years China is likely to be a Top 3 dairy importer. Oceania exporters have benefited from the emergence of China. New Zealand is now the world's most important dairy product exporter, overtaking the EU-27 in 2006. New Zealand exports have surged by 6% per year since 2005, with a large chunk of that growth attributed to China.

The rise and rise of the New Zealand dairy industry has indeed been impressive, and they look set to ride on the Dragon's back for some time yet. But the prosperity has not been shared in Australia over the past decade. Not because the Chinese haven't demanded Australian product – they have, and are Australia's fastest growing export market – but rather because Australian dairy production has been rocked by drought throughout the 2000's. Australian milk production fell sharply from 2001 to 2008. But encouragingly, the passing of east coast drought in late 2009 and above average rain in 2010 has resulted in herd rebuilding and a forecast 2½% year on year increase in farm gate milk production. This increase in local production should allow Australian producers to take greater advantage of the swelling Chinese market.

We are positive about the medium term prospects for dairy prices and for the wider Australian dairy industry. This optimism is primarily the function of strong growth in emerging market demand, most notably China. Risks to the outlook include the uncertain economic environment, probable yield increases in developing nations (which will raise export competition), high grain prices cutting into producer returns, and finally uncertain weather and irrigation water availability in Australia.

This report details the size, structure and dynamics within the global dairy industry, with a focus on the Australian and New Zealand sectors. The industry structure and segmentation is provided from page 2, the historic performance of the global industry is outlined from page 5, including a review of per capita consumption patterns from page 6. The importance of global trade in the industry is outlined from page 7. The Australian and New Zealand dairy industries are reviewed in detail from page 10, while the recent market performance and outlook is summarised from page 16.



Dairy Market Review

Industry definition

The dairy industry is a large, complex and dynamic global industry.

Dairy means different things to different people. *Dairy farming* is an agricultural activity that refers to the production of milk from farm animals. The *dairy industry* encompasses businesses from the farm gate through to food manufacturing. And *dairy products* include any food product originally derived from animal milk.

Dairy production occurs throughout the world with varying degrees of sophistication, ranging from peasant subsistence production through to commercially astute, automated and integrated corporations.

Animal milk production for human use has occurred for thousands of years. Most dairy products today are derived from dairy cows; however other source animals include goats, sheep, horses, buffalo and camels. According to the USDA, 86% of global milk production is derived from cows.

Industry segmentation

Raw/fluid milk is the initial product produced in any dairy operation, irrespective of size, structure or source. This milk is consumed 'as is', or can be then processed into an increasing number of food products for human consumption. Such processing usually either involves heating, drying or separating the raw milk. Processed dairy products includes:

- Fresh milk (pasteurised and homogenised)
- Fresh skim milk
- Butter and cream
- Cheese
- Milk powder (whole or skim milk powder)
- Casein
- Yoghurt
- Whey

At a global level, one third of total dairy milk production is consumed as fluid milk with the remaining two thirds processed. Cheeses account for around half of dairy products, followed by butters (nearly 30%) and the remainder consumed as powders (skim or whole milk).¹ The interaction of various milk products is contained in Appendix 1.

Figure 1: Global dairy consumption (factory vs. fluid 2010)

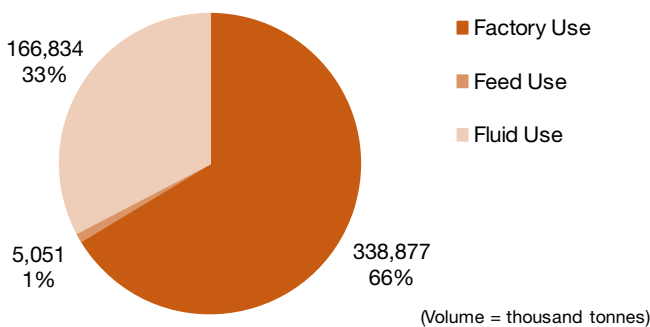
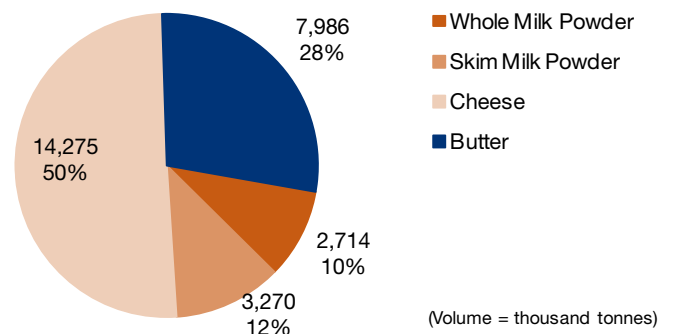


Figure 2: Global factory milk use by product (2010)



Source: USDA and CBA

Geographical segmentation

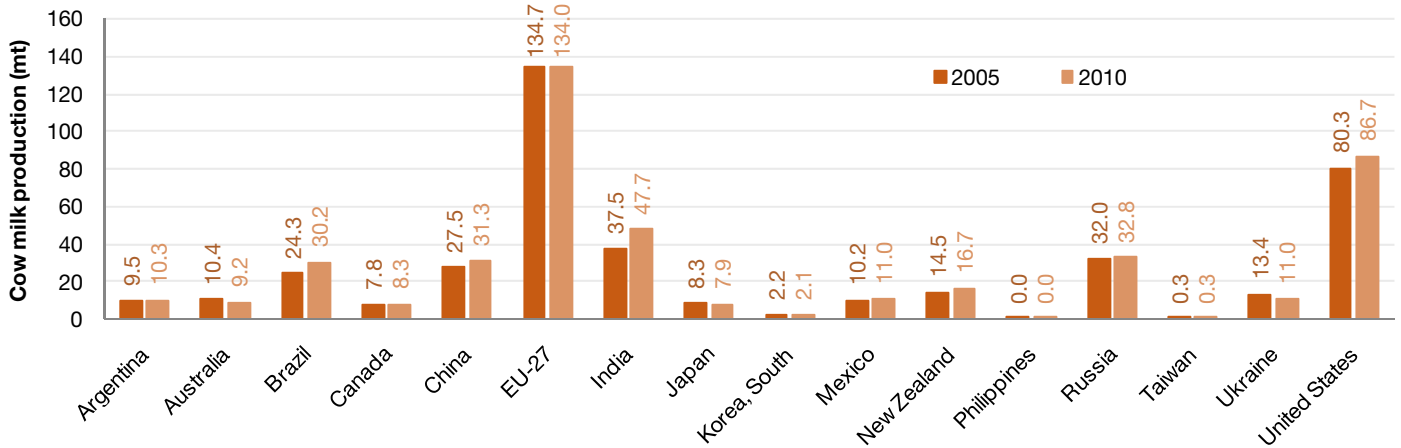
The EU has the largest dairy industry.

The European Union is the largest dairy producing region, with annual (cow) milk production in 2010 of 134 million tonnes, followed by the US (86million tonnes), India (47.7million tonnes) and Russia (32.8million tonnes).

¹ There are significant differences in relative consumption patterns between regions. Global segmentation data conceals these patterns.

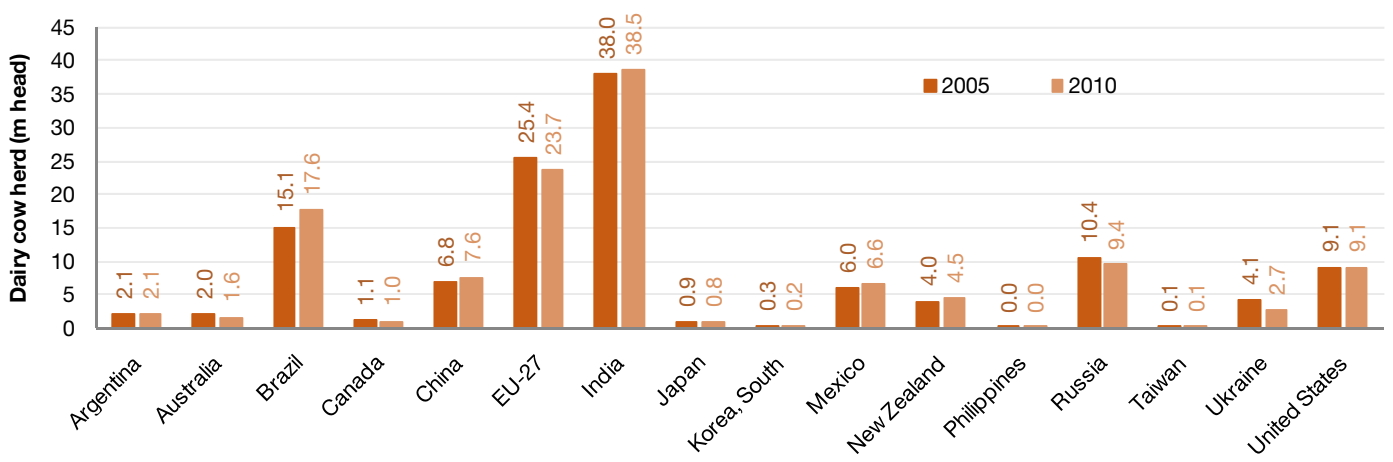


Figure 3: Key milk producing countries – 2005 vs. 2010



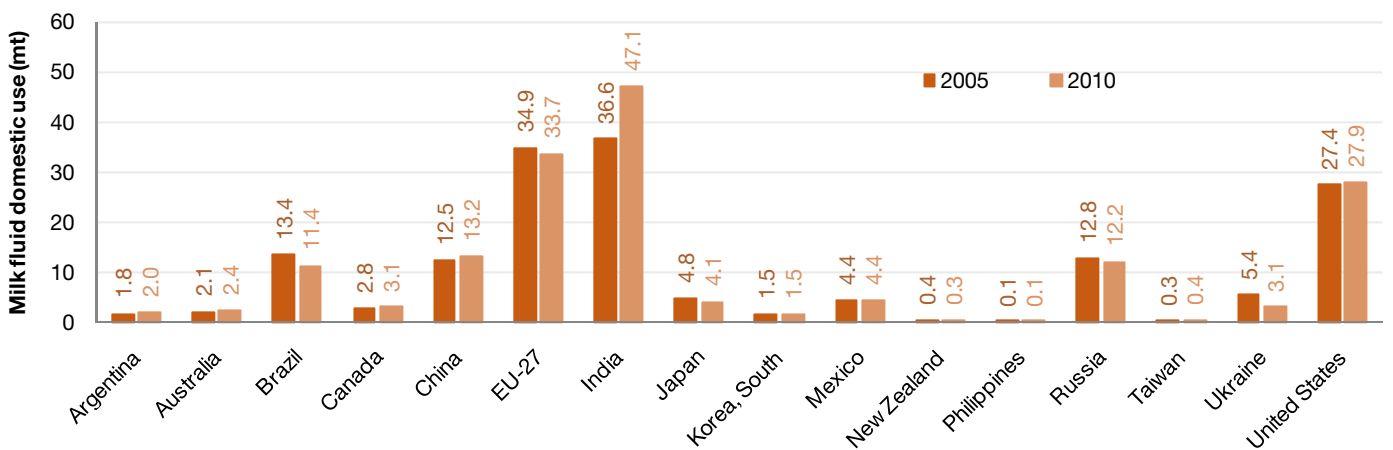
India has the largest dairy cattle herd with 38.5 million cows, followed by the EU-27 with 23.7 million cows. Indian milk yields are notably inferior to the standards set in the developed world.

Figure 4: Global dairy cow herd by region – 2005 vs 2010



India is the world’s most significant consumer of ‘fluid’ milk with annual consumption of 47.1 million tonnes in 2010 vs the EU-27’s 33.7 million tonnes and 27.9 million tonnes in the US. The majority of India’s milk production is consumed as ‘fluid’ milk rather than processed in other products as is the case in other regions.

Figure 5: Key milk fluid consuming countries – 2005 vs 2010



Source: USDA and CBA



Industry performance

The global dairy industry has a colourful past; it has not been smooth sailing.

The dairy industry, unlike many other agricultural industries, has had an inconsistent growth profile. Throughout the 1990's a huge wave of rationalisation swept through the industry. This rationalisation was concentrated within the European dairy sector, spurred by modifications and reforms to the EU Common Agricultural Policy.

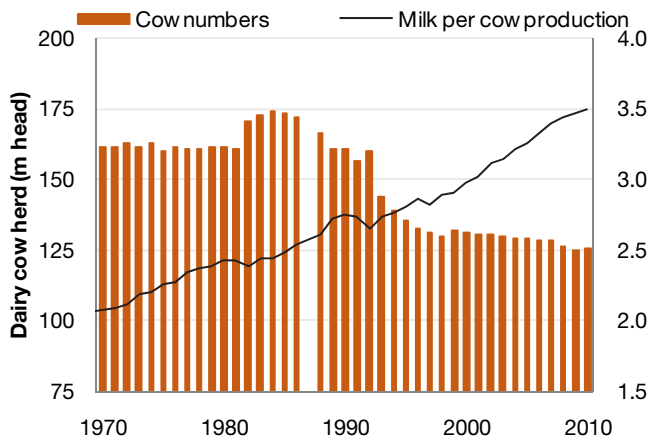
- Global dairy cow numbers fell from a peak of 174 million head in 1984 to 139 million head by the mid 1990's.
- Cow milk production declined from 441 million tonnes in 1990 to 370 million tonnes by 1997, representing a total decline of 17% over 7 years.

More recently the global dairy industry has resumed its growth profile, with global production expanding at 1.7% pa over the past decade. Higher production in the past decade is solely explained by an improvement in dairy cow productivity, with the global dairy herd continuing to edge slightly lower. Current global level cow milk production, at 439.4 million tonnes, still remains below the 1990 peak.

The growth in the dairy industry over the past decade has not been without some challenges:

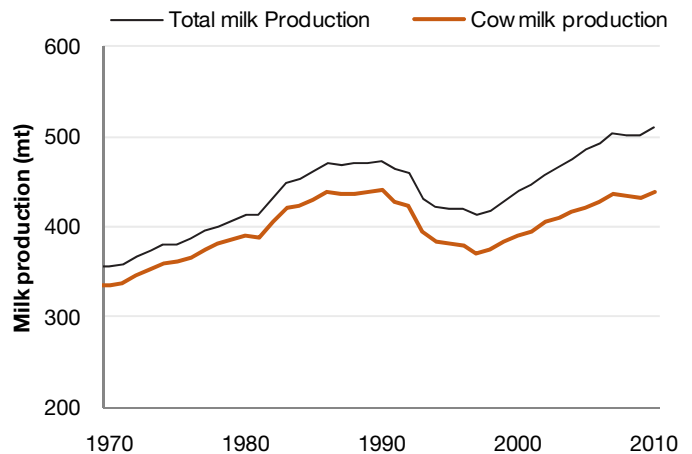
- The grain price spike of 2007/08 pressured production margins and resulted in a moderation in cow productivity (via reduced volumes of grain fed to animals).
- The Global Financial Crisis resulted in further herd liquidation (3% contraction in the 2 years from 2007 to 2009), which caused a 1% decline in total cow milk production over the period.

Figure 6: Global cow numbers and productivity



Source: USDA and CBA

Figure 7: Global milk production



Global dairy consumption growth

Consumption of dairy products has historically been volatile.

Global dairy consumption has undergone the same fluctuations as production. For the purposes of analysis, we will differentiate consumption between 'fluid' milk consumption and 'factory' consumption. Factory consumption is then further split into cheese, butter, whole milk powder and skim milk powder.

The consumption of dairy products is influenced by factors including disposable incomes; heritage and culture; local climate; government intervention; advertising; and evolving diets, tastes & preferences.

Since 1980:

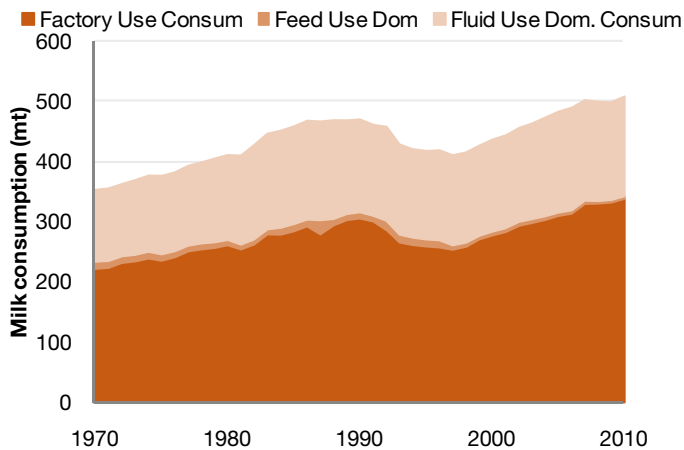
- Fluid milk consumption growth has averaged 0.6% pa.
- Processed milk consumption has expanded at an average rate of 0.9% pa
 - Cheese consumption growth has averaged 2% pa.



- Butter consumption growth has averaged 0.9% pa.
- WMP consumption growth has averaged 5.9% pa.
- SMP consumption has contracted by an average of 0.2% pa.

These average growth rates conceal considerable volatility in terms of aggregate dairy consumption, relative consumption of products, and the relative consumption between regions.

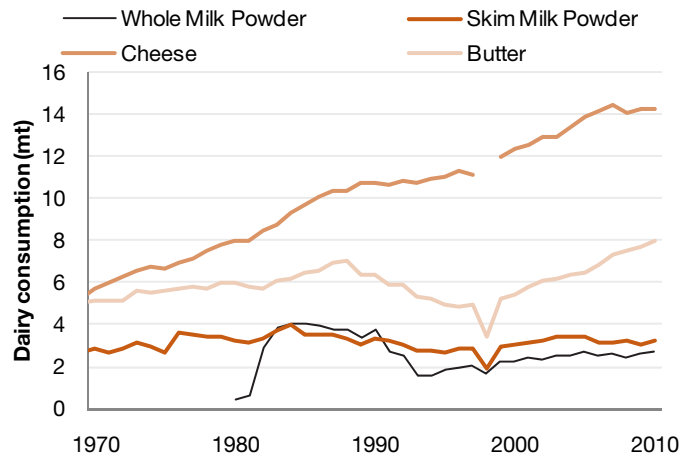
Figure 8: Global fluid vs. processed milk consumption.



Source: USDA and CBA

The past 4 decades have each had specific challenges and opportunities.

Figure 9: Processed milk consumption by product class



Below is a brief snapshot of the evolution of dairy consumption over the past four decades:

■ Consumption in the 1970's

- The 1970's was the decade with the most consistent global growth in dairy consumption. Total consumption expanded by 1.6% pa over the period, with fluid milk consumption up 1.8% pa and factory use up 1¼% pa.
- SMP use grew by 1.7% pa, global cheese consumption grew 3½%pa, and butter consumption grew 1½ % pa.

■ Consumption in the 1980's

- Fluid milk consumption growth slowed to ¾% pa in the 1980's. Factory milk demand expanded by 1.65% pa over the period. Fluid milk consumption peaked in 1988.
- Global cheese consumption expanded by 3.1% pa in the 1980s while butter consumption rose by a more subdued 1½% pa. Global butter consumption in the 1980's peaked in 1988 at over 7 million tonnes, before collapsing to 6.4 million tonnes by 1990.

■ Consumption in the 1990's

- The 1990's proved to be the most difficult decade for the industry, with total dairy consumption declining by an average 0.3% pa. Factory milk consumption fell 0.9% pa and fluid milk consumption declined 0.1% pa over the decade. The market was adversely affected by government intervention, changing tastes and preference and economic turmoil.
- Adjustments to the EU Common Agriculture Policy resulted in significant producer rationalisation which in turn adversely impacted dairy consumption.
- A push toward "low fat diets" and a substitution away from animal fats into vegetable oils in developed nations contributed to a sharp decline in butter consumption over the period.
- The Asian economic crisis contributed to a 43% collapse in global cheese consumption in 1998. Consumption of other value added dairy products also fell sharply.



■ *Consumption in the 2000's*

- The first 7 years of the new millennium was a successful period for global dairy industry, with fluid milk consumption growth of 1½% pa and factory milk consumption expanding by 2.3% pa. Cheese consumption grew strongly (2.4% pa) and butter made a resurgence with 3.9% pa growth. The growth in world dairy consumption was heavily influenced by expanding Asian demand.
- The Global Financial Crisis derailed global dairy consumption growth. In the period from 2007 to 2009, global consumption of fluid milk contracted by 2.8%; WMP contracted 2.4%; SMP fell 3.1%; and cheese consumption fell 1.8%. Perplexing was the fact that global butter consumption rose ~5% during the GFC, a consumption response inconsistent with previous downturns.
- Global consumption of dairy products bounced during the 2009/2010 post-GFC economic recovery. Total dairy consumption expanded by more than 2% from the year prior, with the strongest recoveries observed in powdered products (SMP up 6.9% and WMP up 4½%)

Per capita dairy consumption

Consumption per person is strongest in advanced countries.

Significant divergences exist in the consumption of different dairy products by region. Cultural factors are a significant influence on regional/national consumption patterns, however relative disposable incomes help explain significant variation in the consumption of value added dairy products.

- Unsurprisingly, per capita consumption of dairy products is weakest in least developed and developing nations.
- The variation in per capita consumption between developed and developing regions is clearest when analysing the more value added products.

Key points:

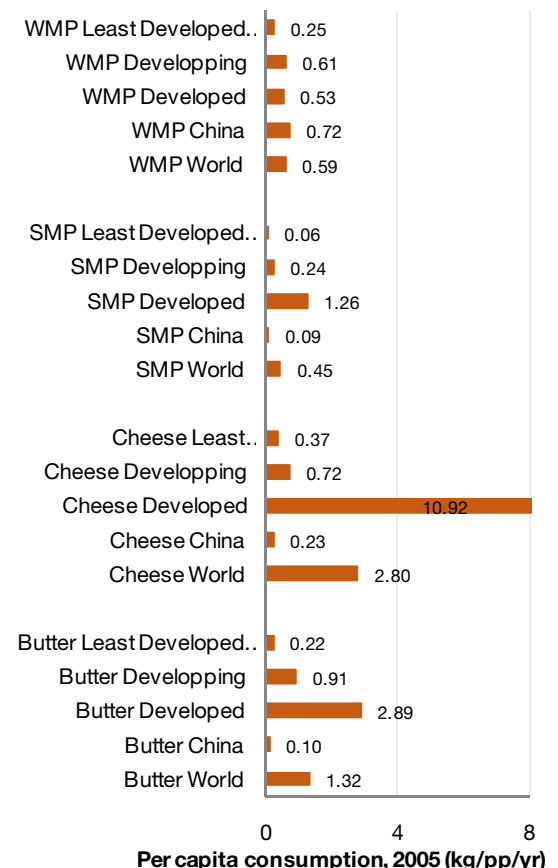
Westernisation of diets in China provides enormous opportunity for the dairy industry.

- Global cheese consumption per person in 2005 was 2.8kg per person. Consumption in developed nations was nearly 4 times the global average at 10.9kg/pp/yr. While in developing nations, per capita cheese consumption stood at only 0.72kg/pp/yr.
- SMP consumption in developed nations is 1.26kg/pp/yr, up from 0.24kg/pp/yr in developing nations.
- Butter consumption in developing nations averages 2.89kg/pp/yr vs. 0.91kg/pp/yr in developing nations.
- Interestingly for the least value added product, WMP, per capita consumption in developing nations exceeds that observed in the advanced nations. WMP is actively traded into developing nations.

China is the obvious focus point, with current per capita rates of dairy consumption well below that observed globally, and in other developing nations (excluding WMP).

We anticipate significant growth in global dairy consumption as incomes grow and diets become westernised within highly populated, developing nations.

Figure 10: Dairy consumption per capita



Source: USDA, FAO, OECD and CBA



China is still a minnow in terms of dairy consumption, but they could soon dominate.

Comparing China's dairy consumption with advanced nations with similar traditions and/or close geographical proximity indicates that significant expansion in Chinese dairy consumption is probable. For example:

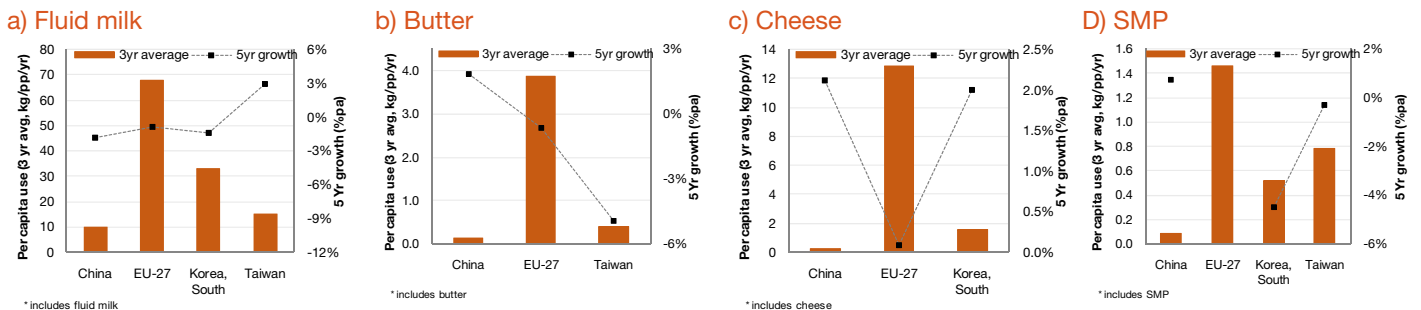
- China's fluid milk use is 9.7kg/pp/yr vs Taiwan at 15.3kg/pp/yr and Sth Korea at 33kg/pp/yr.
- China's butter consumption is 0.12kg/pp/yr vs Taiwan at 0.41kg/pp/yr.
- China's cheese consumption is 0.28kg/pp/yr vs Sth Korea at 1.6kg/pp/yr.
- China's SMP use is 0.1kg/pp/yr vs Taiwan at 0.8kg/pp/yr and Sth Korea at 0.5kg/pp/yr.
- China's WMP use is 0.8kg/pp/yr vs Taiwan at 1.1kg/pp/yr.

Possible future dominance of China?

Preliminary modelling suggests China could emerge as a dominant player in the global dairy industry. If China's per capita consumption of dairy products matched the rates observed in Taiwan, China would rise from their current minnow status to be one of the world's largest dairy consumers in terms of total volumes. If China's rate of dairy consumption matched Taiwan's:

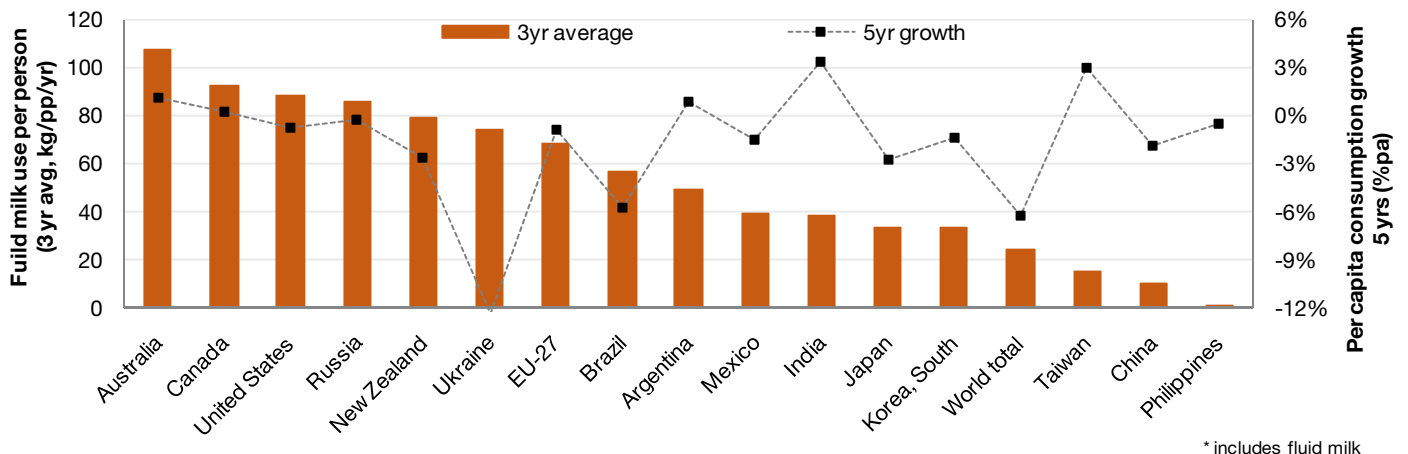
- Total Chinese fluid milk consumption would rise from 13 million tonnes to 43 million tonnes. This equates to an increase in global consumption of 18% from 2010 levels:
- Chinese cheese consumption would lift from 386 thousand tonnes to 14.28 million tonnes, representing a 13% increase in global consumption from today's levels.
- Chinese SMP consumption would swell from 125 thousand tonnes to 1.06 million tonnes, representing a 32% increase in global SMP consumption from today's levels

Figure 11: Comparison of China's per capita dairy consumption (2007-2010)



Source: USDA, FAO & CBA

Figure 12: Fluid milk consumption per capita



Source: USDA, FAO and CBA



International dairy trade

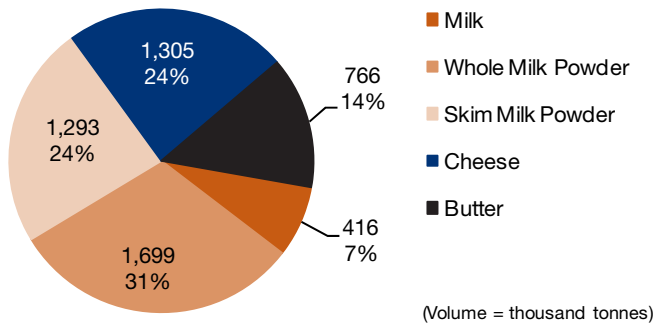
Dairy products are traditionally not heavily traded across borders. But this is changing.

According to the USDA, international dairy trade absorbs less than 5% of the cow's milk produced globally. Fluid milk does not lend itself to global trade because of its perishable characteristics. Instead, trade is focussed on less perishable manufactured products.

In terms of product volumes², WMP contributed 30% to dairy product trade in 2010 (~1,700 thousand tonnes). This was followed by SMP and cheese with 24% share each (~1,300 thousand tonnes) and butter with 14% market share. Only 416 thousand tonnes of fluid milk was internationally traded in 2010, representing 8% of total trade.

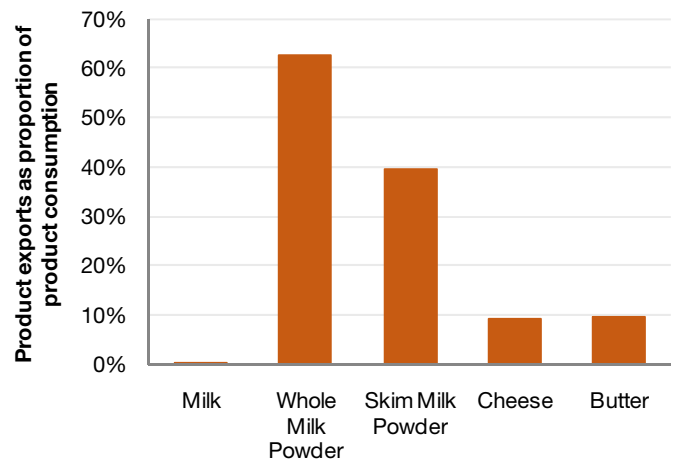
The variation in the global trade between the various product classes is most apparent when assessed in terms of the trade/use ratio. Less than 1/4% of fluid milk consumed annually is traded, while 63% of WMP is international traded before being consumed, and 40% of SMP is traded. Butter and cheese trade represents around 10% of total consumption.

Figure 13: Global dairy exports by volume 2010



Source: USDA and CBA

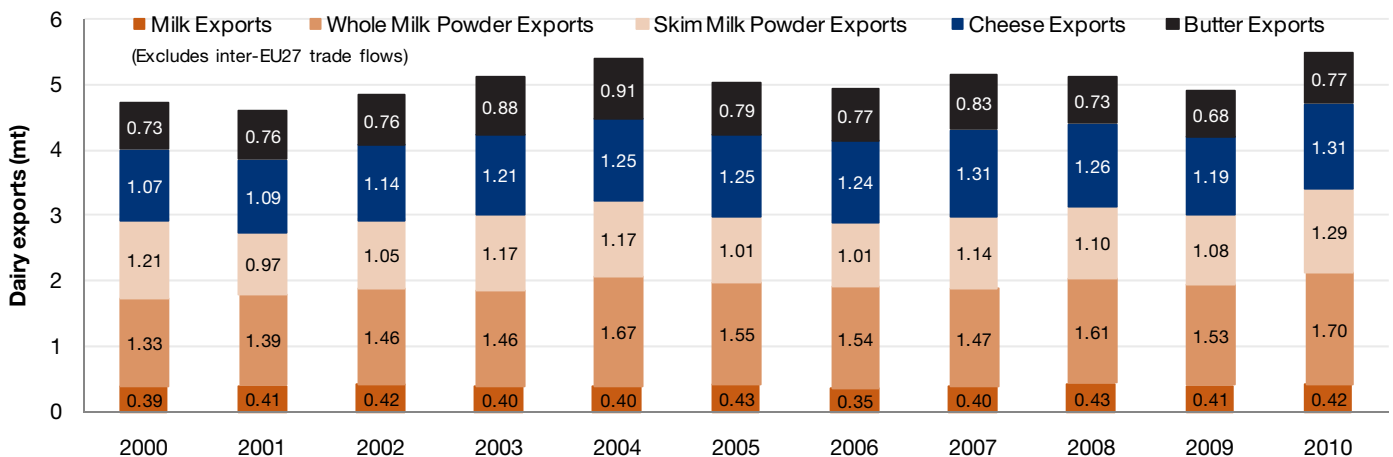
Figure 14: Product trade as proportion of use, 2010



Over the past decade total dairy export volumes have expanded by 2% pa with strong growth observed in cheese exports 2.5% pa, WMP exports (2.4% pa), and SMP exports (1.6% pa).

Global dairy product trade suffered during the GFC, with total volumes traded falling more than 5% from 2007 to 2009. The sharpest percentage losses occurred in butter trade (down 18.6%), cheese (-9%) and SMP (-5%). However the post GFC recovery witness a strong bounce in trade flows with total volumes recovering beyond pre-GFC levels, led by a near 20% bounce in SMP exports.

Figure 15: Global dairy trade throughout the 2000's



Source: USDA and CBA

² Excludes inter-EU-27 trade flows. These are substantial across most product lines, including fluid milk.



Factors influencing trade flows

Trade flows in the dairy industry are affected by relative resource endowments and comparative advantages, market proximities, evolving consumer tastes and preferences, regional economic growth prospects, seasonal production variations, and individual product characteristics (i.e. the perishable nature of fresh milk).

A history of highly distortionary government policies means that the global trade in dairy products has a colourful history. Nations traditionally implemented policies aimed at ensuring domestic market stability and shielding local industry from foreign competition. Such policies have included centralised marketing arrangements (i.e. state owned corporations and legislated industry cooperatives), direct production subsidies, production and trade quotas, export subsidies, import tariffs and preferential trade agreements.

Significant global reforms have been implemented to improve market access within the dairy industry over the past few decades. These reforms have generally be implemented in accord to Uruguay and Doha Rounds of the WTO, primary objectives to remove production and trade distorting market regulations. Despite the reforms to date, progress is still achievable and required.

Major dairy trading nations³

NZ is the most important dairy exporter.

- New Zealand is the world’s most prominent exporter of dairy products, overtaking the EU-27 in 2006⁴.
 - In the past 3 yrs NZ dairy exports averaged 1.7 million tonnes. The EU-27 followed with 1.4 million tonnes, then the US and Australia with 500 thousand tonnes each.
 - NZ exports have expanded rapidly since 2005 at 6%pa (accumulated growth of 641 thousand tonnes over 5 years), as have US exports (5% pa or 144 thousand tonnes over 5 years).

Russia is the largest importer, but China is the fastest growing import market.

- The key dairy importers are Russia, Mexico, Algeria, Indonesia, Japan and China.
 - The strongest growth in dairy imports has occurred in China with 15%pa growth since 2005, representing a total change of 100 thousand tonnes.
 - Russian imports have grown by 7% pa in the past 5 years (135 thousand tonnes) while Indonesian imports have expanded by 9% pa (74 thousand tonnes).

Figure 16: Dairy exporters (thousand tonnes)

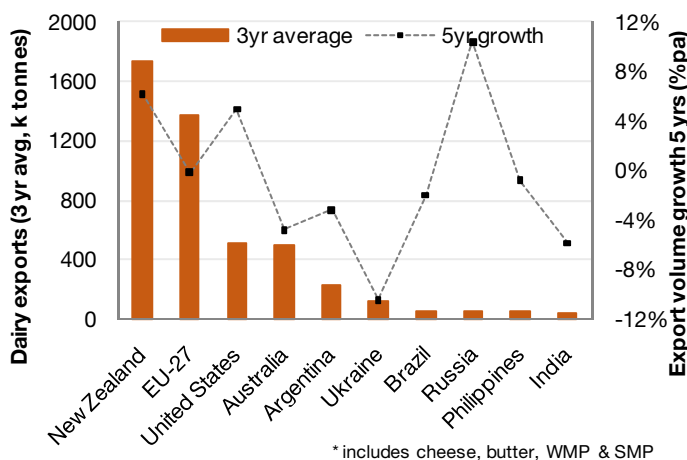
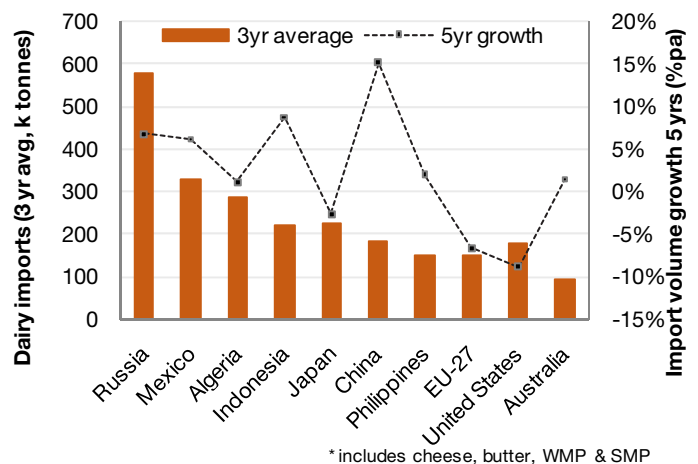


Figure 17: Dairy importers (thousand tonnes)



Source: USDA and CBA

³ Note that the aggregate data presented here doesn't show the relative importance of the various products import/exports to different countries.
⁴ When assessed in terms of cumulative volumes exported (includes cheese, butter, WMP and SMP).



Australian and New Zealand Dairy Industries (ANZDI)

ANZDI's importance to the global industry

Aus and NZ are important dairy exporters.

Despite contributing a relatively small proportion to global dairy output, Australia and New Zealand are amongst the world's most prominent dairy product exporters.

At an aggregate level:

- NZ is the 7th largest producer of cow milk with 3.8% market share. Australia is the 11th largest producer with 2.1% market share.
- NZ is the world's most prominent exporter of dairy products⁵ with more than 35% market share, overtaking the EU-27 in 2006. Australia is the fourth largest exporter of dairy products with 11% market share.
- Total dairy product exports from NZ have been expanding by 6% pa over the past 5 years, while Australian exports have contracted by around 5% pa.

Australian Dairy Industry

Domestic economic importance

Dairy is the 4th largest ag industry in Australia.

The dairy industry in Australia is a significant contributor to the Australian farm economy.

- The farm gate value of milk production in Australia is ~\$3½-4½ billion, contributing around 9% to the gross value of farm production in Australia. Dairy is Australia's 4th largest farm-gate agricultural industry.
- The contribution of the dairy industry to the Australian economy is magnified if manufacturing is taken into consideration. The gross value of dairy manufacturing in Australia in 2005/06 was ~\$9.2bn, roughly 2½ times the farm gate value of dairy production for the period.
- Dairy trade contributes between \$2-2¼ billion pa in export earnings to the Australian economy, equating to 7-10% of total Australian farm export earnings. Dairy is Australia's equal 5th largest rural export earner.

Figure 18: Value of Australian farm production (\$bn)

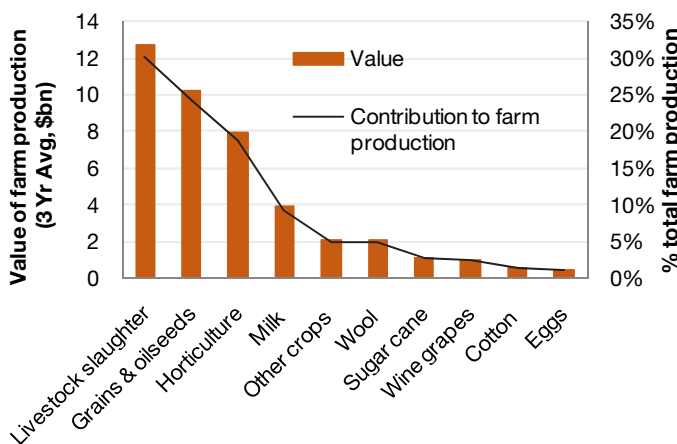
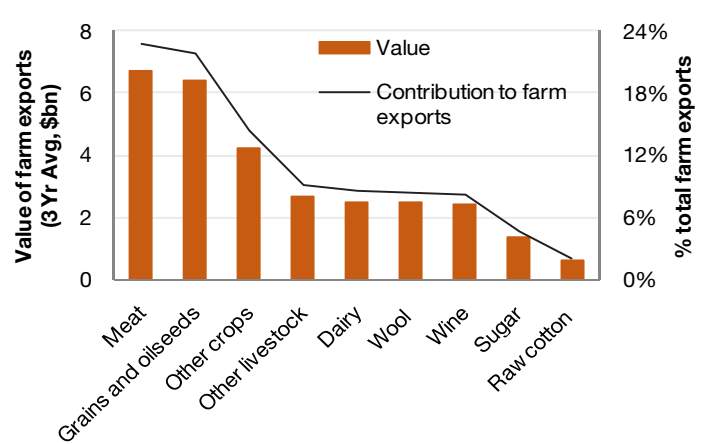


Figure 19: Value of Australian farm exports (\$bn)



Source: ABARE and CBA

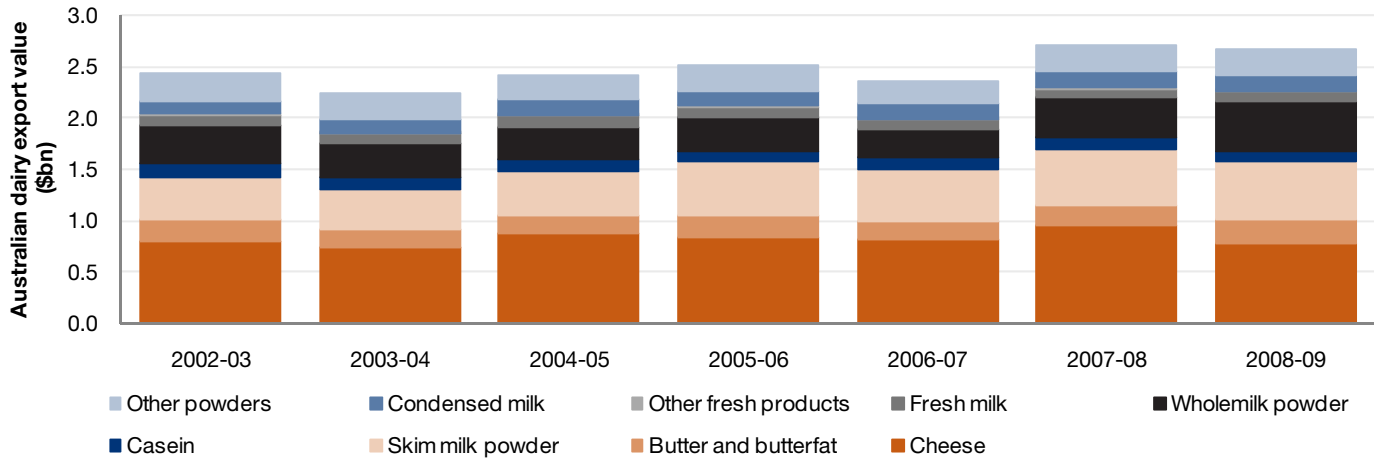
⁵ Includes butter, cheese, SMP and WMP, by volume.



Australian dairy trade

- Dairy Australia estimates that 45% of Australian milk production is exported. Cheeses are Australia's most important dairy product exporter earner with around 30% market share, followed by SMP (20%), WMP (~15%) and butters (~8-9%).

Figure x: Value of Australian dairy exports (\$bn)

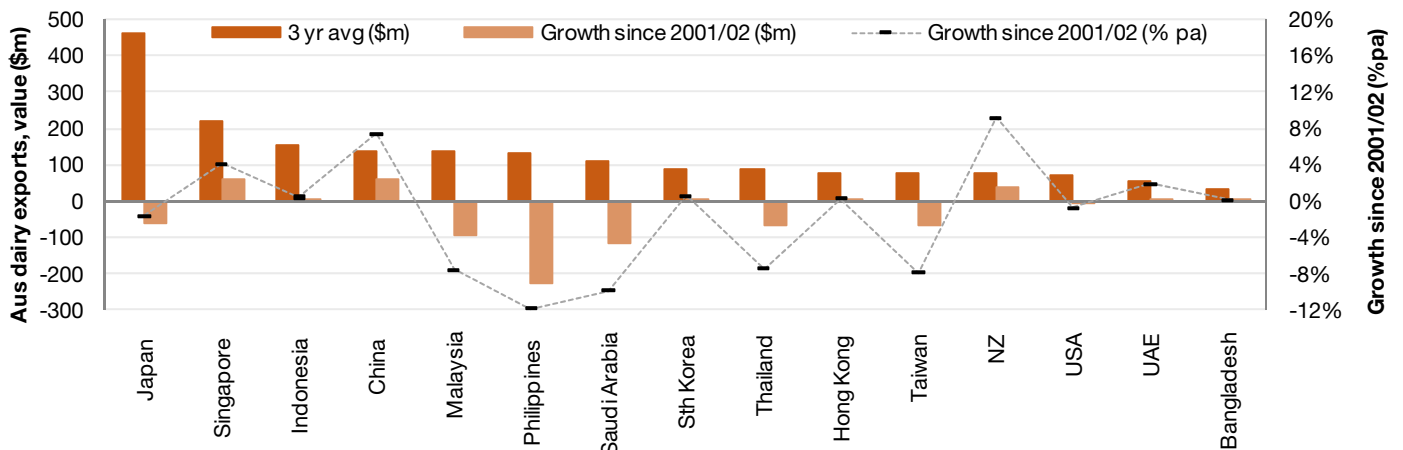


Source: ABARE & CBA

Japan is Australia's largest export market.

- Australian dairy products are exported to around 130 nations, but ~70% of those exports are directed to Asia.
- Japan is the single largest market with ~20% market share. In the past 3 years the value of Australian dairy exports to Japan has averaged \$461.5million. Singapore is the second most valuable export destination with annual dairy export sales of \$218m, followed by China (including Hong Kong) with \$216 and Indonesia with \$152m.
- Australia has benefited from growth in Chinese dairy consumption. China is the fastest growing destination for Australian dairy exports with exports up 7½% pa since 2001/02. This equates to a total increase of \$61m in the value of Australian dairy exports to China.
- Australian exports to other key markets, including Japan, Philippines, Malaysia and Saudi Arabia have contracted since 2001/02. In part, this reflects drought induced declines in Australian dairy production.

Figure 20: Destination of Australian dairy exports (\$m, 2007-2010 average)

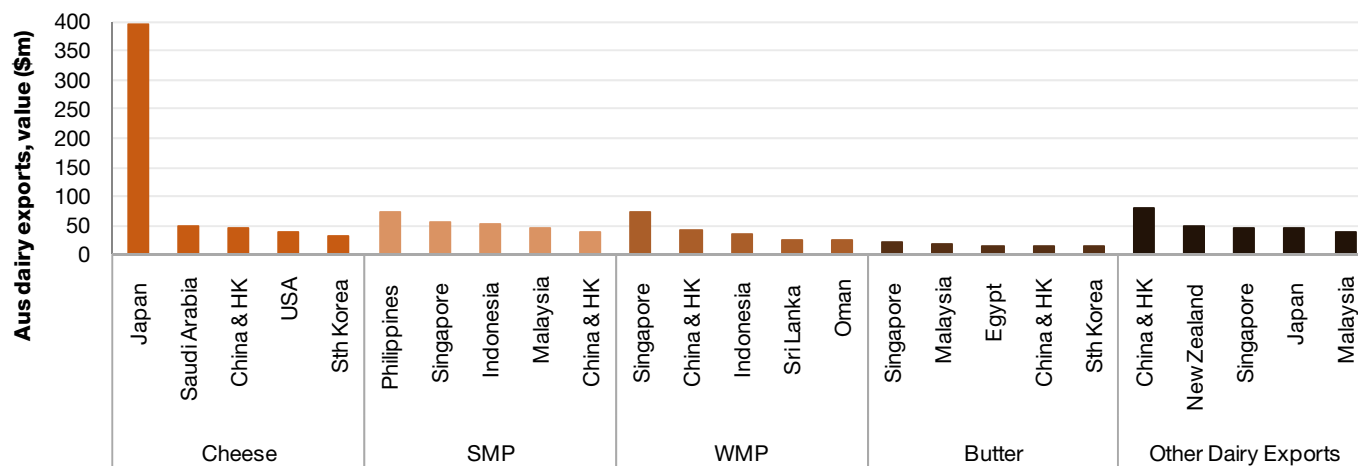


Source: ABARE & CBA



- Cheese exports to Japan dominate Australia's dairy exports, contributing an extraordinary 16% to the value of all dairy export sales from 2007/08. This was followed by "Other Dairy Exports" to China & Hong Kong, which contributed less than 3½% to total earnings.

Figure 21: Destination of Australian dairy exports by product (\$m, 2007-2010 average)



Source: ABARE & CBA

Structure of the Australian dairy industry

Dairy farm structure

Significant consolidation has occurred within the Australian industry.

The farm-gate dairy industry in Australia remains dominated by relatively small family owned operations. This is despite a continued trend of consolidation at the farm gate level of the Australian dairy industry⁶.

- The number of registered dairy herds in Australia has contracted from 22,000 in 1980 to less than 8,000 by 2009.
- The average herd size expanded from ~80 head to ~200 head over the period according to Dairy Australia.
- Unsurprisingly, the largest farms are the most efficient. In 2008 only 8% of farms had herds of more than 500 cows, but this 8% of farms produced 25% of the total milk produced in Australia.

Dairy manufacturing structure

The dairy processing sector has undergone significant consolidation over the past few decades, with business structures including farmer owned co-ops, public, private and multinational corporations. According to Dairy Australia, cooperatives account for around 40% of Australia's milk production, with Murray Goulbourn accounting for around 35% of national milk output.

Geographic location

Victoria is home for over 60% of the national dairy cow herd, followed by NSW (12%) and Tasmania (9%). High rainfall and/or access to irrigation water has resulted in the industry gravitating to Vic and Tas.

Consolidation has occurred across all regions in the past 4 decades. The largest declines in dairy cow numbers have been observed in Qld (down 368 thousand head or 80%), NSW (down 370 thousand head or 65%) and WA (down 52%). Improved transportation (i.e. refrigerated road freight) and urban encroachment (particularly on the NSW and Qld coasts) has contributed to the

⁶ Such consolidation is consistent with long terms trends observed across all agriculture industries, both domestic and abroad.



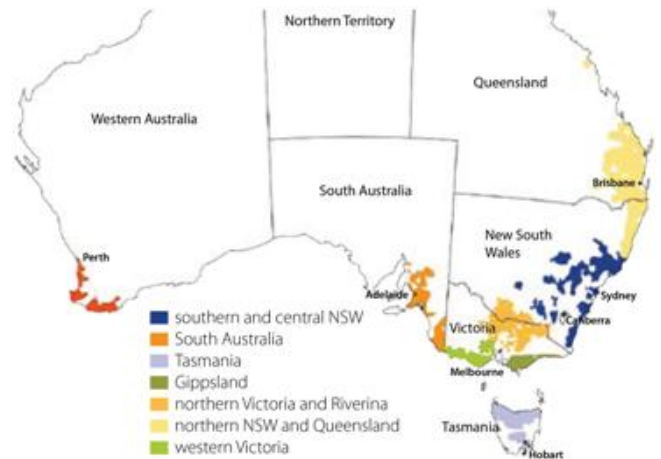
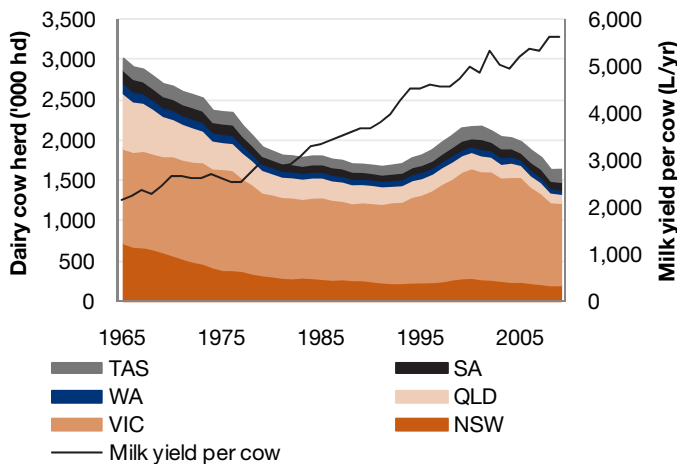
consolidation of the industry to south east Australia.

Drought-induced reductions in irrigation supplies contributed to herd rationalisation and declining milk output in the Victorian and NSW irrigation districts over the past decade. In 2001/02 Australian milk production peaked at 11.3 billion litres, with nearly 7 1/2 billion litres produced in Victoria. By 2008/09 Australian milk output had fallen to 9.3 billion litres, with Victorian production falling to 6.1 billion litres.

The recent proposal by the Murray Darling Basin Authority to decrease water extraction from the Basin may limit the medium term recovery in dairy production.

Figure 22: Australian dairy cow numbers

Figure 23: Geographic location of the Aust dairy industry



Source: ABARE

Source: ABARE

Australian dairy consumption

Australia has the highest rates of fluid milk consumption in the world.

Of the 9.3 billion litres of milk produced in Australia, only 24% is consumed as “drinking milk. Cheese production consumes 33% of total farm gate milk supplies, SMP/butter uses 25% and WMP consumes 12%. Other processed products use the remaining farm gate milk supplies.

Australia has the highest per capita consumption of fluid milk in the world and are significant consumers of processed dairy products. Supermarkets are the dominant sales channel for drinking milk sales in Australia, with “private label brands” now accounting for the majority of milk sales. Dairy Australia statistics indicate that 50% of fresh milk in 2008/09 was sold through the supermarket channel, and 52% of supermarket sales were private label sales.

New Zealand Dairy Industry

Domestic economic importance and trade

Dairy is the most important agri industry in NZ.

Dairy farming is the most significant agricultural industry in New Zealand. And the entire dairy industry (farm gate plus dairy manufacturing) is a significant contributor to NZ’s national gross domestic product. Dairy/cattle farming and dairy/meat processing contributed a combined 4½% to NZ GDP in the year to March 2007.

Dairy is NZ’s most important primary industry export earner followed by meat exports. In terms of total contribution to NZ exports, dairy is only surpassed by the tourism industry.

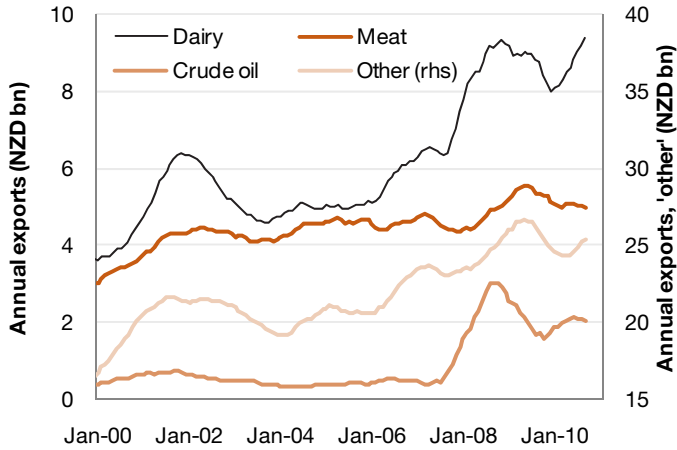
In the 12 months to September 2010 the value of NZ dairy exports was NZ\$9.4bn, representing 22% of all NZ merchandise exports. Meat exports were valued under NZ\$5bn for the period, 12% of total merchandise exports.

China is now the largest market for NZ dairy exports and they are also the fastest growth market. NZ dairy exports to China have grown at a staggering annual rate of 34% from 2005 to 2009. Back



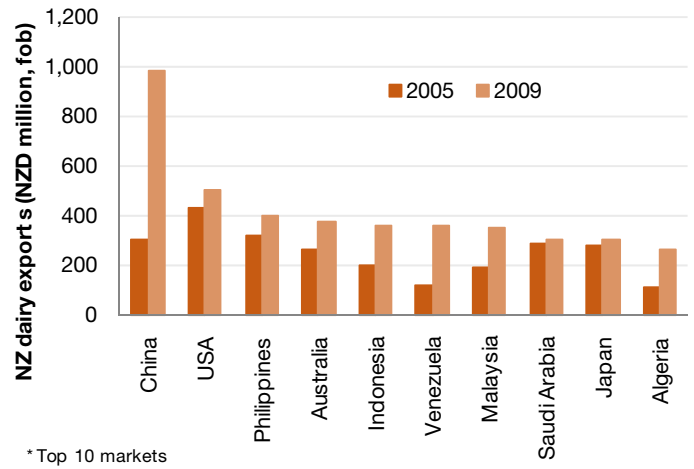
in 2005 only 6% of NZ exports were destined to China, this has now swollen to 12%.

Figure 24: NZ merchandise exports (value, nominal)



Source: Stats NZ

Figure 25: NZ dairy exports by destination (value, nominal)



Source: Stats NZ

Structure of the NZ dairy industry

Dairy farm structure

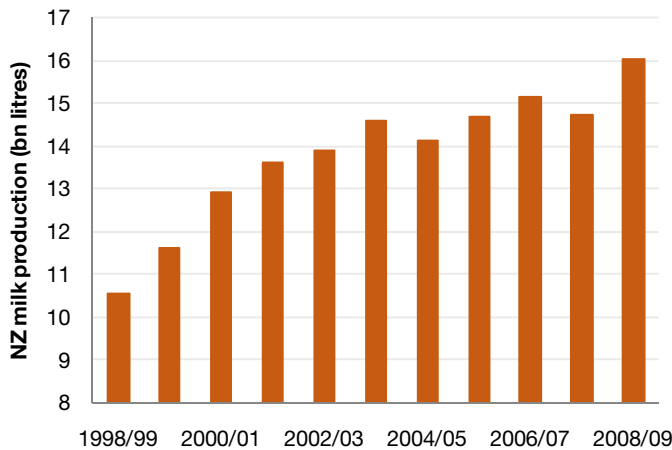
NZ milk production has been increasing while farm numbers have been falling.

New Zealand milk production expanded from 10 ½ billion litres to 16 billion litres in the 10 years to 2008/09, representing an average annual growth rate of 4.3%. This growth has been facilitated by increasing cow numbers and improvements in milk yield per cow.

Yet against the backdrop of increasing total production, there has been a consolidation in dairy farm numbers. In 1998/99 there were 14,360 dairy herds in NZ for a total of 3.3 million dairy cattle, yielding an average herd size of 229 cows. By 2008/09 there were 11,620 herds in Australia but 4.25m cows, resulting in the average herd size increasing to 366 head.

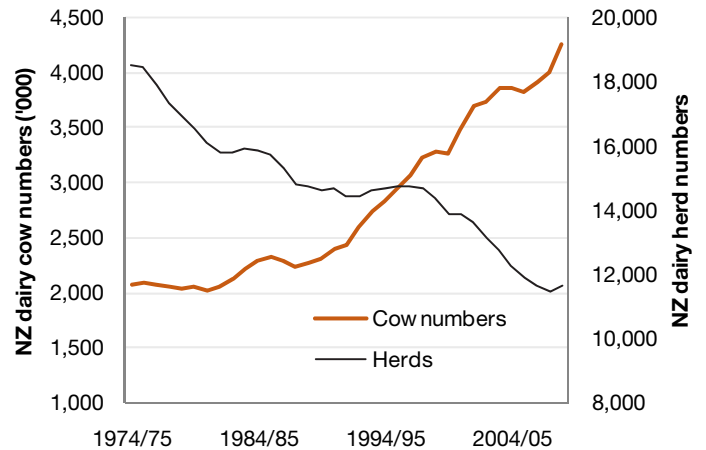
According to NZ Dairy, around 64% of dairy herds in NZ are run by owner operators

Figure 26: NZ milk production (billion litres)



Source: NZ Dairy Statistics 2008/09

Figure 27: NZ dairy cow numbers vs herd numbers.



Source: NZ Dairy Statistics 2008/09

Dairy manufacturing structure



Fonterra controls ~95% of NZ dairy industry.

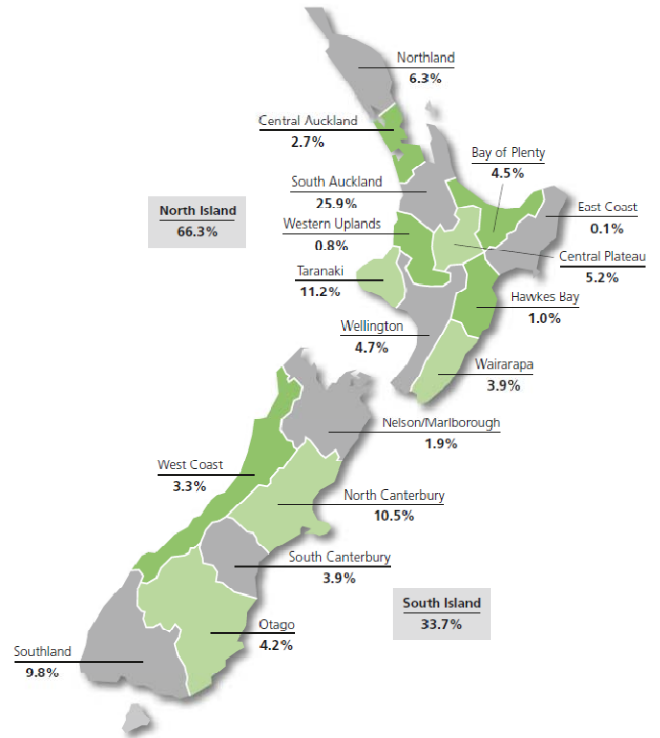
Deregulation of the NZ dairy industry in 2001 (under the Dairy Industry Restructuring Act 2001) opened the door for significant consolidation of the country’s dairy manufacturing sector. The two largest dairy companies, Kiwi Co-operative Dairy Company and New Zealand Dairy Group merged with the Dairy Board to form Fonterra.

Fonterra is a cooperative owned by NZ dairy farmers and represents around 96% of all milk produced/processed in the industry. Fonterra today is a company with global assets of some NZ\$14.1bn, global turnover of NZ\$16bn, milk production of 14 ¼ billion litres and sales volumes of 2.3 million tonnes. According to the company website, Fonterra is one of the world’s top 6 dairy companies by turnover and is the world’s largest dairy exporting company.

Geographic location

- Two thirds of the NZ dairy herd is located on the North Island (concentrated in the South Auckland region)
- The remaining one third of the herd is located in the South Island, concentrated in the Canterbury region.

Figure 28: Geographic location of the NZ dairy cow herd



Source: Dairy NZ, New Zealand Dairy Statistics 2008/09



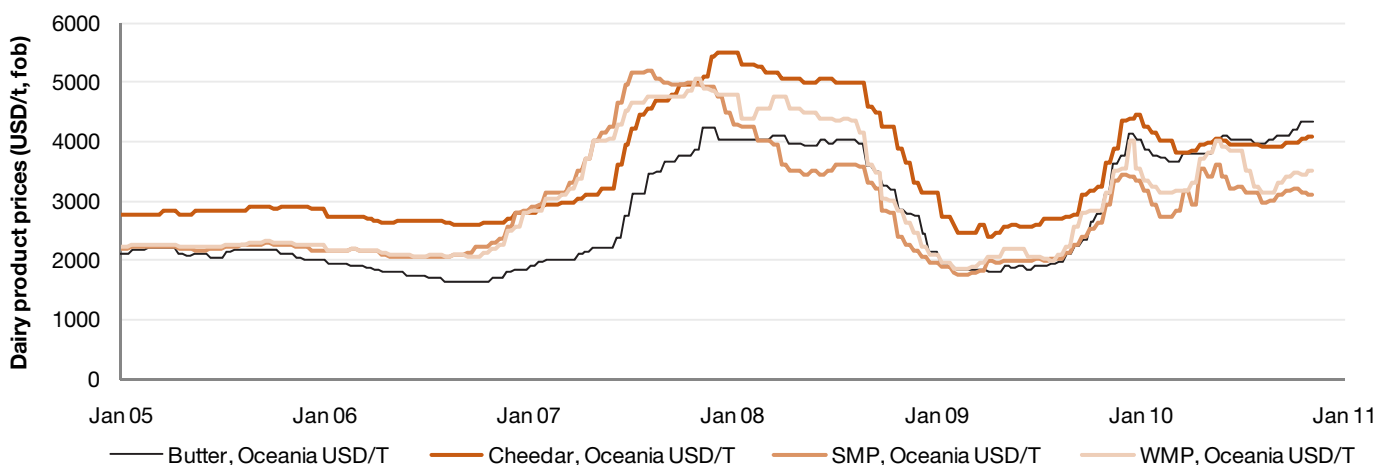
Market performance and outlook

Recent price action

Dairy prices have recovered from the GFC sell-off.

Dairy product prices rebounded in 2009 following the steep declines observed during the global financial crisis. In late 2007 the global WMP indicator price peaked at over US\$5000/t, yet by January 2009 the WMP market had collapsed by 65% to US\$1850/t, only to then climb above US\$4000/t within 12 months. Throughout 2010 the global WMP market has range traded between US\$3000-4000/t. At 11th Nov, Oceania WMP was valued at US\$3500/t.

Figure 29 Dairy product prices (Oceania, fob, USD/t)



Source: Bloomberg, USDA & CBA

Consumption outlook

The outlook for dairy consumption over the medium term is positive.

Global dairy consumption suffered during the GFC but has recovered in line with the economic rebound. Unsurprisingly, demand in emerging nations (particularly Asia) remained most resilient.

Our near term outlook for global dairy consumption is cautiously optimistic, notwithstanding the continued sluggish economic recovery in the United States. The medium/longer term demand outlook is particularly strong driven by emerging market demand, most notably in China.

Production outlook

Herd rebuilding has occurred after the GFC cull.

A significant effect of the GFC was global herd liquidation. This reduction in productive capacity contributed to the improvement in dairy prices throughout 2009. Global producers have sought to rebuild herds and increase supply in H2'2009 and 2010 following the post GFC price recovery. This increase in production has contributed to the ranging price action observed this year.

But surging grain prices may suppress future herd rebuilding plans.

But the continued expansion of the global dairy herd may be tempered in the near term because of a recent sharp rally in global feed-grain prices. ABARE has noted that grain and feed supplements account for one third of the cash costs incurred by Australian dairy farmers, and feed costs are a more important cost of production for more intensive northern hemisphere producers.

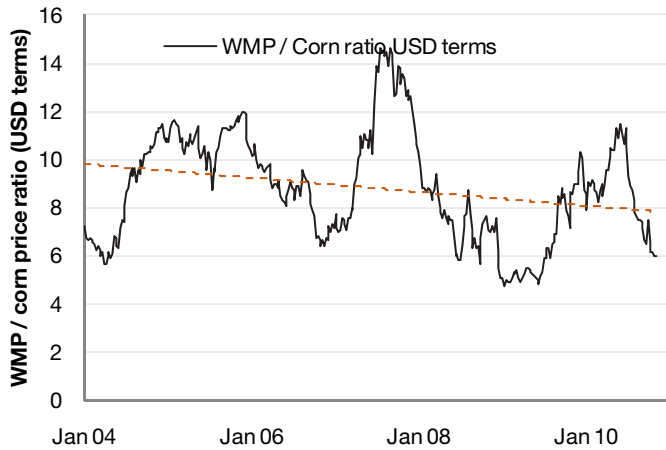
Since June 2010 global feed grain prices⁷ have rallied more than 70% in USD terms, but dairy product prices have tracked sideways. This has resulted in the dairy/feed grain price index turning sharply lower, and consequently our "Dairy feeding attractiveness indicator" dipped into negative territory in September after 12 months of positive readings.

⁷ Chicago corn futures (US cents per bushel)



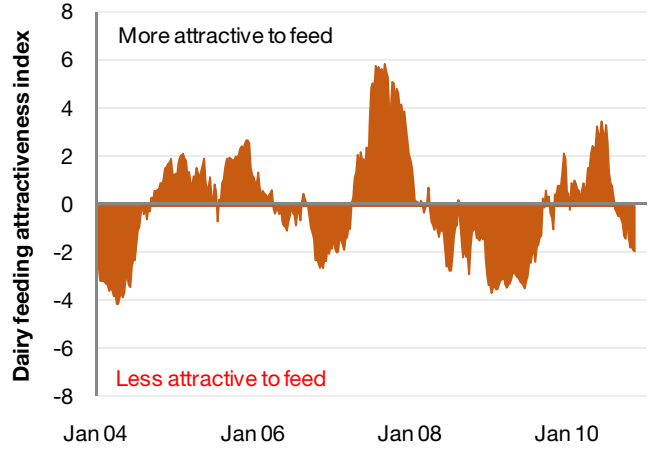
The resultant possible slowdown in global dairy production may help maintain dairy prices at strong levels.

Figure 30: WMP vs. corn price ratio (USD terms)



Source: CBA

Figure 31 Dairy feeding attractiveness indicator



Source: CBA

Australian dairy outlook

Aussie production is heavily influenced by seasonal conditions.

Australian dairy production is heavily influenced by prevailing seasonal conditions and the availability of irrigation water supplies. To this end, abundant rainfall across eastern Australia throughout 2010 has supported herd rebuilding, while high inflows into irrigation storages will help assure production potentials this summer.

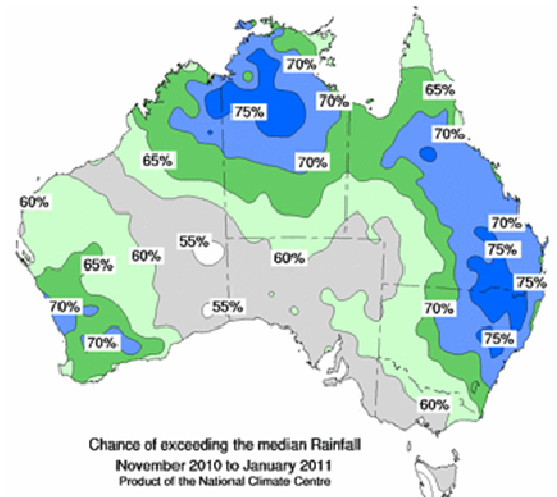
La Nina suggests strong production potentials over the next 6 months,

Furthermore, expectations for the current strong La Nina event to persist into 2011 – which is expected to be associated with above average 3 month rainfall across eastern Australia – should contribute to strong dairy production in H1'2011.

In the September edition of the Australian Commodities report, ABARE forecast that:

- Australian milk production in 2010/11 would rise 2½% in to 9,250 million litres. Influenced by the favourable price and seasonal outlook.
- Australian dairy exports will rise 8% in 2010/11 to \$2.23bn.
- The value of the farm-gate milk price to appreciate 3.2% to an average 38.5 cents per litre.

Figure 32: Australian 3-month rainfall outlook



Source: www.bom.gov.au



A2: Global dairy producers and consumers.

Figure 33: Dairy production by region

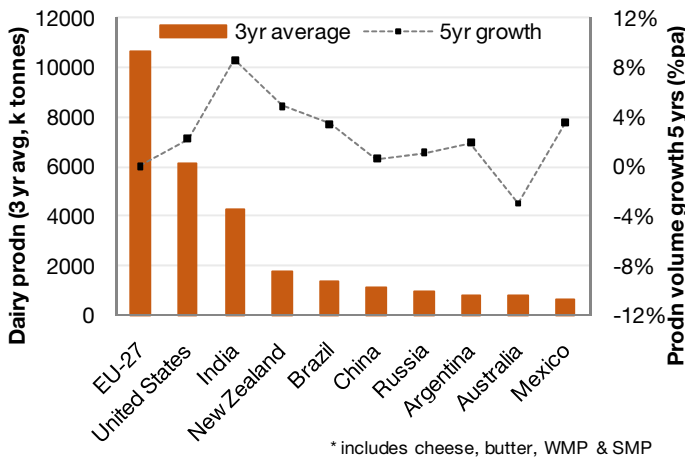


Figure 34: Dairy consumption by region

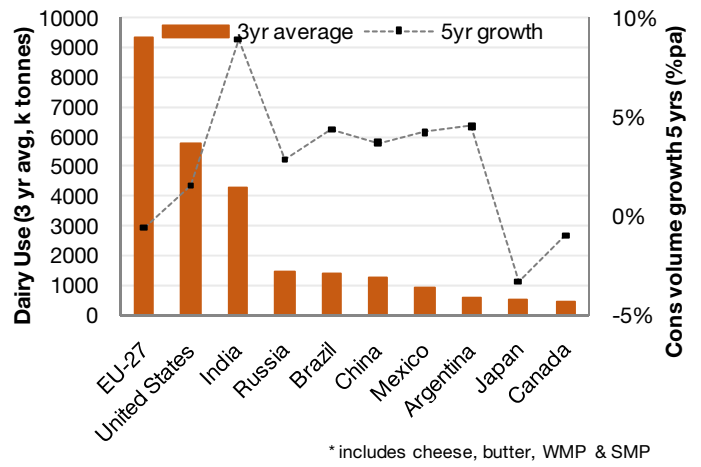


Figure 35: Butter production by region

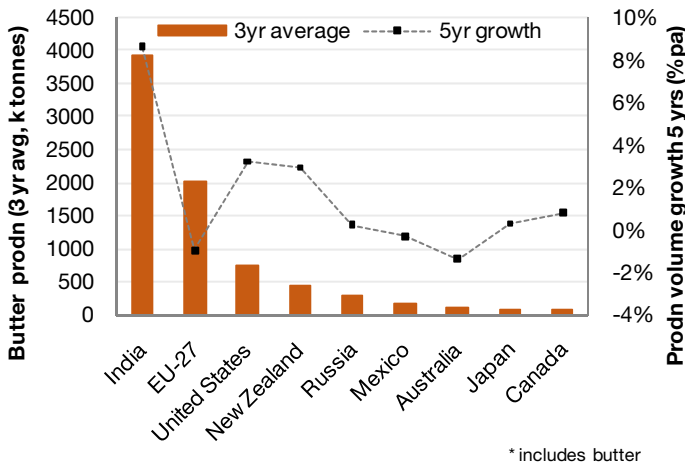


Figure 36: Butter consumption by region

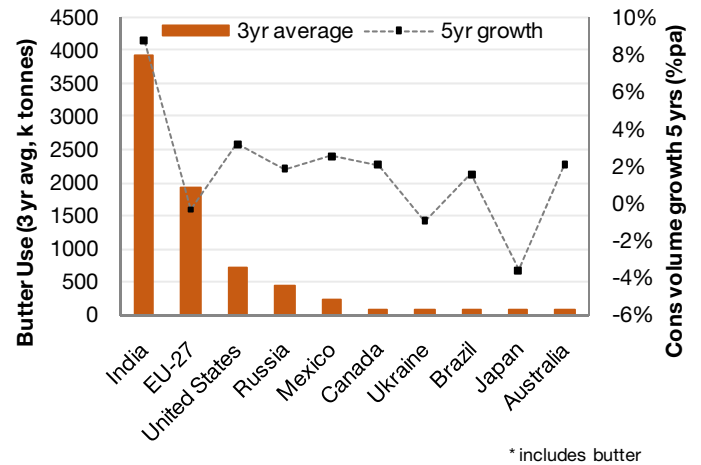


Figure 37: Cheese production by region

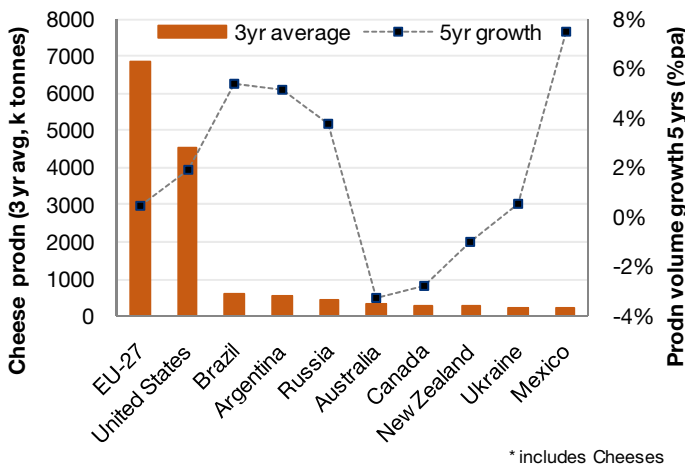


Figure 38: Cheese consumption by region

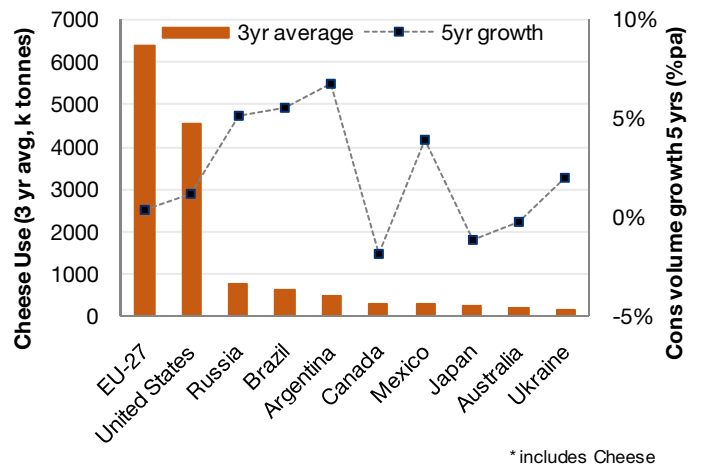




Figure 39: SMP production by region

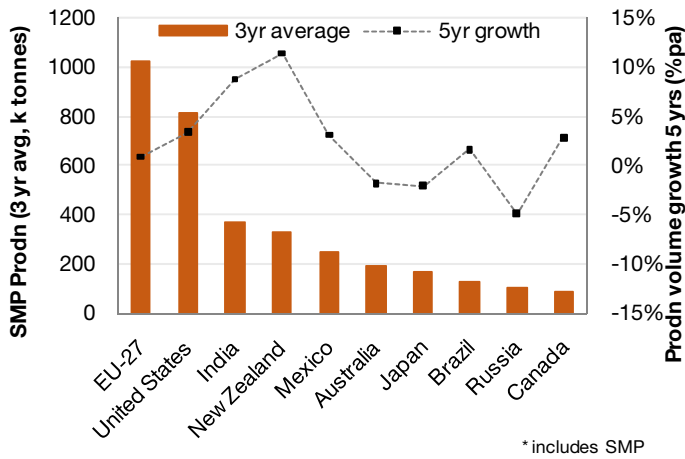


Figure 40: SMP consumption by region

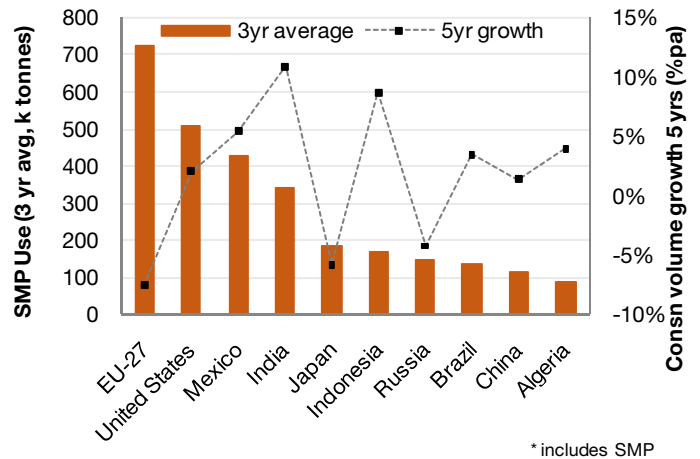


Figure 41: WMP production by region

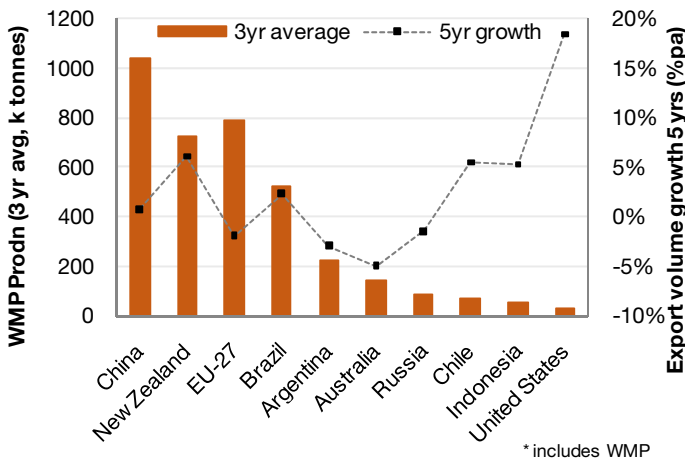
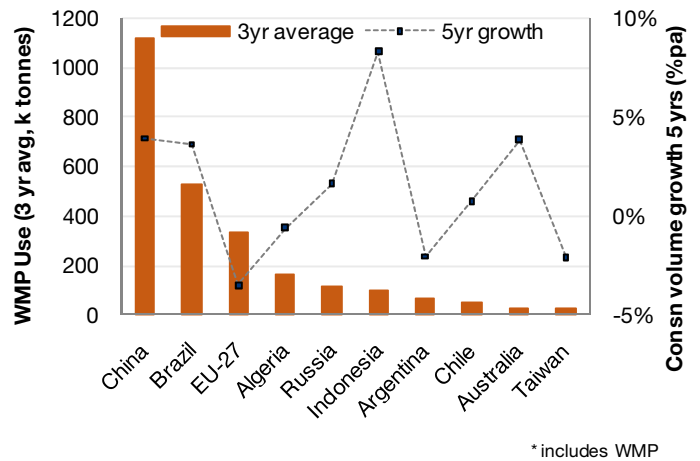


Figure 42: WMP production by region





A3: Australian and NZ dairy trade in a global context

- NZ is the largest exporter of butter with 57% market share, while Australia is ranked 3rd with 9% market share. NZ butter exports have expanded by 6% pa over the past 5 years but Australian exports fell 2%. Over the period, global trade in butter contracted 1% pa.
- NZ is the 2nd largest exporter of cheeses with 22% market share (EU-27 is ranked 1st with 42% market share). Australia is the 3rd largest cheese exporter with 14% market share. NZ dairy exports have expanded by 1% pa over the past 5 years while Australian cheese exports have fallen 8% pa. Over the period global cheese exports rose marginally.
- NZ is the world's largest exporter of SMP with 28% market share, while Australia is ranked 4th with 12% market share. NZ SMP exports have surged 11% pa over the past 5 yrs but Australian SMP exports have declined 3% pa. Global SMP trade rose 4% pa over the 5 year period.
- NZ is the largest WMP exporter with 45% market share, with Australia the 4th largest with 8% of the market. Over the past 5 years NZ WMP exports have expanded by 6% pa but Australian exports declined by 3%pa. During the same period global trade in WMP lifted by 1% pa.

Figure X: Top 5 Butter Exporters

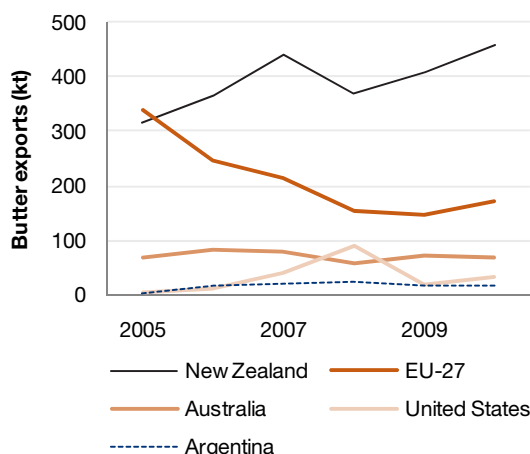


Figure X: Top 5 Cheese Exporters

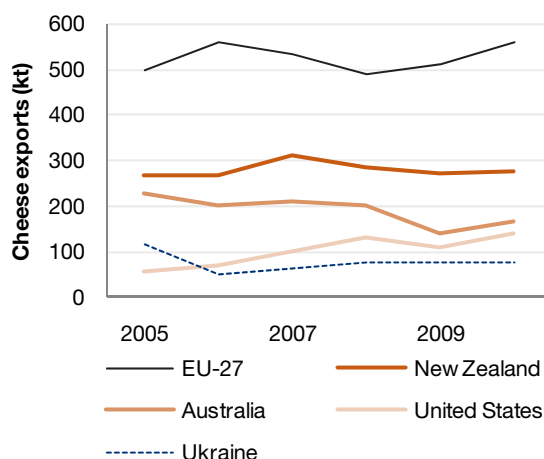


Figure X: Top 5 SMP Exporters

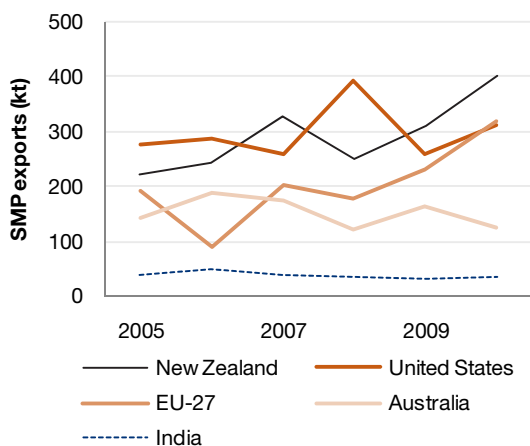
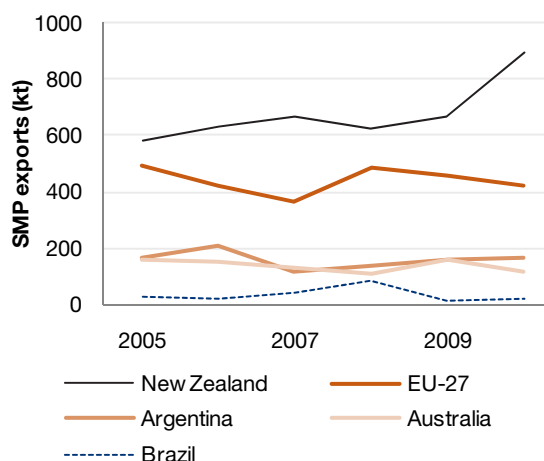


Figure X: Top 5 WMP Exporters



Source: USDA and CBA



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