



Sheep milk market assessment

Canterbury Development Corporation

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Foreword

All signals indicate that we are entering a period of unprecedented change in global agri-food systems. Each week we observe globally recognised household brands, as well as new technology start-ups, making investments to redefine and disrupt how products are grown, processed, distributed and consumed. Some are even re-defining what we understand as food. The only constant for the next decade or more will be change. The organisations likely to thrive will be those with the agility to respond to the opportunities that disruption creates.

The environment of constant change provides the backdrop to this analysis of the opportunities available to the Canterbury region in the Sheep Milking sector.

Sheep Milking is in its infancy in New Zealand. A handful of commercial farms have been developed, but much work lies ahead to shape high-value niche markets for New Zealand Sheep Milk products and to build a production sector with sufficient scale to consistently supply high quality products to these markets. While this means the industry comes with the investment risks associated with any start-up venture, it also provides pioneers the opportunity to build an industry designed from the ground up. This will allow them to own the critical junctures on the value chain; ultimately enabling them to capture more of the value their milk creates.

KPMG believes that all farmers should consistently challenge the value chains they participate in to ensure they are maximising the value they create from their business. This report was prepared to provide farmers in the Canterbury region with a perspective beyond the farm gate on the opportunities that Sheep Milking may offer.

The clear message from our analysis is that while the potential exists to create a New Zealand Sheep Milking sector of relevant scale, this will only be achieved if the new industry is built from the consumer backwards. Being prepared to invest in developing a deep understanding of markets and, more importantly, the people that will ultimately consume the product is a critical first building block in creating a high value industry. This report starts that journey for the Canterbury region.

However, understanding the market and the consumer by itself is not sufficient. The pathways from the farm to the ultimate consumer also have to be clearly defined and able to be scaled in line with the growth of the opportunity. Other regions in New Zealand have convenient access to appropriately-sized processing assets to support the growth of their businesses, with access notably missing in the Canterbury region.

While the region has significant dairy processing capacity, there are no obvious pathways for farmers and investors looking to build a Sheep Milking sector in Canterbury to access this capacity at the current time. The successful establishment of the industry in the region consequently goes beyond finding customers and building farms. It will require partnerships to be developed to establish a full value chain that can be scaled as the industry grows.

The potential of the sector has been recognised by the Government who have entered into a Primary Growth Partnership ("PGP") with Spring Sheep Dairy during the period that this report has been in preparation.

The PGP programme will see collaborative investment of over \$30 million into building some of the key foundations needed to create a robust and sustainable sector in New Zealand.

Although it comes with the risks associated with any start-up opportunity, it is exciting to invest in a project that is about shaping an industry the right way; from the consumer back.

This report highlights the potential inherent in Sheep Milk in just a few possible markets. For the Canterbury region to embrace this opportunity, it will require those with sufficient foresight to participate in an emerging sector, and the commitment and resources needed to become game-changers.

Ian Proudfoot
Global Head of Agribusiness
KPMG in New Zealand



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Project overview

Project overview

Background and context

Economic growth is critical for Canterbury Development Corporation ("CDC") to achieve its vision of the Canterbury region being recognised as the best place in Australasia for business, work, study and living by 2031.

Effective water management has been identified as a priority. With its relatively lower impact on water quality than dairy cows – and potential return on investment – sheep milk could enable long-term economic growth, whilst playing to Canterbury's traditional strengths of sheep production and research and development.

A key component of success is ensuring there is a path to market for interested farmers, producers, export marketers and other stakeholders within the value chain. Demonstrating a viable path forward, where opportunities in specific countries are identified, will build confidence for stakeholders in Canterbury and encourage investment into the sheep milking industry. Validating this market opportunity was the focus of this engagement.

Objectives of this research

The objective of this report was to answer two fundamental questions:

1. How attractive are the proposed target markets for sheep milk product producers?
2. Can New Zealand firms producing sheep milk products compete in these markets?

This was achieved by:

- Analysis of each target market for its potential and attractiveness;
- Analysis of potential product opportunities in selected markets; and
- Developing and applying appraisal criteria to market entry options.

The markets and products analysed in this research were selected based on researching emerging consumer trends and behaviour; in conjunction with discussion with key industry operators, food and beverage ("F&B") experts, export marketers, and CDC.

Markets selected for analysis

Nine countries were in-scope, based on their potential and attractiveness:

- | | |
|---------------|--------------------|
| — Japan | — Taiwan |
| — Malaysia | — Thailand |
| — Philippines | — USA (California) |
| — Singapore | — Vietnam |
| — South Korea | |

The aim was to focus on emerging South East Asian markets. Malaysia, Singapore, Philippines, Thailand and Vietnam are part of the ASEAN (Association of Southeast Asian Nations) economic community. ASEAN represents the seventh largest economy in the world, with a combined GDP of US\$2.4t, and is expected to become the fourth largest economy by 2050. It has a combined population of over 600m people, half of which will be under the age of 30 by 2020.¹

Project overview

The USA (specifically California) is also in scope. California, which has similar trends, tastes and preferences to other US West Coast markets, is recognised as an early adopter of new products and a leader in lifestyles of health and sustainability ("LOHAS"). This demographic has an interest in sustainable living, "green" ecological initiatives, and is characterised by a relatively wealthy and well-educated population.

China was deliberately excluded from this research. Given there has been significant research and trade between the two countries in the traditional dairy sector, we sought to establish sheep milk products in alternative markets with a focus on value.

From the results of our initial market scan, we then selected three markets (California, Singapore and Taiwan) to perform a deeper analysis.

Products selected for analysis

Six products were selected as the focus of our research:

- Yoghurt
- Ice cream
- Fresh milk
- UHT milk
- Cheese
- Infant formula

Nutraceutical products were identified as an opportunity during our research and as such we have provided high level discussion on this area.

Our focus is on value-added (driven by product attributes and format) products, rather than traditional high-volume, low-margin dominated products such as milk powder. Given the research constraints, we had to limit the number of products analysed in each market.

Research method

The objective was to research and provide insights into international food and beverage trends, with a focus on sheep milk products. We utilised KPMG's Global Head of Agri-business, KPMG's Asia Pacific Food and Beverage team, subject matter experts, industry operators, and selected databases.

A combination of quantitative and qualitative research was employed. To gain deeper insight into the global trade of sheep milk, we held interviews with stakeholders and industry experts. KPMG did not visit each market; our research relied on analysis of trade data, published research and KPMG market analysis.

Exclusions and limitations

Specifically excluded from the scope of this research is the on-farm operations, and considerations of industry structure. No analysis of on-farm production costs and margins has been conducted. However, in order to provide context to the report, we have provided comment on composition characteristics of sheep milk and on-farm considerations at a high level.

The scope of this report excluded in-country analysis or direct consumer/distributor interviews. As such, KPMG did not conduct any direct in-market analysis. To mitigate this, we utilised the KPMG international network in the selected countries in Asia and North America, and sought opinion from New Zealand Trade and Enterprise ("NZTE"), as well as industry exporters.

Tariff rates are subject to change, and should be re-visited on a regular basis. In addition, tariff codes for processed products differ according to a range of factors, including processing method and fat levels. Tariff codes for dairy products are generally not restricted to products of a single species, therefore the codes used in our analysis represent general dairy products except where species specific codes were identified and applied. We have included a sample tariff code for a range of processed dairy products.

We conducted a high level overview of the health claims, policies and regulations across a range of markets. This is a technical and rapidly changing area. Our research provides indicative trends only and should not be used to make commercial decisions (e.g. with regard to packaging, labelling, advertising etc).

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Executive summary

Executive summary

Market prioritisation

Short term

Taiwan – This market offers clear tariff advantage and market access, with steady growth in dairy categories. New Zealand has a positive image and high preference towards food safety. New Zealand is currently exporting sheep milk products into this market in small volumes.

Singapore – This market offers clear tariff advantage with a Free Trade Agreement eliminating all tariffs. There is a strong consumer preference towards health food and beverage consumption. A high proportion of imports in F&B originate from New Zealand. Market access is viable through health and beauty distribution channels.

Medium term

California, USA – While the TPP was still active at the time of researching this report, recent election results in the USA have made it clear that the TPP will not be ratified. Nevertheless, the Californian market presents a significant opportunity for the industry. In order to penetrate this market, there will need to be a continuous supply. This is unlikely given current New Zealand production levels and the mix of products at present. However, this is expected to change as volume increases with time.

Even with current tariffs on sheep milk-based products, the premium end of the market remains viable. California has a strong lifestyle of health and sustainability (LOHAS) demographic. California contains a particular market segment that emphasises sustainable living and where there is strong social media influence on what people buy. Distribution should be sought through health and beauty stores and premium grocery channels.

Longer term

Malaysia – This market has a developing retail environment with open access, existing exports into the market, and positive perceptions of New Zealand. However, there are barriers arising from traditional operating models; and sub-standard cool supply chains remain prevalent.

Thailand – While tariffs are being eliminated over time, there is moderate infrastructure development in this market, and a fairly low level of suitable partners.

South Korea – This market is not traditionally an early adopter in the food and beverage space. Generally, the product is required to be well-proven in other markets first i.e. Japan, USA, before it will be adopted in South Korea. Therefore, brand investment will be a significant cost in this market.

Japan – There is no current FTA with Japan and it is a highly-fragmented retail environment. On the positive side, the country's ageing population is increasingly focused on health benefits and this provides an opportunity to enter into the nutraceutical market.

Non-Tariff Barriers (NTB)

Several factors that may limit exports of sheep milk into certain markets for reasons other than tariff barriers have been considered throughout this report. These include:

Health – The emphasis a growing number of consumers across the markets are beginning to place on healthy food and drink options may reduce the viability of perceived 'fatty' or otherwise unhealthy products. For instance, the emerging middle class in South East Asia are actively embracing 'healthy' products, formerly unavailable to most (e.g. dairy).

Food Regulations – There are regulatory requirements to ensure food safety and standards in each of the markets assessed. These can be onerous and costly. This includes stipulations on how the goods are produced, manufactured and exported. In some countries such as Singapore, the factory where the products are produced require a 'factories licence' along with 'Health Certificate's' and 'Good Manufacturing Practises' which are approved by the appropriate authorities of the exporting country.

Logistics – Supply chain considerations for physically exporting milk can rule out a number of destinations immediately, especially those countries that demand fresh milk over powder, it may be too costly to make exporting viable. Finding the right supply chain partner can be an on-going challenge.

Corruption – Operating and financial risks may be too great to enter a market despite an attractive outlook for demand, e.g. high corruptions levels in Vietnam are a significant factor compared to somewhere like Singapore.

Consumer trends – Throughout the report regional food and beverage trends are discussed, serving as an important indication of what is likely to be attractive and equally unattractive to consumers, hence forming a barrier to entering markets.

Varying international jurisdictional definitions/laws – May prohibit products from being exported to some locations, that are permissible elsewhere. For instance in Taiwan, because the fat content of sheep milk is much higher than other dairy products, there is the potential for trans-fat levels to exceed regulated levels. The characteristics of sheep milk need to be explained to Taiwanese regulators in order for them to understand the rationale for any exceeded levels.

Executive summary

Key findings: current consumer perceptions

Increased awareness of organics across all markets was an emerging trend. There is also an increased focus on traceability and food standards, greater convenience, smaller volumes and packaging. There is an increase in discerning consumers who are focused on quality and nutritional benefits, and are willing to pay a premium for these attributes.

Convenience is a key consumer trend. Products which are able to be consumed with minimal preparation are likely to be successful. For sheep milk products this may mean, once viable, fresh milk is preferred over milk powder. Other products such as yoghurt and ice-cream are seen as convenient already.

Functional foods and beverages that incorporate nutrients with specifically identified health benefits represent a growing global market. Sheep milk products can serve this market by contributing to a balanced diet for the busy consumer, whilst also providing the convenience as noted.

In the markets analysed, there is **a lack of consumer knowledge** around the range of health benefits or composition differences between sheep milk and established cow/goat milk or non-dairy alternatives.

In Asian markets analysed (Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam), consumer demand for **alternative dairy products**, which have lower lactose levels, was largely associated with health benefits (such as being 'easier' on the digestive system).

Given sheep milk's composition, it is in a strong position to compete in this market against alternative dairy products such as soy and other plant-based products.

Key findings: educating consumers

The market requires **education to differentiate sheep milk** from dairy cow or goat milk. If consumers do not understand the difference, and thus the price differential, the price premium will be restricted to a similar level.

To create differentiation and maintain higher margins, the range of sheep milk products needs to **promote the composition differences** in a way that resonates with consumers and segments in each market (e.g higher proteins and other nutritional benefits).

Considerable expenditure and promotion to educate consumers is required. To a certain extent, such education of the market is being carried out in Taiwan, with some New Zealand producers penetrating the market.

Key findings: market positioning

New Zealand sheep milk must be **differentiated on two fronts**. Firstly, the composition of sheep milk versus other milk and alternative milk sources. Secondly, telling the 'New Zealand Story' is important, in ways that are relevant and connect with the end consumers.

Initially products should be **marketed in small segments** and then refined based on in-market feedback. This emphasises the importance of having **in-market staff presence** or alliances to enable the ease of transfer of insight into future product development and innovation.

Interviews and research confirmed there are currently no UHT sheep milk products produced in New Zealand. However, fresh milk appears to be a less viable product to export than others analysed, given current production cycles and shelf life. Research is being conducted to determine whether UHT sheep milk is viable; and what the impact on flavour will be, given the different composition (including higher fat content) when compared to cow dairy.

Given that European sheep milk production has well-established volumes and yields, New Zealand production will not be able to compete effectively based on volume in the short term.

Interviews with industry experts and subsequent analysis indicate the following are **key market differentiators** for New Zealand:

- Animal welfare
- Sustainability
- Pasture-fed animals
- Food safety and quality control
- New Zealand's "pure" brand perception.

Research is currently being undertaken to identify any composition differentials between New Zealand sheep milk and offshore sheep milk through AgResearch.

Executive summary

Key findings: products

The **USA is forecast to be the leading dairy retail market** for the sale of yoghurt, ice cream and drinking milk products between 2017 and 2021. Nearly 16,000,000 tonnes of drinking milk products, and over 2,000,000 tonnes of yoghurt and ice cream are forecast to be sold through retail channels. Over 1,800,000 tonnes of cheese products and 140,000 tonnes of infant milk formula are also forecast.

Drinking goat milk is forecast to grow at 0.8% compounded annual growth rate (CAGR), nearly 7,000 tonnes over the same period. Goat milk can be used as a proxy for the potential market demand for sheep milk and the volumes required.

Taiwan has total forecast retail sales of 370,000 tonnes of drinking milk products between 2017 and 2021. Goat milk is forecast to represent 1.2% of this demand (4,600 tonnes). Yoghurt is forecast to represent the highest sales over the forecast period with 120,000 tonnes. Infant milk formula is a growing segment with 15,000 tonnes forecast over the period at a CAGR of 2.5%.

Singapore, though a smaller market than Taiwan, is also attractive. Consumers are willing to spend more on premium packaged food which they perceive to be healthier than standard items; and this provides a unique opportunity to trial higher margin products.

Goat milk volume is forecast at 335 tonnes (0.4% of total drinking milk sales). Cheese volumes are forecast to achieve a CAGR of 2.3% (over 3,500 tonnes), however this category is dominated by European manufacturers.

Yoghurt (20,000 tonnes), infant milk formula (4,400 tonnes) and ice cream (6,000 tonnes) may provide better volume opportunities for New Zealand producers to target. Ice cream and yoghurt are expected to achieve a CAGR of 3.4% and 3.1% respectively between 2017 and 2021.

The forecast volumes between 2017 and 2021 for Singapore and Taiwan demonstrates **these markets have demand** for the products considered. These two markets are best suited as potential pilot markets, with important influencing roles across Asia.

Until production levels can be reached to sufficiently penetrate and supply larger markets such as California, USA, these **two pilot markets should be treated as a priority**.

Quotas - There are specific dairy quotas in the markets assessed. Many of the quota's identified do not differentiate between milk types and are aggregated as dairy. Producers, exporters and marketers need to be aware of these before entering a market.

Key findings: distribution

Emerging e-commerce is disrupting the F&B industry. **Online distribution** channels for F&B are particularly prevalent in California and Taiwan. For all the markets analysed, **partnering with a local distributor** or category manager is seen as imperative.

To educate, create differentiation and maintain higher margins, **distribution through health and beauty stores** for appropriate products (e.g infant formula and nutraceuticals) should be considered.

The **Food Service and Ingredient markets are traditionally very fragmented channels** to market, with a high cost to serve. These channels require scale to be effective and raw product levels generally need to be greater than 10,000 tonnes per annum in one market to create an impact.

Opportunities exist to enter the USA once a full-scale sheep milking industry in New Zealand is created. Innovative companies are already using chefs to promote product to consumers.

Key findings: free trade agreements

Existing Free Trade Agreements (**"FTAs"**) **present opportunities**. Of the in-scope countries, New Zealand has FTAs with Singapore, Malaysia, Taiwan and Thailand.

New Zealand also has an agreement with ASEAN (Association of South East Asian Nations) through the AANZFTA; which includes Myanmar, Laos, Thailand, Vietnam, Cambodia, Philippines, Brunei, Malaysia, Singapore, Indonesia and Australia.

New Zealand is currently the only Western country with a developed agricultural sector to have signed a **detailed FTA with Taiwan**.

Given the result of the recent USA election, the **Trans-Pacific Partnership Agreement (TPP) will not be ratified in its current form**. It is likely that some countries will seek bilateral trade deals on the basis of some TPP terms. Countries analysed in our research which were part of these negotiations include Japan and the USA.

Executive summary

Next steps:

Singapore and Taiwan offer attractive markets in which to pilot sheep milk products, but may not have the capacity to absorb the output from a full-scale production facility (~10,000 tonnes per annum). This, combined with the reality that full-scale production is not likely to be viable in Canterbury for at least two years, means it would be prudent for the industry to take a staggered approach to development. See Appendix 5 for an overview of the sheep milk industry.

The **scale and structure necessary** for the industry to be competitively viable – including farming methods, processing capacity and marketing – is the subject of the recently announced Primary Growth Partnership between MPI and the Spring Sheep Milk Company. This PGP should provide a deeper understanding of the viability of producing specific sheep milk products and the impact on taste and texture. See Appendix 3 and 4 for a potential timeline for the industry and an overview of the PGP.

In addition, whether through the PGP or otherwise, consideration needs to be given to:

- Developing **nutraceutical and health products** that are sheep milk based. This is a developing area in which products can command higher margins.
- The role of **e-commerce in the distribution** of nutraceutical products, as well as cold and fresh products such as ice cream, yoghurt and fresh milk.
- **The active promotion of health benefits** and composition differences between sheep and other types of milk to educate consumers. In Western countries, this should focus on the higher protein content of sheep milk. In Asian countries, it should focus on the ease of digestion, and the viability for those who are lactose-intolerant. In all countries, it should highlight the nutritional make-up when compared to plant-based milk alternatives and traditional dairy.
- Continual **monitoring of markets analysed for emerging trends** affecting the in-market viability of sheep milk. Particularly relevant are income and population growth; as well as close monitoring of any potential free trade agreements which will significantly enhance the attractiveness of a market, particularly Japan and the USA.
- Continuing to **educate the industry to be 'market and demand-driven'**. In particular, avoiding intensive milking to take advantage of New Zealand and sheep milk's environmentally clean image. Careful management of supply will assist with retaining margins and ensure as much of the supply chain value is created in New Zealand as possible.
- **Price point** analysis by products category, origin, distribution method and size. This provides an indication on the margin NZ sheep milk may be able to sell for internationally.
- The **establishment of in-market staff presence** and alliances in potential markets. Use these connections to evaluate paths to market and potential channel partners as well as gather feedback on marketing from customers and consumers to ensure the 'New Zealand Story' is fully capitalised on.
- Invest in creating **world-class quality assurance systems** in New Zealand to allow sheep milk products to pass regulatory requirements and build consumer trust in new products.
- **Other ASEAN markets**, such as Indonesia should be considered in future market analysis. Qualitative and quantitative consumer insights need to take place prior to market entry plans being finalised.

3

Macro market assessment - summary

Target market potential

Presented in the adjacent table is a summary of market attractiveness for stated markets. This is based on the selected criteria of: i) Ease of access ii) Economic considerations and iii) Consumer demand. Each key influence within the criteria has been ranked out of 10; with 10 being 'attractive', and 1 being 'deterrent'. These have then been aggregated visually on the graph below to assist in determining which markets to analyse further.

The rankings are based on professional judgement in conjunction with a review of industry information, in-country experts and New Zealand exporters among other sources.

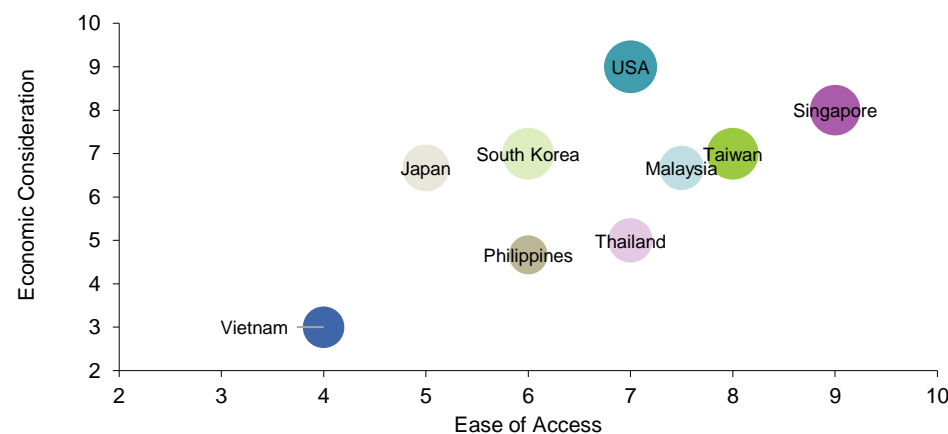
In compiling our ease of distribution scores we have given rankings of each markets infrastructure development. We have indicated low, medium or high infrastructure development; these rankings were determined by considering each market's efficiency of customs and border clearance, quality of trade and transport infrastructure, ease of arranging international shipments, tracking and tracing consignments, timeliness of international shipments and quality of logistics services.

The following pages provide high level commentary on the market criteria for each country. Please refer to Appendix 1 for underlying Market Potential analysis in each market.

Criteria ranked out of 10 (10 – attractive, 1 – deterrent)	Ease of access			Economic considerations				Consumer demand			
	Ease of Trade – barriers to entry	Ease of distribution	Average – Access	Economy	Operating and financial risks	Population demographics	Average - Economic and risk	Growth across product categories	Consumption of non-dairy alternatives	Consumer trends, taste and buying behaviour	Average - Demand
Japan	3	7	5.0	8	7	5	6.7	7	5	7	6.3
Malaysia	9	6	7.5	6	7	7	6.7	7	5	5	5.7
Philippines	8	4	6.0	5	2	7	4.7	4	5	4	4.3
Singapore	9	9	9.0	8	9	7	8.0	7	8	7	7.3
South Korea	4	8	6.0	7	8	6	7.0	7	8	8	7.7
Taiwan	9	7	8.0	7	7	7	7.0	7	8	8	7.7
Thailand	8	6	7.0	4	5	6	5.0	6	6	5	5.7
USA (California)	4	10	7.0	9	9	9	9.0	7	8	9	8.0
Vietnam	4	4	4.0	4	1	4	3.0	5	6	4	5.0



Source KPMG analysis

Market Attractiveness





Source KPMG analysis. Note: Size of bubble = Average demand

Overview of markets - criteria for success

	Ease of access		Economic considerations			Consumer demand		
	Ease of Trade – barriers to entry	Ease of distribution	Economy	Operating and financial risks	Population demographics	Growth across product categories	Growth in non-dairy alternatives	Consumer trends, taste and buying behaviour
 Japan	<ul style="list-style-type: none"> – No Free Trade Agreement – TPP, given USA election results, is unlikely to come into force. – Significant tariffs of 0-40% on dairy – NZ's 4th largest export trading partner – Cheese amongst top exports 	<ul style="list-style-type: none"> – Mainly modern and intermediate (convenience trade) – but highly developed – Modern trade and overall distribution highly fragmented – High infrastructure development – Moderate number of suitable partners – Very high quality/ experience standards 	<ul style="list-style-type: none"> – Second largest consumer market – GDP \$4.1t – Expected growth 0.7% – Developed economy – GNI per capita \$42,000 	<ul style="list-style-type: none"> – OECD High income – Ease of doing business rank: 34/189 – Consumption fell by 1.8% in 2015 – Increased income inequality – partly driven by high proportion of pensioners – Low corruption – High cultural barriers to foreign market entrants 	<ul style="list-style-type: none"> – Population expected to decrease by 7.7% by 2030 – Population: 127.1m – Largest household savings base – Aging population, soon to become the world's oldest, hence a large focus on eating for health – Highly educated population 	<ul style="list-style-type: none"> – Penetration of wine and cheese culture lead to increased consumption of cheese – Declining birth rates, however supplementing breast feeding with formula – Health benefits of yoghurt ensure stable growth 	<ul style="list-style-type: none"> – Consumption of soy milk rose by 8% in 2015 	<ul style="list-style-type: none"> – Traditionally known for willingness to pay for premium, consumers are becoming more value conscious – Strong focus on health and wellbeing, seen with demand for probiotic yoghurt drinks – Freshness and origin very important attributes and heavily influence purchasing decisions – Consumers demand quality, and spend more of their disposable income on consumer goods than other comparable markets – Digital consumer – highly influenced by marketing
 Malaysia	<ul style="list-style-type: none"> – FTA eliminates 99.5% of tariffs on NZ exports – NZ's 11th largest export trading partner – Milk powder, butter and dairy predominant exports 	<ul style="list-style-type: none"> – 50/50 split of modern vs traditional trade – Trade is highly influenced by region – High infrastructure – Moderate number of suitable distribution partners – Highly fragmented retail food sector 	<ul style="list-style-type: none"> – GDP \$296b – Expected growth 5.2% – Developing economy – GNI per capita: \$10,601 	<ul style="list-style-type: none"> – Upper middle income – Ease of doing business rank: 18/189 – One of the lowest corruption rankings in Asia Pacific, although the recent 1MBD scandal is rapidly changing this perception – High youth unemployment – Decline in ease of obtaining credit 	<ul style="list-style-type: none"> – Rapid urbanisation over next 15 years – Population: 30.2m – Muslim majority, Halal practices need to be applied – F&B import \$/capita: \$424 (total \$12.0b) – A high proportion of imports in F&B originate from NZ 	<ul style="list-style-type: none"> – Increased demand for yoghurt as prices affordable for all consumers – Increased awareness of health benefits of milk products – Growth in infant formula despite priority to breastfeed 	<ul style="list-style-type: none"> – 6% current value growth in 2015 – Soy products dominate and are considered healthier 	<ul style="list-style-type: none"> – Halal certification – considerations for sheep milk products include how milk is produced, additives, animal products etc. – Urbanisation and rising income resulting in demand for healthy, fresh and natural food – Consumers remain price sensitive – Busy lifestyle, tend to dine out daily – High growth in 'health benefit' linked beverages from emerging middle class



Note: All amounts in US\$ unless otherwise stated

Overview of markets - criteria for success

	Ease of access		Economic considerations			Consumer demand		
	Ease of Trade – barriers to entry	Ease of distribution	Economy	Operating and financial risks	Population demographics	Growth across product categories	Growth in non-dairy alternatives	Consumer trends, taste and buying behaviour
 Philippines	<ul style="list-style-type: none"> – AANZFTA in force – Tariff rates 0-5% on dairy, with eventual elimination – NZ's 18th largest exports market – 75% of exports are dairy based 	<ul style="list-style-type: none"> – Mainly traditional trade – low suitability for premium products – Modern trade mainly 'cash and carry' – Moderate infrastructure development – Moderate number of suitable partners 	<ul style="list-style-type: none"> – GDP \$292b – Expected growth 7.1% – Developing economy – GNI per capita: \$7,340 – Highly dependent on import of dairy (95% supplied by export) 	<ul style="list-style-type: none"> – Lower middle income – Ease of doing business rank: 103/189 – Difficult to obtain credit – High poverty levels – Easing of FDI restrictions 	<ul style="list-style-type: none"> – Population: 30.2m – F&B import \$/capita: \$65 (total \$6.1b) – Young population, over half under 23 	<ul style="list-style-type: none"> – Slow growth in cheese indicative of preference for more affordable brands – Consumer base for yoghurt expected to grow 	<ul style="list-style-type: none"> – Milk alternatives available in grocery stores, mostly in ready-to-drink format – Soy milk most widely available – Purchase driven by lactose intolerance or through positioning of product as healthy or an energy booster 	<ul style="list-style-type: none"> – High demand for international food and beverage, particularly those with 'health benefits' by rising middle class – Growing health consciousness is continuing to drive healthier choices by consumers
 Singapore	<ul style="list-style-type: none"> – FTA eliminates all tariffs – NZ's 7th largest export trading partner – 43% of exports to Singapore are dairy 	<ul style="list-style-type: none"> – Largely modern trade – Most traditional trade highly developed – High infrastructure development – Large number of suitable partners – Dynamic, diverse and extremely competitive retail food market 	<ul style="list-style-type: none"> – GDP \$293b – Expected growth 2.8% – Developed economy – GNI per capita: \$55,150 	<ul style="list-style-type: none"> – Income category: high income – Ease of doing business rank: 1/189 – Government strategy to increase trade with Asia Pacific countries – High quality infrastructure – High skill shortage – Low corruption 	<ul style="list-style-type: none"> – Population: 5.7m – Aging population – F&B import \$/capita: \$1,826 (total 9.1b) – A high proportion of imports in F&B originate from NZ – Singapore's stated goal is to become more food self-sufficient, heavy investment in non-traditional farming 	<ul style="list-style-type: none"> – Consumption of yoghurt and cheese expected to grow, driven by interest in Western cuisine – Singapore imports most of its cheese products from other countries – Local consumers are very familiar with international brands and are adept at distinguishing a product's country of origin 	<ul style="list-style-type: none"> – Growth of 4% in milk alternatives category – Strong performance from soy attributed to familiarity and popularity – Rice milk and other alternatives for lactose intolerant remains niche 	<ul style="list-style-type: none"> – Large proportion of food imported – Consumers are adept at distinguishing country of origin. NZ held in high regard – Digital consumer – highly influenced by marketing – Consumers seek products that are healthy, convenient and require little preparation – Tendency to eat out or purchase ready-to-eat – Consumers increasingly Westernised, driving increased consumption of high-value dairy goods – Healthy eating trend well-established and growing demand for organic



Note: All amounts in US\$ unless otherwise stated

Overview of markets - criteria for success

	Ease of access		Economic considerations			Consumer demand		
	Ease of Trade – barriers to entry	Ease of distribution	Economy	Operating and financial risks	Population demographics	Growth across product categories	Growth in non-dairy alternatives	Consumer trends, taste and buying behaviour
 South Korea	<ul style="list-style-type: none"> – KNZFTA reduces tariffs. Despite this, still subject to significant tariff – Currently tariff free for very few products (whole milk powder and butter only) in quota – Majority of high-value goods subject to tariffs of up to 40% in quota. This increases to up to 176% out of quota – NZ's 6th largest export destination (mostly dairy) 	<ul style="list-style-type: none"> – Mainly modern and intermediate (convenience trade), but highly developed – High infrastructure development – Moderate number of suitable partners 	<ul style="list-style-type: none"> – GDP \$1.4t – Expected growth 2.8% – Developing economy – GNI per capita: \$27,253 – Imports more than 70% of food and agricultural products 	<ul style="list-style-type: none"> – High income – Ease of doing business rank: 4/189 – Household debt countries to rise and suppress consumer spending – High domestic protection of agriculture – Imports of many products face restrictive barriers (with food safety issues contributing to this) 	<ul style="list-style-type: none"> – Population: 50.6m – Highly educated population – Large imbalances in inequality, half the elderly living in poverty – One of the most rapidly aging populations globally – More urbanized than the Asia Pacific average 	<ul style="list-style-type: none"> – Demand for cheese growing, after decline in recent years – Growth in organic ice-cream stores, organic milk products etc. – Increasing demand for plain, natural yoghurt aligned with consumer health trends 	<ul style="list-style-type: none"> – Goat milk infant formula, classified as a premium, has experienced positive growth due to expanding number of suppliers – Decreased demand for soy milk products, despite new product launches to appeal to younger consumers 	<ul style="list-style-type: none"> – Digital consumer – highly influenced by marketing – Rapid evolution of South Korean retail food sector in recent years – Growing demand for high quality products and new taste experiences – Strong consumer demand for value, convenience, diversity and quality has strengthened demand for imported food – Heavy emphasis on healthy eating, and rapid growth in online demand rooted partly in the demand for convenience
 Taiwan	<ul style="list-style-type: none"> – ANZTEC trade agreement eliminates tariffs on all dairy products – NZ's 10th largest export market – NZ is the largest exporter of dairy to Taiwan 	<ul style="list-style-type: none"> – Mainly modern and intermediate (convenience trade), but highly developed – High infrastructure development – Moderate number of suitable partners 	<ul style="list-style-type: none"> – GDP \$523b – Expected growth 2.2% – Developing economy – GNI per capita: \$22,598 – Small agriculture sector, dependence on imports expected to grow 	<ul style="list-style-type: none"> – High income – Ease of doing business rank: 11/189 – Growing Chinese influence, the recent USA election may impact this and re-define 40 years of political understanding – High cost of housing limits disposable income – Heavily export reliant (two thirds of GDP) 	<ul style="list-style-type: none"> – Population: 23.4m – Highly educated population – 17% of the workforce employed at minimum wage – Aging population – One of the highest population densities in Asia 	<ul style="list-style-type: none"> – Strong retail value growth of infant formula powder, and growth in organic baby food – Growth of cheese attributed to wider product availability and a home baking trend 	<ul style="list-style-type: none"> – Growth in non-dairy alternatives largely driven by concern over food safety – 4% growth during 2015 – Consumption of goat milk forecast to decline, while soy milk consumption grows 	<ul style="list-style-type: none"> – Digital consumer – highly influenced by marketing – Ready-to-eat products in high demand – Aging demographic is expected to lead a trend towards opportunities in health and wellness products – Due to food safety scandals, emergence of premium imported brands, and preference for these from consumer, particularly in infant formula – Potential for cheese continues to grow as consumers become more sophisticated and adopt more Westernised eating habits


Note: All amounts in US\$ unless otherwise stated

Overview of markets - criteria for success

	Ease of access		Economic considerations			Consumer demand		
	Ease of Trade – barriers to entry	Ease of distribution	Economy	Operating and financial risks	Population demographics	Growth across product categories	Growth in non-dairy alternatives	Consumer trends, taste and buying behaviour
 Thailand	<ul style="list-style-type: none"> AANZFTA eliminating tariffs on 99% of exports 0-30% tariff rate on dairy in quota Exported goods subject to very high tariff (90%) if out of quota NZ's 16th largest export trading partner Milk powder and other dairy products are prominent exports 	<ul style="list-style-type: none"> High intermediate trade (convenience) Modern trade mainly 'cash and carry' and accounts for approximately 70% of shoppers Low suitability in traditional trade (wet markets) for premium products Moderate infrastructure development Moderate number of suitable partners 	<ul style="list-style-type: none"> GDP \$395b Expected growth 3.8% Developing economy GNI per capita: \$5,410 	<ul style="list-style-type: none"> Upper middle income Ease of doing business rank: 49/189 Becoming more difficult to obtain credit Attractive FDI incentives 	<ul style="list-style-type: none"> Population: 67.2m Aging population F&B import \$/capita: \$114 (total \$7.3b) 	<ul style="list-style-type: none"> Growth in milk alternatives market Although Thai consumers do not typically consume high-value dairy goods such as cheese, demand is growing. Likely to be consumption by urban Thai residents, foreigners and expats. High price deters most locals Consumers in urban areas more willing to spend on imported foods 	<ul style="list-style-type: none"> Goat milk growth of 12% in 2016 due to increased awareness and education by manufacturers Soy is the most popular alternative, with rice milk, oat milk and almond milk also widely available Generally sold at premium retailers Promoted for consumers allergic to dairy Typically, lactose intolerant tend to avoid dairy although, not familiar with alternatives 	<ul style="list-style-type: none"> High demand for international food and beverage, particularly those with 'health benefits' by rising middle class Consumers willing to pay more of reformations or exciting new flavours Premium brands catering to a niche consumer group growing in popularity, but still remain limited Consumers becoming increasingly aware of nutritional benefits of yoghurt resulting in increased demand Consumers' rising health consciousness may have a negative impact on sales of ice cream Willingness of younger consumers to try new products and trends that align with Western lifestyles Well developed food service industry, growing tourism and resulting demand for imported food
 USA (California)	<ul style="list-style-type: none"> No Free Trade Agreement – TPP unlikely to come into effect given the recent USA political landscape Moderate tariffs on all dairy, approx. 25% for high value dairy products NZ's 3rd largest export trading partner, major market for agricultural products Complex tax system (40% corporate tax rate) Strict regulations on dairy imports 	<ul style="list-style-type: none"> High focus on modern trade High infrastructure development Large number of suitable distribution partners 	<ul style="list-style-type: none"> GDP: \$18t Expected growth 2.1% Developed economy GNI per capita: \$55,201 30% of worlds consumer market California – 10th largest economy if a nation Economic pace will be greater than USA, as a whole, over next 5 years Significant water challenges in California 	<ul style="list-style-type: none"> OECD high income Ease of doing business rank: 7/189 Increase in difficulty of starting a business since 2008 Increase in lending rates in 2016 may put pressure on private investment 	<ul style="list-style-type: none"> Population: 318.9m Large proportion (66%) of population between 15 and 64 years California most populous USA state: 33.1m 	<ul style="list-style-type: none"> Some growth in high-value products – cheese and yoghurt Potential for growth in premium, organic varieties Demand for cheese and yoghurt expected to continue growing as consumers become more knowledgeable Growth in niche high-end brands 	<ul style="list-style-type: none"> 13% growth in 2015 Soy and almond milk most popular Goat milk consumption increased by 33% since 2007 Non-dairy ice cream emerging 	<ul style="list-style-type: none"> World's largest consumer of sheep milk products, consumes over 50% of world's production of cheese (sheep milk) Health and wellness consumers play influential role in defining food culture Organic and lactose free are key players in premium segment Premium brands in cheese are typically imported. Compete on the basis of high-quality ingredients and the artisan nature of the cheese makers Premiumisation of ice-cream sector -consumer more likely to buy less, but premium quality product

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Overview of markets - criteria for success

Ease of access			Economic considerations			Consumer demand		
	Ease of Trade – barriers to entry	Ease of distribution	Economy	Operating and financial risks	Population demographics	Growth across product categories	Growth in non-dairy alternatives	Consumer trends, taste and buying behaviour
 Vietnam	<ul style="list-style-type: none"> Regional FTA eliminates most tariffs (7% maximum milk current) NZ's fastest growing two-way trade relationship in SE Asia Dairy products are NZ's top exports to Vietnam 	<ul style="list-style-type: none"> High intermediate trade (convenience) and traditional trade Low suitability in traditional trade for premium products Low infrastructure development Low number of suitable partners 	<ul style="list-style-type: none"> GDP \$193b Expected growth 6.7% Emerging economy GNI per capita: \$1,968 	<ul style="list-style-type: none"> Lower middle income Ease of doing business rank: 90/189 High government interference in labour markets, low unemployment High corruption 	<ul style="list-style-type: none"> Population: 93.5m F&B import \$/capita: \$46 (total \$4.0b) High poverty levels, however rising income levels and young population 	<ul style="list-style-type: none"> Increasing consumption of yoghurt linked to health trends and rising consumer awareness Younger consumers more willing to pay for premium ice-cream brands Rising exposure to Western culture is driving demand for cheese 	<ul style="list-style-type: none"> Rapid current retail value growth in dairy alternatives, 25% for 2015 Main driver of growth is consumption of imported red bean milk 	<ul style="list-style-type: none"> High demand for international food and beverage, particularly those with 'health benefits' by rising middle class Health and wellness trend driving increased consumption of milk and milk products Consumers prefer to purchase liquid milk for infants due to convenience and affordability Higher disposable incomes and rising number of consumer food services contributing towards a trend in more premium products such as ice cream

Note: All amounts in US\$ unless otherwise stated

Forecast Retail Dairy Growth - Selected markets CAGR 2016-2021: Products by category % volume

	Drinking milk products	Milk ¹	Milk alternatives ¹	Goat milk ¹	Yoghurt	Cheese	Infant milk formula	Ice cream
Japan	-1.0%	-1.7%	3.8%	-	2.9%	1.7%	1.2%	-1.1%
Malaysia	3.5%	4.2%	3.0%	-	10.4%	2.0%	4.7%	4.4%
Philippines	3.5%	6.5%	5.5%	-	2.4%	2.1%	2.6%	3.4%
Singapore	1.4%	1.5%	2.4%	1.6%	3.1%	2.3%	-3.6%	3.4%
South Korea	-3.1%	-2.4%	-4.0%	-	2.3%	-0.6%	0.4%	-3.0%
Taiwan	0.6%	0.0%	2.2%	-1.4%	2.5%	1.9%	0.7%	0.5%
Thailand	3.9%	4.4%	3.4%	7.2%	4%	4.0%	2.7%	4.3%
USA	-0.5%	-1.3%	-10.4%	0.8%	1.6%	1.2%	-0.1%	-0.2%
Vietnam	6.7%	6.9%	9.2%	-	10.9%	6.6%	3.4%	7.0%

What do these figures suggest?

Retail dairy consumption is rising in all major target markets (in particular South East Asia) with the exception of the US and South Korea. Within the growing markets, drinking milk alternatives (non-cow dairy) consumption is also rising (as well as Japan which is experiencing a decline in drinking milk consumption, but a rise in drinking milk alternatives).

The forecast growth suggests there is an opportunity in specific markets for alternative drinking milk products, yoghurt, cheese, infant milk formula and ice cream. Alternative drinking milk products are generally in the top 2 products based on forecast CAGR across all markets.

¹Subsets of Drinking Milk Products

Note

Forecasted growth rates are for entire dairy categories – not specific for niche markets such as sheep milk (as this data is not available).
Compound Annual Growth Rate (CAGR).

Source

KPMG analysis of data from Euromonitor International, 2016

Forecast Retail Dairy – Products by average forecasted volume (2017-2021 aggregated, tonnes)

	Drinking milk products	Milk ¹	Milk alternatives ¹	Goat milk ¹	All other	Yoghurt	Cheese	Infant milk formula	Ice cream
Japan	2,511,480	2,048,940	343,820	-	118,720	1,669,900	132,980	26,123	528,500
Malaysia	383,232	85,386	145,065	-	152,781	110,600	3,738	62,180	45,091
Philippines	189,000	45,460	22,500	-	121,040	70,420	26,700	58,300	58,500
Singapore	83,494	56,490	8,240	355	18,409	20,300	3,558	4,429	6,094
South Korea	1,128,820	786,880	147,020	-	194,920	302,420	14,450	18,649	148,420
Taiwan	370,061	204,433	124,470	4,601	36,557	122,280	2,713	15,160	10,283
Thailand	1,646,420	492,940	883,716	300	269,464	427,900	3,366	147,260	59,660
USA	15,768,660	13,197,000	1,173,860	6,980	1,390,820	2,325,000	1,893,140	145,320	2,186,862
Vietnam	1,208,820	749,460	244,220	-	215,140	330,780	8,313	99,140	35,327

What do these figures suggest?

The growth rates on the immediately prior page indicate that the largest market that has expected growth in drinking milk alternative products is Japan. Vietnam is also highly attractive, despite less total volume. Currently, the growth rate is higher than Japan (9.2% vs 3.8%) suggesting it will catch up to Japanese volumes quickly if this growth rate can be sustained.

The largest milk market is the US, thus despite the prior slide indicating that there is negative growth expected over the next 5 years - it still offers the most established and largest market size in the alternative milk market.

¹Subsets of Drinking Milk Products

Note

Forecasted growth rates are for entire dairy categories – not specific for niche markets such as sheep milk (as this data is not available).
Compound Annual Growth Rate (CAGR).

Source

KPMG analysis of data from Euromonitor International, 2016

4

Market access

Overview: market access

Market access

In general, market access for sheep milk is similar to that of cow milk products, as milk products are covered by the same chapter of the Harmonized System (HS) tariff codes.

Of the markets reviewed, and based on a number of key considerations, Singapore's market access conditions are more attractive with advanced infrastructure and logistics. It is also the easiest place to do business.

New Zealand sheep milk producers have already entered the Taiwanese market, showing access to this market is achievable. The California market (USA) has significant barriers to entry, with highly restrictive health and safety standards. This is reflected in the lack of New Zealand dairy entering the market. However the Californian market remains attractive; given its size, consumer preferences and ease of logistics.

Market findings

There is strong market demand for sheep milk infant formula in Taiwan, and New Zealand suppliers are finding success in this market. The market is undersupplied and products are sold at a premium. Maintaining a premium market position is an important determinant of success.

Domestic producers supply the California market with sheep milk products at a premium; with sheep cheese, milk, yoghurt and ice cream all seen in the market presently. The strong acceptance of sheep milk products is encouraging, although from New Zealand's perspective, this is offset by the difficulty of market access.

Singapore has a less established market for sheep milk products. However both sheep cheese and goat milk have a presence in this market, indicating that sheep milk products are a viable option for Singapore's consumers.

Market focus

From our initial analysis of nine countries, California (USA), Singapore and Taiwan were selected as focus markets for this research. These were identified as the markets most appealing based on consumer trends and wealth, trade barriers and ease of doing business for sheep milk-based products. The selections were also made in conjunction with F&B, trade and industry experts.

Market prioritisation

1. Taiwan
2. Singapore
3. California (USA)

Market focus

Consumer trends and drivers

With the challenges of fast-paced modern life – including in California (USA), Taiwan and Singapore - it is becoming increasingly difficult to eat a balanced diet. As a consequence, many consumers are looking to functional foods to fill the nutritional gap in their diets. More consumers are looking to the foods they select to reduce the health risks arising from their lifestyle, for example.

‘Functional foods’ and beverages are those that incorporate nutrients with specifically identified health benefits. The category also includes dietary or nutraceutical supplements and other personal care products. These products – which are sold as ready-to-consume foods, supplements, and products that can be reconstituted - presents a rapidly growing segment of the global nutrition market. Recent market research suggests that the nutraceuticals market is expected to grow at a compound rate of 7.3% for the next 5 years, to achieve annual sales exceeding US\$279b.

When exporting products to these health conscious consumers, the New Zealand story alone is not enough. It needs to be supported with the ‘nutritional truth’ including protein and calcium benefits. This is particularly important for those consumers who actively search for healthy products and will always eat the scientifically proven foods. Exporters will require a local presence to represent the brand so products can be discussed online.

As consumer awareness around product nutrition builds, and the central role of protein in our diets is more understood, consumers will increasingly pay a premium for innovative, high-protein foods. A glass of milk is no longer a glass of milk but a ‘protein beverage’, and its value grows as the amount of protein it delivers increases.

Accordingly, dairy companies are refocusing their business towards high health opportunities such as sports nutrition. The role that protein rich diets play in maintaining health and well-being is attracting a new wave of health conscious consumers, particularly amongst millennials.

The trend (high growth and consumption uptake) currently seen in the craft beer sector supports the concept that consumers are seeking out storied products. We expect the trend to reach into further processed categories like cheese, yoghurt, ice cream and ready-to-eat products. These are all expected to enjoy a ‘craft’ benefit.

In an interview with a global executive, the importance of understanding the consumer segmentation in each market was reiterated. Based on their experience sheep milk needs to connect with millennial consumers drinking coffee in ‘hipster’ cafes; or as a solution to problem skin. Sheep milk can also reconnect with older consumers who are health conscious (e.g. those who are 40 years or older looking for health benefits) and now have more disposable income to become regular consumers of sheep milk.

Exporters will also need to connect with consumers at different points in their lives. Consumers may be attracted initially by health concerns but become pragmatic with time. When young people become independent, for instance, they consume less milk. For those living on their own in a single apartment, a litre of milk will expire, so smaller formats are preferable. Format is vital as people will not risk large volumes when trying new products.

The out-of-home market (locations where consumption occurs literally ‘out of home’ i.e. restaurants, hotels, airlines etc.) is a more expensive channel to service, so there is a need to align with partners with a strong grocery presence. For sheep milk, a smaller niche distributor with appropriate infrastructure capabilities would suit. Brands in Hong Kong and Taiwan build credibility into China which enables faster acceptance. In cross border e-commerce, English labels are seen as having more credibility. Push marketing and activation spend is required to seed the concept and connect with the consumer at multiple interest points. This was done with soy milk as an alternative dairy product and has worked reasonably well. This helps to normalise the product in the market.

UHT milk is a small but rapidly growing market segment. As it represents only 5% of consumer demand, smaller formats would be suitable. Infant formula is growing, with European brands increasing market share the fastest.

New Zealand fresh water is likely to form an important part of the product proposition, rather than reconstituting powder into final products offshore where fresh water may not be guaranteed (if only in the mind of the end consumer), or is scarce.

Please refer to Appendix 2 for Dairy import data and Appendix 7 for trade success.

Market focus

The success of goat milk is encouraging for sheep milk

Because sheep milking is in its infancy in New Zealand, there are obviously investment risks associated with developing this niche sector. However, the growth in goat milk production over recent years is an encouraging sign.

Like sheep milk, goat milk is a niche product - comprising only 3.4% of total global milk production (1.4% for sheep milk). Small volumes necessitate efficient processes at the farm level, as seen with goat milk farms use of barns to allow winter milking, a system NZ sheep milk farmers would likely have to adopt also.

As global consumer trends shift toward accommodating more non-traditional and particularly more health-orientated products, goat milk has been successfully used in infant formula, drinking milk, yoghurt and cheese around the world.

On this basis, it is reasonable to conclude that the opportunity for sheep milk as an alternative to cows milk has a significant opportunity across a wide product portfolio on a global level.

Health benefits of sheep milk

Many people who are lactose intolerant or sensitive to cow's milk find sheep milk a more digestible alternative. Lower short chain fatty acids, that naturally occur in sheep milk, helps the absorption of lactose. Pure sheep milk outperforms goat and cow's milk nutritionally in many areas, with higher levels of key vitamins A, D, E & C.¹

- The average protein content in sheep milk (5.8%, w/w) is higher than in goat (4.6%, w/w) or cow milk (3.3%, w/w).
- 50% more vitamin B12 than cow's milk.
- 45% more protein than cow's milk and 44% more energy than cow's milk.
- 50% more iron than cow or goat's milk.
- 90% more folic acid than goat's milk (similar levels in cow's milk).

Industry operators say there is limited research on the health benefits of sheep milk, and this is currently ongoing. The focus needs to be on the characteristics of the composition, given that countries have very strict requirements when making health claims. Research is currently being undertaken in a six-year research programme "Boosting Exports of the Emerging New Zealand Dairy Sheep Industry", led by AgResearch in collaboration with leading New Zealand sheep milk producers.

The sheep milk industry in New Zealand will benefit from new market opportunities emerging as global populations age. However, investment will be needed to verify the health benefits and deliver products in appropriately tailored formats.

Market entry: supply chain considerations

Distribution strategy

Those that control the customer relationship unlock the greatest share of the product's value. In Western and developed countries, models are emerging that disaggregate the Western shopping experience. The models reflect the reality of time-poor consumers, who are looking for ways to make life easier. They also want to select from products that have important attributes (be that price, nutrition, provenance, origin etc).

Digital distribution models for food represent one of the most significant areas of new investment in the agri-food sector. The initial model is various online versions of the supermarket experience, with click-and-collect or delivery models. Specialised online retailers have entered the food market, including Amazon Fresh in California offering fresh food selection.

As supply chains extend and become more complex, the risk associated with food fraud and corruption rises. This is reducing the level of trust consumers have in the product on the shelf i.e. being the product described in packaging. This why it is important that the sheep milk industry does not move to a low-cost model where products are re-constituted offshore in lower cost countries. The products should be processed and packaged in New Zealand, to gain the trust and confidence of the end consumer.

Premium consumers are increasingly seeking out niche retailers or exploring opportunities to source foods directly from the producer through online channels.

Platforms have been created that directly connect consumer to producer, often with a specific product category focus. One example is organics brand Ooooby, a service that specialises in delivering local and organic food. Other organisations such as Blue Apron provide the ingredients for consumers to cook their own meals at home.

Re-engineering of global logistics (air freight) may become more viable for fresh products with large premiums. We are already seeing this with the transport of fresh liquid milk into high value markets such as Greater China.

There needs to be a commitment to a longer term presence by the New Zealand sheep milk industry or the company that is exporting the product to the country. Whether this is California (USA), Singapore and Taiwan or one of the other markets considered in this report, a localisation strategy is required to receive feedback and meet marketing and brand recognition needs. Producers cannot take for granted their product is ready in its final format, they need to get feedback and adapt accordingly.

For dairy, cold logistics and storage is important, hence a contributing factor in selecting Singapore and Taiwan as markets to explore further.

In the F&B market in some Asian countries, it can be easy for local competitors to work with their government to put non-trade/tariff barriers in the way of offshore companies. These can include onerous enforcement of packaging and labelling requirements and inspections which can hold up shipments of product at port for extended periods. The impact on distribution and logistics can be severe.

E-commerce distribution

Traditional exports and sale processes to USA (California), Singapore and Taiwan are being disrupted by e-commerce. Online shopping for products and services is fast becoming normal practice for both business-to-consumer and business-to-business channels.

Cross border shopping is now more accessible through smart technology and e-commerce. The overseas e-commerce spend is growing rapidly through Asia and the USA. Consumers are purchasing a wider variety of products as they focus on getting the highest quality and value they can. This means transparency is high and competition is incredibly tough. New Zealand sheep milk producers must not sell products online without ensuring their product is world-class, and marketed in a manner that meets the needs of the USA, Singapore and Taiwanese consumers tastes and expectations.

KPMG in-market experts have advised that Alibaba has numerous 'niche boutique' companies approaching them. Therefore New Zealand sheep milk companies need to be among the best globally, or have the most attractive strategy, to differentiate from such competitors. For instance, there is a margin for premium goods that are tamper-evident.

The key is to start small, test and refine. All manufacturing should be done in New Zealand, and there should be no movement towards lower cost strategy. Using the correct JV partners, and fully understanding regulatory requirements, is critical.

Please see Appendix 6 for value chain considerations.

Market entry: supply chain considerations

Domestic logistics considerations

Volume and collection requirements are a significant challenge facing sheep milk producers in New Zealand. Sheep dairy in New Zealand will require significant investment in collection and processing infrastructure. The industry will need to optimise the volumes collected from each farm, and there are challenges in keeping the product cool prior to the collection run. Aggregation and storage are important factors that will require investment and process improvement.

Research is currently being conducted by Massey University into the feasibility of freezing sheep milk whilst maintaining the integrity of the product, and ensuring the freezing solution is easily adaptable for farms. A recent shelf life validation trial found that after nine days, milk collected is still fit-for-purpose. The shelf life during the holding period prior to processing is critically dependent on the maintenance of the cold supply chain. If holding and processing of the milk is not carefully controlled, a breakdown in fats is likely to occur which can have a significant impact on the flavour of the product.

Raw milk issues from milking to processing must be considered in respect of transportation and shelf life for various products. The high fat is susceptible to induced lipase and may cause rancidity if damaged. Short shelf life products create challenges to market, particularly through export markets. Powder forms can provide a two year shelf life. Given the product has a higher percentage of fat than other dairy products, shelf life issues must be considered.

There are currently no operators in New Zealand exporting UHT and fresh sheep milk. The high protein and fat may cause difficulties in the processing under high temperatures.

International distribution

Singapore, Taiwan and California (USA) have well-established cold supply chains, and a number of suitable third-party logistics companies (3PL) to partner with. No significant challenges regarding distribution have been identified through our research. However there are some key considerations of the supply chain that will need to be incorporated during the inception of a go-to-market strategy.

These include:

- Volume of products
- Variability in volume
- Product offering
- Demand for products
- Shelf life of products
- Customer proposition and channels for distribution

A combination of academic, in-market research, and KPMG analysis all suggests that significant opportunity lies in the production of value-added sheep dairy products. Such products include infant formula, ice cream, yoghurt, cheese, drinking milk and nutraceutical products. This means delivering niche, premium products to targeted groups of consumers. Defending an ingredient commodity position is not a viable, long-term play for sheep dairy.

In order to demand a premium, sheep milk would need to be domestically processed into consumer-ready products for export. In-market testing would provide valuable insight into the local appetite for tastes and flavours.

Exporting an ingredient and reconstituting in-market is likely to position the offering as a commodity and will also affect the taste and premium able to be demanded. Moreover, the perception of superior food safety and quality from imported products may be lost. A desire for traceability, particularly from Asian consumers, is directly linked to food scares. With an increase in these incidents, consumers and retailers are demanding visibility of the source and supply chain of their food and beverages.

Product-specific shelf-life considerations

As with the shelf lives of different sheep milk products, the corresponding supply chain implications can vary significantly.

Chilled

Fresh milk tends to last up to a week – which, in the context of exports, is unlikely to be a viable option. Domestic or nearby players dominate the markets for short shelf-life products. In this category, distance to market presents a significant risk for New Zealand players.

Short-to-medium shelf-life products such as soft cheeses and yoghurts, which tend to last between 1 to 3 weeks, offer greater viability for exports. Agile supply chains which can accommodate the logistics requirements of chilled products will be critical for success.

Frozen

Sheep milk ice-cream represents the medium shelf-life category with a life of approximately 2 to 3 months.

Market entry: supply chain considerations

Dry/shelf-stable

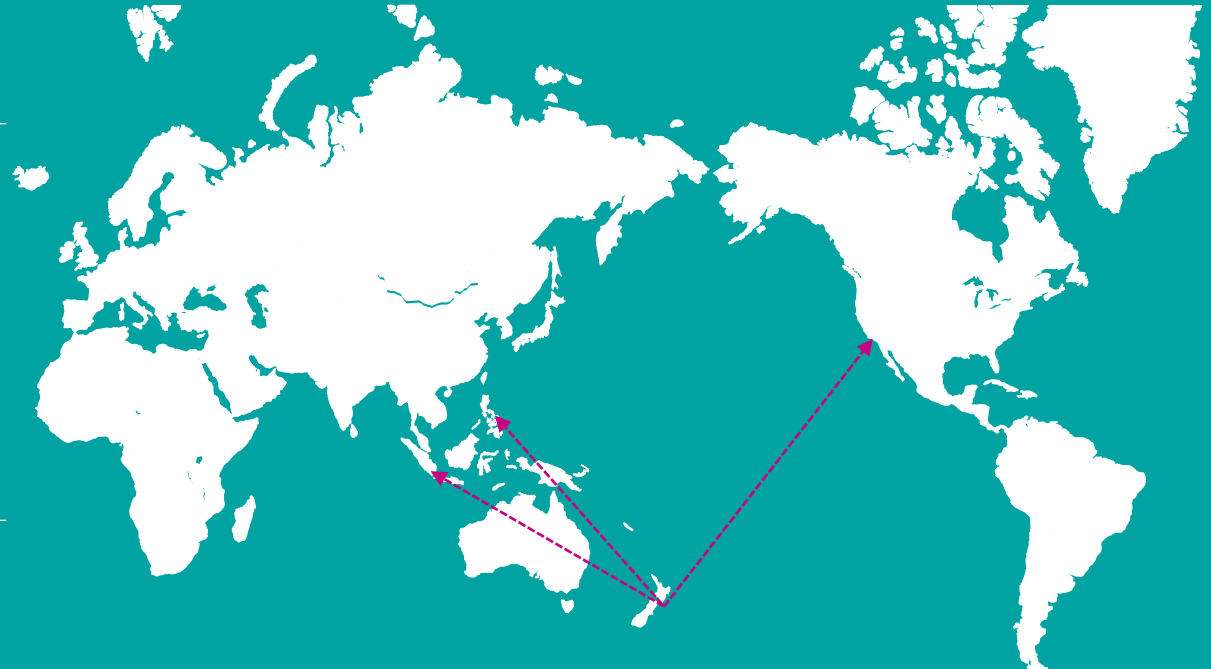
UHT milk can be stored at room temperature for approximately 6 months, which provides a relatively large window of opportunity for New Zealand players to compete in offshore markets.

Milk powder and infant formula can last up to 10 years depending on the manufacturer's processes.

Product	Shelf life	Supply chain impact
Fresh milk	1 week	High impact; not viable for profitable exports.
Soft cheese	1-2 weeks	Medium to high impact; requires accurate forecasting and production planning to manage supply and demand within short timeframe.
Yoghurt	2-3 weeks	Medium impact; ensure highest standard of holding and transporting goods to minimise time to market and maximise product shelf life post entry to local market.
Ice-cream	2-3 months	Medium to low impact; wide window of opportunity; low risk, however high costs of storage required for frozen goods will create pressure to increase speed to market.
UHT milk	6-9 months	Long-life product; low impact, risk of stock proliferation.
Milk powder/infant formula	1-10 years	Long-life product; low impact, risk of stock proliferation and obsolescence.

Market entry: supply chain overview

Low volume	<p>Delivery model branded around freshness and premiumisation</p> <ul style="list-style-type: none">— Consumer-ready products produced in NZ<ul style="list-style-type: none">– Economical to ship directly via airfreight– High cost but premium product
Low-medium volume	<p>Consolidated sea shipment</p> <ul style="list-style-type: none">— Milk powder and infant formula processed in New Zealand. Drinking milk and yoghurt reconstituted in market. Ice-cream depends on availability of refrigerated containers and shelf life<ul style="list-style-type: none">– Sea shipment. Combined with several individual consignments from other suppliers to reduce cost– Low cost but may affect premium
Medium- high volume	<p>Delivery module branded around commodity. Volumes large enough to fill a container</p> <ul style="list-style-type: none">— Products reconstituted in-market<ul style="list-style-type: none">– Shipment via sea– Low cost



Mode of entry to market: partnerships

Dry/shelf-stable

Partnership type	Description	Benefits	Risks
Distributor	Takes ownership of stock and sales	<ul style="list-style-type: none"> Existing understanding of chosen market Fast and easy access to market Relatively inexpensive 	<ul style="list-style-type: none"> Brand and reputational risk Potential loss of interest
Agent	Does not take ownership of stock; sells on behalf of supplier	<ul style="list-style-type: none"> Commitment to sales Select agents with relevant industry knowledge / experience 	<ul style="list-style-type: none"> Principal-agent problem
Direct selling/offshore office	In-market presence	<ul style="list-style-type: none"> Total control of marketing and sales Higher margins (cut out the 'middle players') Increased IP control 	<ul style="list-style-type: none"> Costly and time-consuming High exit costs
Joint venture/strategic alliance	Partner with an established company with an existing infrastructure to manufacture and sell product	<ul style="list-style-type: none"> Select partner with strong presence established in the market Leverage existing relationships and infrastructure Maintain relatively high level of control 	<ul style="list-style-type: none"> Risk of partner's conflict of interest Hidden agenda
Manufacturing license	Sell licences to manufacturers to use your IP	<ul style="list-style-type: none"> Earn royalties; no setup costs 	<ul style="list-style-type: none"> Difficult to control Risk to brand and product consistency

Core criteria for partner selection

- Geographic market – where do they operate?
- Staff, skill and size
- Customer service capability
- Logistics – warehousing facilities, transportation
- Quality control
- Business size – do they have capacity?
- Existing portfolio – what else do they represent?
- Financials; who pays for what?
- Sales and marketing capability

Mode of entry to market: channels

Types of market channels

Market channel	Description	Benefits	Risks
Trading (1 st tier wholesale)	Unbranded volume play	<ul style="list-style-type: none"> — Move large volumes quickly 	<ul style="list-style-type: none"> — Difficult to charge premium without brand leverage — Risk of supply shortage
QSR (quick service restaurants) e.g. Burger Fuel	Focus on large chains; innovation / NPD (new product development) driven	<ul style="list-style-type: none"> — Niche products/ingredients driven by NPD; seasonal promos — Large chains mean mass distribution; large customer base 	<ul style="list-style-type: none"> — Unsuccessful NPD launch may rule out entire chain of restaurants
Modern FSR (full service restaurants)	Focus on large restaurant chains, Michelin, 5-star; service quality, supply driven	<ul style="list-style-type: none"> — High-end products sought after — Establish 'premium' nature of product; justify premium pricing – higher margins 	<ul style="list-style-type: none"> — Loss of brand identity — Missed opportunities with consumers
Modern trade	Focus on large premium chains; innovation / NPD driven; branded consumer demand	<ul style="list-style-type: none"> — Very large customer base and nationwide distribution — National advertising campaigns driven by large chains — Brand loyalty among supermarket and hypermarket customers 	<ul style="list-style-type: none"> — Competing with many substitutes — Strong buying power of large supermarket and hypermarket chains (leverage to drive down supplier margins)
E-commerce	Partner with 'fresh' e-tailers and brand stores; innovation / NPD driven; consumer brand driven; trust / information dependent	<ul style="list-style-type: none"> — Ease of access for consumers — Relatively low setup costs — Strong brand identity — Full control of marketing & sales 	<ul style="list-style-type: none"> — Difficult to drive volume — Scepticism due to niche nature of product

Recommendations

To play the volume game: wholesale supplier

Partner with wholesalers and distributors who purchase in bulk, but may wish to rebrand. Given the current limited availability of milking flock, this route to market may become more viable in the future once new entrants establish themselves in the supply pool.

To target mainstream FMCG market: route food service

Establish strategic alliances with leading super- and hypermarkets, and large restaurant chains. Brand identity maintained but may be offered to consumers alongside numerous substitutes.

For a strong brand identity: niche market player

Establish an in-market presence to control brand identity and all aspects of sales and marketing. To avoid high setup and exit costs, e-commerce provides a direct-to-consumer market channel.



Singapore

Market access

The import and sale of sheep milk products is governed by the Sale of Food Act and the Food Regulations under the Agri-Food & Veterinary Authority of Singapore (“AVA”), and importers must comply with AVA’s regulations and labelling requirements.

Health and nutritional claims for food products are controlled by the Food Regulations, administered by Agri-Food and Veterinary Authority (AVA) and the Health Promotions Board (HPB) of Singapore.

Pre-approved nutrient function claims can be made on packaging, and there is a list of pre-approved claims available. There is a list of acceptable nutrient function claims for infant foods also.

Importers of drinking milk and infant milk formula must submit documentary proof that products are manufactured in premises by competent authority, submit a health certificate stating FMD-free status and pasteurisation information, as well as an additional health certificate every 6 months with microbial and chemical testing of the product.

Prior to importing, sheep milk producers will need to:

1. Register with the AVA.
2. Ensure products comply with relevant food legislation.
3. Meet AVA’s conditions for dairy products.
4. Satisfy labelling requirements.
5. Apply for an import permit.

It is recommended that New Zealand exporters work with a local company who can apply for the AVA prior to exporting the product.

Singapore is an attractive market in terms of ease of access as it is consistently ranked as one of the easiest places to do business in the world. The FTA, which imposes no duties on sheep milk products, increases the attractiveness. Singapore has advanced infrastructure allowing for a strong distribution channel from New Zealand to Singapore; including the ability to maintain chilled products, ideal for sheep milk products. Singapore also has the lowest sea shipping cost for a container even compared to other, closer Asian countries. Singapore is ranked as the best country in Asia for New Zealand’s market access, infrastructure, supply and cool chain development.

Singapore also has a very high degree of freedom of trade meaning products will be able to be imported relatively easily.

English as the main language also helps New Zealand exporters access the market easily.

Food regulations

Local traders importing sheep milk, yoghurt and cheese from New Zealand into Singapore would need to maintain documentation and produce them when requested by AVA officers. The following are some examples of regulated source documents that AVA accepts as documentary proof:

- Certificate of HACCP (Hazard Analysis Critical Control Point)
- Certificate of GMP (Good Manufacturing Practices)
- Health Certificate (issued by competent food or veterinary authority of exporting country)
- Attestation of Export (issued by competent food or veterinary authority of exporting country)
- factory licence (issued by regulatory authority of the exporting country)

Infant formula is subject to additional requirements, with a one-time submission that products are manufactured in a premise regulated by the competent authority (in addition to submitting health certificates for every consignment). Moreover, the relevant competent authority of the exporting country must attest that products are produced using milk ingredient originating from countries that are free from Foot and Mouth Disease (FMD), and that liquid milk is pasteurised by heating at a minimum of 72°C for a minimum 15 seconds. They must also submit health certificates or manufacturer’s quality control reports on chemical and microbiological testing once every six months.

Retail and consumer trends

A strong emphasis on country of origin, quality and convenience has allowed NZ to capture 32 % of Singapore's dairy imports, providing an excellent platform for sheep milk

Ranked by ANZ Bank in the top 5 Asian countries, Singapore has an attractive and growing food market. This ranking included the state of development, which is a useful indicator of the country's Westernised consumer preferences, and thus whether there will be demand for New Zealand's product mix and value-add products such as sheep milk.

Singapore's food market had a strong recent growth rate of 12%¹. Given New Zealand's relatively limited supply capacity, the smaller size of the Singapore market makes it attractive. The rise in working women and single professionals have led to a growth in demand for convenience foods and ready-to-cook prepared meals.

Singapore has a high level of food consumption and expenditure on New Zealand-origin products. Combined with growing trade between Singapore and New Zealand, this market is a positive prospect for sheep milk.

Health conscious

Consumer purchasing power in Singapore is buoyant, with consumers enjoying a high degree of affluence. Consumers are willing to spend more on premium packaged food which they perceive to be healthier than standard items. Parents are also choosing to purchase higher quality products with enhanced natural qualities for their children.

This will help sheep milk products to be successful as they will be sold at a premium in line with differentiation through marketing and education.

Singapore has a strong appetite for New Zealand-origin trade. New Zealand-sourced products are considered superior to most other origins and as such command a premium. Sheep milk is likely to fit this profile.

Young adults are seeking luxury trends for their brand association, prestige, design and quality. Accordingly, they may be susceptible to associating health foods with a lifestyle 'image'.

Fresh and healthy over long-life

Due to the warm climate, chilled desserts are preferred over shelf-stable ambient products. Forecast demand for ice-cream remains the second largest market in terms of volume for dairy products. Singapore has moderate levels of fat and protein consumption, and low fat consumption growth.

This means sheep milk's higher fat and protein contents may not be selling points in the Singapore consumer market. Special baby milk formula is expected to record the best performance over the forecast period, recording a retail value CAGR of 7% at constant 2016 prices. Interest in special baby milk formula is expected to grow, as parents become more cautious and aware of allergies via information from health professionals (demand for organic options grew by 10% in 2016).

In Singaporean culture, it is popular to consume drinking yoghurt after meals in order to aid digestion.

Rising consumer demand for health and value-add features can be seen in drinking milk trends. Major brands in the market recently released products with health features (e.g. black sesame, oat fibre, wholegrain).

The ability to convey the associated health benefits of sheep milk to the consumer is important in a health-conscious society such as Singapore. There is a strict process of getting new nutrient function claims approved. Organic certification is based on the international foods standards body, the Codex Alimentarius Commission.

The Westernised palate

There is a growing interest in artisan coffee from cafes and foodservice channels from Western influences. A 3% growth in the cheese market was recorded in 2016. Although demand for more niche cheeses is growing, mild flavours such as mozzarella and processed slices are much more common.

Soy milk dominates alternatives

Soy milk dominates milk alternatives in Singapore (with a 4% growth rate in 2016). Its popularity comes from familiarity with the locals rather than lactose-free characteristics. Other alternatives (e.g. rice milk) are much less known.

Chilled soy desserts recorded the fastest growth in 2016 of 2% for non-dairy products. Growth of other dairy alternatives are negligible. With the increase of cafes and other Western food trends, however, there is a possible opportunity for sheep milk as a dairy substitute.

Competitor and pricing analysis

Product category	Store	Product description	Brand	Country of origin	Pack in size	Retail price (in local currency)	Retail price (in USD)
Infant formula	Redmart	Gain IQ EyeQ Plus Intelli-Pro	Abbott Similac	USA	850g	\$43.00	\$28.44
Infant formula	Cold storage	Goat milk powder	Karihome	New Zealand	900g	\$53.50	\$35.39
Drinking milk	Cold storage	Almond milk	Silk	America	2L	\$15.15	\$10.02
Drinking milk	Cold storage	Soya milk	Marigold	Singapore	1L	\$2.05	\$1.36
Drinking milk	Online/ retailers	Goat milk (UHT)	Delamere	UK	1L	\$7.00	\$4.63
Drinking milk	Redmart	Goat milk powder	Healtheries	New Zealand	450g	\$27.90	\$18.46
Yoghurt	Cold storage	Yoghurt	Gippsland	Australia	720g	\$15.95	\$10.55
Yoghurt	Cold storage	Yoghurt	Meadow Fresh	New Zealand	1kg	\$9.75	\$6.45
Cheese	Cold storage	Goat cheese	Chavroux	France	125g	\$14.20	\$9.39
Cheese	Cold storage	Sheep Feta	Lemnos	Australia	180g	\$10.45	\$6.91
Ice cream	Cold storage	Ice cream	Haagen Daz	France	473ml	\$14.50	\$9.59
Ice cream	Redmart	Ice cream	NZ Natural	New Zealand	473ml	\$12.40	\$8.20

Cheese products are competitive in Singapore with a very wide range of products available. Processed cheese products dominate, with just 17% of stock keeping unit (SKU) classified as speciality/gourmet. Kraft has a large market share, and a number of specialty products are imported from UK, France and the Netherlands. The drinking milk category is dominated by cow's milk, and a large number of exotic flavoured varieties are available. A large variety of milk alternatives are available – goat milk powder, coconut milk, almond milk, hazelnut milk, oatmilk and soy.

Local company "Goats Milk by Sunnaz" has recently started importing Delamere UHT and fresh goat milk from the UK. It is available in a significant number of mainstream retailers. The yoghurt category is price competitive, with a number of imported brands, varieties and styles on offer. There is a strong presence of Australian brands in this category. Infant formula is specialised, with a number of product differentiators such as 'IQ, Immunogrow and Intelligrow' available. Products offering such attributes, along with organic formula sell at a premium.

Baby food manufacturers in Singapore are not permitted to directly advertise or offer promotions on standard milk formula

for infants aged 0 to 6 months. Companies therefore typically leverage their presence in the other categories of baby food and baby milk formula to build brand awareness through print, television and social media advertisements. Manufacturers also leverage bundle packs and free give-away promotions to compete for sales. Local brands included Magnolia, Farmhouse, Daisy (F&N), Meji (Meji Co. Ltd) and HL and Marigold brands (Malaysian Dairy Industries).

Refer to page 100 for value chain considerations to identify the allocation of the end retail value from all value chain participants.

% of market share by product/retail outlet

Product category	Hypermarkets	Supermarkets	Convenience stores	Other grocery	Health and beauty specialists	Other non-grocery	Largest market share
Infant formula	11.0%	56.0%	5.0%	14.8%	9.4%	3.8%	Abbott Laboratories 40.5% Brands: Gain, PediaSure, Similac, Grow)
Drinking milk	16.5%	70.6%	4.5%	6.7%	-	1.7%	F&N Brands: Magnolia, Farmhouse, Pura, Daisy, Nutrisoy, Seasons,
Yoghurt	50.4%	10.0%	11.9%	12.7%	-	15%	Yakult: 48%
Cheese	13,4%	61,3%	10.1%	14.5%	-	1.1%	Kraft Foods (S) 27.2% Brands: Kraft Singles, Philadelphia, Kraft, Velveeta
Ice-cream	8.3%	64.2%	8.0%	17.1%	-	2.4%	Unilever Singapore Pte 51.7% Brands: Magnum, Häagen-Dazs, Ben & Jerry's, Cornetto, Wall's, Viennetta, Fruiti
Retailers	Giant Fairprice Xtra	FairPrice Sheng Siong	7-Eleven Cheers	-	Watson's Guardian	-	

In 2016, baby food continued to be purchased mainly via major supermarkets, which held a 56% share of retail value sales. Hypermarkets, independent grocery retailers and health and beauty specialists were also key distribution channels with 11%, 14% and 9% shares of retail value sales, respectively. Health and beauty specialists represent a retail format where sheep milk formula could specialise.

Those shopping in health and beauty specialists will be more conscious of the health benefits that sheep milk products can provide. Yoghurt is dominated by hypermarkets in retail format and premium yoghurts selling at a higher price continue to be very niche. This indicates it may be difficult for sheep yoghurt to command a strong market share if sold as a premium product.

Retailer

Retailer	Store format	Target	Procurement method	Store number
FairPrice Cooperative	FairPrice Finest Fairprice (supermarket) FairPrice Xpress (hypermarket) Cheers (convenience stores) Warehouse Club (membership only bulk warehouse supplies) Online	Singapore's largest retailer (33% market share).Targets low to middle income earners. It targets middle to high income earners through FairPrice Finest.	Directly, consolidations and agents/distributors	280
Dairy Farm Group	Cold storage The Market Places and Jason's (premium) The Gourmet Grocers (supermarket) Giant (hypermarket) 7-11 stores (convenience)	Cold store: Middle to upper income earners. The Market Places and Jason's the Gourmet Grocer focuses on high and upper middle income earnings. Giant targets lower income earners.	Directly, consolidations and agents/distributors	848
Sheng Siong Supermarket	Shen Siong Supermarket (supermarket)	Lower income earners. Stores located in residential heartlands.	Directly, consolidations and agents/distributors	38

Distribution channels

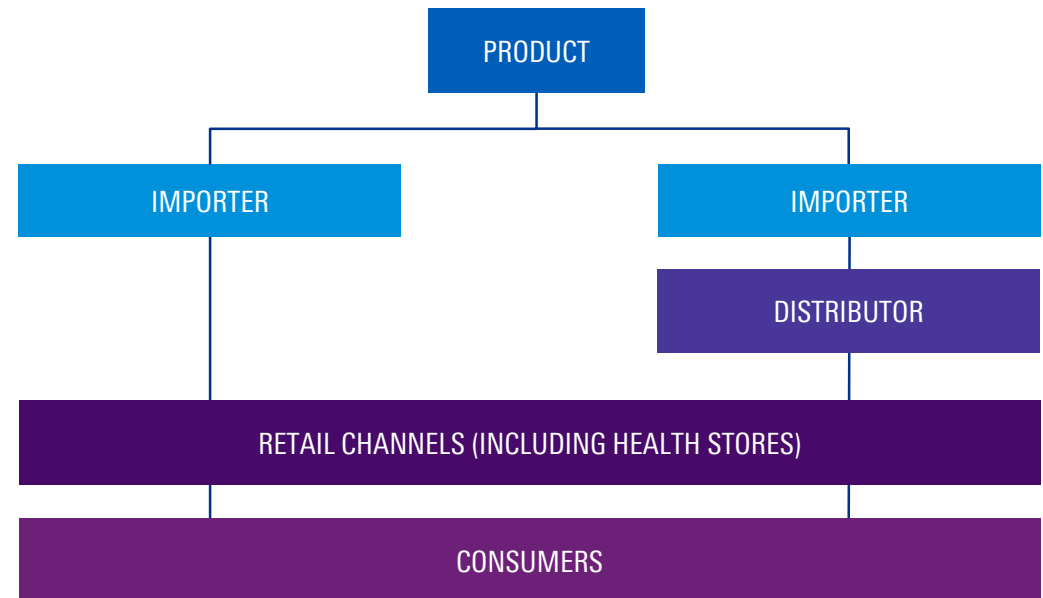
Distribution

Food products in Singapore are generally distributed through local importers/distributors who in turn supply them to retailers. Large retailers also procure directly for cost efficiencies, and they have their own warehousing facilities to store and to repack goods. Distribution to wet markets, hawkers, and small neighbourhood stores is usually managed by a number of intermediary wholesalers, however market penetration of offshore products in these alternative channels is limited.

Distribution channels for consumer ready goods are dominated by the aforementioned supermarkets and hypermarkets (NTUC Fair Price Co-Operative, Fair Farm Group and Sheng Siong Supermarket).

The following are distribution aspects to consider:

- Agents and distributors bear advertising costs
- A one off fee is charged for new product placement
- Agents and distributors pay for shelf space



Source
<http://www.ava.gov.sg/docs/default-source/tools-and-resources/resources-for-businesses/importrequirementspecificfoodproducts>; and
http://www.ava.gov.sg/docs/default-source/e-service/2web_foodregulations_1august2013.pdf?sfvrsn=2



USA-
California

Trade data

Significant challenges to market access

According to the Ministry of Primary Industries (MPI), sheep milk products fall under largely the same regulatory requirements as regular cow milk products in the USA. The USA has an effective prohibition on any milk product falling under the USA Grade A “fresh milk product” definition. This definition includes fluid milks and creams, yoghurts and dry powders intended for incorporation in fresh milk products.

All applications to export infant formulas have to go through a complex premarket approval and non-objection process by the Food and Drug Administration (FDA). No New Zealand company has successfully navigated this process yet.

All New Zealand based exporters to the USA have to be registered with the FDA and MPI. In addition, all USA importers, USA manufacturers or sellers have to comply with all of the new requirements of the Food Modernisation Act, as well as the other standards and labelling requirements contained within the Federal Food Drug and Cosmetic Act. This normally results in these requirements being imposed contractually on the exporter.

To export dairy products to the designated markets, companies need to do so under their dairy quota programme. There are several steps to follow before it is possible to export a product. Exporters are required to:

- Hold an export licence to export dairy quota products
- Receive export approval
- Hold an approved Quota Compliance Programme (QCP)
- Ensure they meet the import requirements of the designated market

Current tariffs and future movements

Currently New Zealand exports to the United States predominantly enter under an applied tariff. Most Favoured Nation (MFN) tariffs will be applied to products depending on the customs Harmonized System code classification. New Zealand does not have World Trade Organisation (WTO) country specific quotas for sheep cheeses and New Zealand sheep cheese exports to the USA enter under an applied tariff of less than 10%.

New Zealand does have a relatively small Country Specific Quotas (CSQ) for liquid milk that is administered by the USA. The quota does not appear to differentiate between milk types so it is possible that it may cover sheep milk. Despite this, there are still significant complexities in being granted a license and minimum quantities required for these licenses to be granted.

As it is expected that sheep dairy produce will be of small quantities when the industry is still being established in New Zealand this represents another difficulty associated with exporting to the USA.

Ice-cream and yoghurt exports to the USA enter under applied tariffs which do not appear to differentiate between sheep and other animal dairy.

Given the recent USA election and changing landscape it is unlikely that the TPP will be ratified in the foreseeable future. However if it, or a NZ USA FTA did come into force, it would provide a significant opportunity to access the American market, with the eventual elimination of tariffs. This would allow NZ dairy products to be exported to the US more easily. The US could therefore be an attractive market in the future for NZ sheep dairy producers. Without the signing of the TPP, it is likely that the US will continue to be a difficult market for NZ sheep dairy producers to enter in the short term, however it remains both a sizable and attractive market and should be considered in the medium term.

Source
<http://mpi.govt.nz/exporting/food/dairy/steps-to-exporting/exporting-under-the-dairy-quota-programme/>

Retail and consumer trends

Consumers in California have a strong appetite for milk, and growing trends suggest the market is open to consuming a wide range of products

The USA is one of the most sophisticated food and beverage markets in the world. California is an attractive food market - with the Californian economy alone representing the sixth largest economy in the world by GDP.

Consumers in the USA place high value on the online presence of consumer products, and this will be an important consideration for any exporters to the state. Consumers have a strong appetite for milk - as California is a leader in raw milk production, and the largest producer of almonds worldwide. The Californian consumer is familiar with and open to milk alternatives.

Consumer tastes have shifted from trans-fats to products high in saturated fats; and sheep milk products align with this profile. Dairy is popular in the USA, accounting for 15% of fresh food sales, 16% of packaged food sales, and 15% of organic food sales¹. To be certified as "USDA organic", 95% or more of a product's content must be organic. This should be achievable for sheep milk products, although it will require ingredients to be certified as organic. Non-GMO labelling is also a popular tool when selling in the USA.

Appetite for milk products can be expected to remain, driven by the significant milk campaigns by the Milk Processor Education Program (MILKPEP) in the US particularly California.

The Western region (i.e. West Coast to the Rocky Mountains) is a leader in health, sustainability, consumer trends etc. There is huge innovation at the premium end of the food market, with a shift to organics and probiotics which are experiencing significant growth. There is also a strong emergence of plant-based milk products.

California's demographic is strongly influenced by a lifestyle of health and sustainability (LOHAS). There is an emphasis on sustainable living, and "green" ecological initiatives. The population is relatively wealthy and well-educated, and there is heavy social media influence on what people buy.

Top 4 US food attributes consumers looks for:

1. Locally sourced meat and seafood
2. Environmental sustainability
3. Healthy kids meals
4. Natural ingredients and less processing

Given these trends, there are several products that present the greatest opportunity for exporters to capitalise on the market

Yoghurt and sour milk products

Due to their health and convenience benefits, there is high demand for yoghurt and sour milk products. This demand is expected to continue to grow. Greek yoghurt is very popular because of its high-protein content and its versatile use. There is increasing demand for the use of more natural ingredients, as well as reduced sugar and fat.

Baby food

The scarcity of paid maternity leave requires many mothers to stop breast-feeding early, meaning that there is more demand for infant formulas. Milk formula sales is predicted to increase slightly during the next five years. There is a trend of mothers having babies later on in their life, when they are more financially stable. This means that demand may increase for organic and health-oriented foods.

¹Based on data analysis from 2009-2012 per Global Strategy inc. USA F&B Market Study June 2013 accessed at: <http://expertdirectory.sage.com/data/files/Global%20Strategy%20USA%20Food+Beverage%20Industry%20Presentation%20JUNE%202013.pdf>.

Retail and consumer trends

Drinking milk

The demand for cow's milk is decreasing.

Non-dairy milk alternatives performed particularly well in 2015, with a 13% value increase. These products are consumed because of their health benefits (e.g. lactose free and lower in fat).

- Hispanic and Asian-American populations (who have higher rates of lactose intolerance) are growing faster than the total population in the US.
- The obesity problem in the US means that many consumers are seeking lower-fat products – potentially a bar to the sale of sheep milk.

Because of the short shelf-life of drinking milk products, this category is dominated by domestic producers. Consumption of cow's milk is predicted to continue declining for a number of reasons. These include customised alternatives e.g. Starbucks); the aging population (less children to consume milk and older consumers concerned about lactose digestion); and competitive alternative health benefit drinks. Chilled milk products continue to dominate the market as there is little demand for shelf-stable alternatives.

Cheese

Packaged and processed cheeses are currently popular because of their convenience. Demand for cheese (including specialty cheeses) is predicted to continue growing in years to come.

Among those who appreciate fresher cheeses, the country of origin is significant for a product's marketing. Premium brands are usually imported from overseas.

USA-based cheese consumers are becoming more interested in trying different, more distinct-flavoured cheeses, such as sheep's milk cheese. The increased sales of such products is likely to have adverse effects on the sale of processed cheeses.

Ice cream

The domestic players dominate the ice cream and frozen dessert market in California and the wider USA. There has been increased demand for non-dairy alternatives, fruit ice creams and gelatos. Value sales are expected to rise marginally over the next 5 years.

Competitor and pricing analysis

Product category	Store	Product description	Brand	Country of origin	Pack in size	Retail price (in local currency)
Infant formula	Udderly Organics	Goat Milk Powder	Nanny Care	UK	900g	\$65.00
	Andronico's	Goat Milk Toddler Formula	Kabrita	Netherlands	14oz/400g	\$21.99
Drinking milk	Haverton Hill Creamery	Grade A Pasteurized Sheep Milk	Haverton Hill Creamery	USA	4 qt/ 3.8L	\$44.00
	Andronico's	100% sheep milk	Haverton Hill Creamery	USA	32oz/ 1L	\$8.99
	Whole Foods	Goat milk	Meyenburg	USA	1qt/ 1L	\$4.99
Yoghurt	Wholefoods	Sheep milk plain Yoghurt	Bellweather farms	USA	1Lb/453g	\$5.69
	Wholefoods	Sheep milk strawberry yoghurt	Bellweather farms	USA	6oz/170g	\$2.49
Cheese	Walmart/igourmet.com	Artisan Raw-Milk Manchego	Dehesa de los Llanos	Spain	7.5oz/212g	\$10.99
	Walmart/igourmet.com	Ricotta salata	Igourmet	Italy	7.5oz/212g	\$3.99
	Andronico's	Waldvertler Australian sheep	Waldvertler Australian Sheep	Australia	1Lb/453g	\$21.99
Ice-cream	Haverton Hill Creamery	Signature sheep milk ice cream (assorted flavours)	Haverton Hill Creamery	USA	6pt lqd/2.8L	\$65.00
	Andronico's	Vanilla bean sheep milk ice cream	Negranti Creamery	USA	1pt lqd/0.47L	\$5.99

Sheep drinking milk and sheep ice cream products are largely produced from within California. Californian producers of sheep milk products are charging premiums – which would allow New Zealand producers to be able to export at a profitable margin, despite increased costs associated with exporting to the USA. This may also be reflective of the difficulties associated with USA market entry. Products which are produced outside of California include goat milk powder, and sheep cheese.

Sheep cheese originating from Australia has been observed in this market, indicating that New Zealand may find success in exporting sheep cheese to California. Overall, the market shows strong demand for sheep milk products although there are more competitors as a result. This is still very much a niche market and, despite the presence of other sheep milk products in the market, there remains strong opportunities for growth and room for new producers to enter

Refer to page 100 for value chain considerations to identify the allocation of the end retail value from all value chain participants.

% of market share by product/retail outlet

	Hypermarkets	Supermarkets	Convenience stores	Other grocery	Health and beauty specialists	Other non-grocery	Largest market share
Infant formula	28.2%	32.8%	0.8%	9.0%	3.8%	25.4%	Abbot Laboratories Inc:29.1% Brands: Similac, Similac Sensitive, PediaSure, Isomil, Similac Go & Grow Soy)
Drinking milk	35.7%	39.0%	1.9%	7.0%	-	16.4%	Dean Foods Co 13.2% Brands: TruMoo, Dean's, Mayfield, Garelik Farms, Hershey's)
Yoghurt	39.8%	43.3%	1.3%	9.1%	0.6%	5.9%	Dannon Co 24.4% Brands: Dannon, Dannon Oikos Greek, Activia, Danimals, DanActive)
Cheese	38.3%	44.5%	1.4%	8.7%	0.1%	7.0%	Kraft Heinz Co 27.3% Brands: Kraft, Kraft Singles, Athenos, Cheez Whiz)
Ice-cream	12.4%	54.7%	3.3%	5.3%	2.6%	12.5%	Dyer's Grand Ice 21.2% Brands: Häagen-Dazs, Dreyer's/Edy's, Outshine, Drumstick, Wonka)
Retailers	Wal-Mart Super Target	Kroger Albertson's Publix	7 – Eleven Couchetard/Circle K	-	Walgreens CVS	-	-

Supermarkets are the main outlet for dairy products in California, with hypermarkets also commanding a large market share. Leading brands are well established and well-known.

Sheep milk products specifically are found in small local retailers and those that focus on organics such with Whole Foods being a leading example.

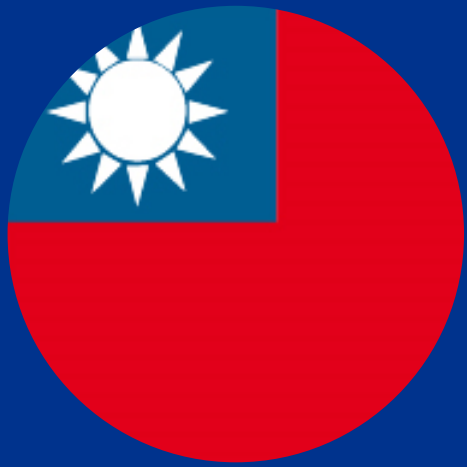
Sheep milk products are often only available at select locations; as the suppliers still tend to be of a small scale, without the ability to supply an entire chain of stores.

Distribution channels

Distribution

Logistically California and the wider West Coast is the easiest region for many New Zealand companies shipping product to the United States.

NZTE place a key importance on understanding the role of agents and distributors. Retailers will rarely purchase directly from manufacturers; instead relying on distributors and agents to source products. Agents and distributors will usually focus on specific regions within the United States. Costs associated with appointing agents and distributors should be factored into pricing decisions for the market.



Taiwan

Trade data

Market access

New Zealand producers of sheep milk products have already entered the Taiwanese market through infant formula. This indicates that there is both an appetite for sheep milk products and that exporting to Taiwan is achievable.

Taiwan recognises New Zealand's Official Organic Assurance Programme (OOAP) as equivalent to their own organic regulations.

'Guanxi' (translated as connections, business and social) are very important in Taiwan, and mutual benefit is a key principle. Exporters will need to partner with local companies to get into the market.

Liquid milk is subject to tariffs presently, although these will be eliminated in 2017. Ice-cream has recently become tariff-free with other sheep milk products being duty-free already.

Taiwan was ranked fourth in Asia by ANZ Bank in market access for New Zealand exporters. Taiwan was also ranked near the top in terms of ease of doing business. Particularly relevant to the exportation of sheep milk products, Taiwan has a strong level of supply and cool chain development infrastructure; ensuring products are able to be exported there with minimal wastage.

The new trade agreement between New Zealand and Taiwan - combined with a high degree of trade freedom for Taiwan - will allow the exportation of sheep milk products to Taiwan to take place without major difficulties.

Taiwan has relatively low levels of corruption; and is a low burden of customs procedures. The quality of port infrastructure is also high, with Taiwan ranking third amongst Asian countries. Taiwan has slightly higher sea and air freight costs than some of its counterparts, largely owing to the further distance from New Zealand.

Given the fat content of sheep milk is much higher than other dairy products, there is the potential for trans-fat levels to exceed regulated levels. The characteristics of sheep milk need to be explained to Taiwanese regulators in order for them to understand the rationale for any exceeded levels.

Targeting consumers

Taiwan consumers are heavy users of social media; consequently online promotions are very effective. Health claims are governed by the Taiwan Food and Drug Administration, and all health food products require approval from the Department of Health; as well as registration for use, which involves testing the claimed health effect for scientific substantiation. Health promotions must be backed by scientific studies, which may be conducted overseas but must be endorsed by local experts.

The John Tung Foundation is a very influential advocate group that works as advocates for health and nutrition. If sheep milk producers could work in partnership with this Foundation there would be strong prospects of success in this market.

Source
<http://www.ava.gov.sg/docs/default-source/tools-and-resources/resources-for-businesses/importrequirementspecificfoodproducts>;
http://www.ava.gov.sg/docs/default-source/e-service/2web_foodregulations_1august2013.pdf?sfvrsn=2;
<https://www.gov.uk/government/publications/exporting-to-taiwan/doing-business-in-taiwan-taiwan-trade-and-export-guide>; and
<https://www.anz.co.nz/resources/7/6/76461925-d3ec-408b-b702-901c56881124/AlternativeAsianMarkets.pdf?MOD=AJPERES>

Retail and consumer trends

Consumers in Taiwan have a high dependency on food imports and place a premium on New Zealand products. To be successful, there are several considerations companies need to pay attention to

Taiwan's food market shows significant potential in terms of both its size and its development. Taiwan's market is of a similar size to Singapore's – again, with a smaller market suited to New Zealand's limited sheep milk production capabilities.

Taiwan has strong food spending measures with a moderate growth rate. Taiwan currently has strong purchasing power and wealth, although this is not growing as strongly as some other Asian countries. Whilst Taiwan has a wealthier segment of consumers (the top 10% of earners have US\$55,900 of disposable income on average), the share of wealth this top 10% possess is low compared to other Asian counterparts. Nevertheless, this indicates that a higher percentage of the market may be able to afford the premiums associated with sheep milk products.

Taiwanese consumers spend heavily on New Zealand-origin products. It also has a high dependency on food imports and already conducts a high level of bilateral trade with New Zealand. Importantly, levels of both fat and protein consumption are high. The qualities of sheep milk products with their high fat and protein content therefore may be well suited to this market.

Spending on dairy products is projected to double between 2000 and 2020.

All households in Taiwan have a refrigerator, meaning that chilled milk products are not only viable to sell in this market, but are also desired and preferred by the population over shelf-stable milk.

Fresh milk is seen as offering greater nutritional value.

The traditional Taiwanese diet is reducing in popularity among consumers, as they are becoming increasingly open to more Westernised tastes.

Convenience stores are major players in Taiwan's growing ready-to-eat foods and home meal replacement market. Supermarkets are increasingly adding new products of ready-to-eat/ready-to-cook prepared foods. Restaurants' take-out orders (home meal replacements) have grown steadily as time-constrained consumers demand quick meals.

Food safety is the top concern in Taiwan's food industry. Taiwanese buyers in retail stores tend to buy and import those products that are already well known in the market. Taiwan recognises New Zealand organic certification, providing a point of difference in the consumer market; as well as potential to leverage New Zealand's brand attributes of being fresh, clean and safe.

The Certified Agricultural Standards (CAS) of organic food labels were implemented in 2009 to restore consumer confidence in products in Taiwan. The presence of a CAS label on a product certifies its quality and safety. Consumers will have confidence in buying organic CAS food, based on its proclaimed advantages of public health and environmental friendliness.

Taiwanese consumers are willing to pay a premium for organic labelling and fresh milk. Fresh milk is heavily promoted in stores.

Appetite for milk products can be expected to increase as Taiwan rolls out a milk-in-schools program to address calcium deficiency in children aged 10 to 12. Education is needed on the important role sheep milk could play in a healthy diet.

In-market education will be required to explain the difference between bovine, goat and sheep products, as consumers often don't understand the price differential. It's likely consumers would be substituting sheep dairy for bovine and goat dairy, rather than adding sheep milk products to their diet.

Retail and consumer trends

The following products hold the greatest appeal to Taiwanese consumers

Fresh milk

Drinking milk products are dominated by domestic producers, with international players predominantly selling powder or shelf-stable milk.

Due to the use of antibiotics and hormones to keep cows healthy, some consumers are concerned about the health risks of dairy milk.

There are both high and low seasons in Taiwan fresh milk supply. This means there is potential to sell imported products at competitive prices during the low season. There is a market for the sale of goat's milk, meaning that consumers may be open to purchasing sheep milk as well. Fresh milk is the most important dairy product in Taiwan. The value of domestic raw milk production in Taiwan increased from US\$125m in 1991 to US\$307m in 2011. Taiwanese media and advertisements encourage consumers to purchase fresh milk for its purity and quality.

Meanwhile, consumers also pay attention to certified product labels.

Yoghurt

Plain yoghurt and fruit yoghurt are the most popular. Consumers do not tend to like artificial colours or flavours for health reasons. There is increasingly greater acceptance of premium brands. Drinking yoghurt is by far the most popular product. Yoghurt sales are predicted to steadily increase over the next 5 years.

Cheese

The consumption of cheese in Taiwan continues to grow due to consumer tastes becoming increasingly Westernised. Convenience products (e.g. sliced individual packet processed cheese) are popular; and light flavours are preferred by most consumers. The majority of cheeses are imported from other countries. Consumers feel confident about the safety and quality of products from New Zealand. Younger people are keen consumers of cheese, however older generations remain wary of 'new' food.

Ice cream and frozen desserts

Domestic products dominate the market currently, however international players have recently gained share. As the Taiwanese become more aware of healthy choices, they will not be as willing to consume high-fat ice cream. Products with simple, natural ingredients are likely to have more success.

Source
Roitner-Schobesberger et al., *Consumer perceptions of organic foods in Bangkok, Thailand*, (2008);
Batte et al., *Putting their money where their mouths are: Consumer willingness to pay for multi-ingredient, processed organic food products* (2007) ;
Huang and Lee, *Consumer willingness to pay for organic fresh milk in Taiwan* (2013);
<http://www.taipeitimes.com/News/taiwan/archives/2017/01/17/2003663259>;
NZTE; and
https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods_Taipei%20ATO_Taiwan_12-18-2014.pdf

Competitor and pricing analysis

Product category	Origin	Product description	Brand	Country of origin	Pack in size	Retail price (in local currency)	Retail price (in USD)
Infant formula	RT Mart	Infant goat milk powder	Quaker goat milk	Produced in Taiwan	1350g	489 yuan	\$73.35
Infant formula	RT Mart	Infant milk powder	Children 's High Power	New Zealand	1700g	975 yuan	\$146.25
Infant formula	Ding Ding pharmacy and cosmetics; Jiu Yi pharmacy	Infant sheep milk powder	Spring Sheep New Zealand	New Zealand	700g	890	\$133.50
Drinking milk	Amart	Cow milk	AUS GREEN	New Zealand	1000ml	105 yuan	\$15.75
Drinking milk	Amart	Soy milk	Taste Whole Food Industry Co (Soy)	Taiwan	2000ml	64 yuan	\$9.60
Drinking milk	RT Mart	Goat milk powder	Sentosa	France	800g	579 yuan	\$86.85
Drinking milk	Spring Sheep Milk	Sheep milk powder	Spring Sheep Milk	New Zealand	700g	890 yuan	\$133.50
Yoghurt	Amart	Milk at the beginning	Milk at the beginning	Taiwan	500g	125 yuan	\$18.75
Ice-cream	Amart	Ice cream	Haagen Dazs	France	473ml	279 yuan	\$41.85

Spring Sheep Milk's products give profile to New Zealand sheep milk products in Taiwan. The acceptance of alternatives such as soy milk is also a positive indicator for sheep milk. Other producers can take advantage of Spring Sheep's profile with other sheep milk products such as liquid milk, yoghurt and ice cream.

The prevalence of overseas brands in the Taiwan market is also encouraging for New Zealand sheep milk products. The powder market in Taiwan appears to be more competitive than others, which could be difficult for new entrants, although it does show demand is present.

Refer to page 100 for value chain considerations to identify the allocation of the end retail value from all value chain participants.

% of market share by product/retail outlet

	Hypermarkets	Supermarkets	Convenience stores	Other grocery	Health and beauty specialists	Other non-grocery	Largest market share
Infant formula	11.9%	12.4%	2.5%	4.6%	67.4%	1.2%	Nestlé Taiwan Ltd 25.0% Brands: S-26, Klim, Nan
Drinking milk	25.1%	26.0%	41.0%	6.6%	0.2%	0.1%	Uni-President Enterprises Corp 28.5% Brands: Rareseed, Uni-President, President)
Yoghurt	20.9%	22.1%	46.2%	0.4%	-	10.4%	Uni-President Enterprises Corp 28.3% Brands: Uni-President, Duo Duo, LP33 Drinking Yoghurt)
Cheese	41.1%	43.0%	14.1%	1.8%	-	-	Fonterra Brands (New Young) Pte Ltd 56.0% Brands: Chesdale, Anchor, Anlene
Ice-cream	30.4%	32.1%	28.3%	9.2%	-	-	Namchow Chemical Industrial Co Ltd 24.2% Brand: Duroyal
Retailers	Amart RT Mart Carrefour	PX Mart Wellcome	7 – Eleven Family Mart	-	Watson's Cosmed Wellcare	-	-

The health and beauty retail sector is very competitive, with Watsons having just 9.6% market share (yet this is double the nearest competitor). The top 20 specialists account for just 30% of the market. Taobao is the main e-commerce platform used by small businesses to open online retail stores.

Taobao which is popular in China and Taiwan, currently sells goat milk formula produced in New Zealand and the Netherlands. With a series of food scandals impacting baby food in Taiwan, parents not only switched to better quality or more expensive imported brands, but trade players also actively developed more premium baby food products to regain consumer confidence.

Sheep milk infant formula from New Zealand is currently sold in pharmacies and other health and beauty specialists as the main outlet for infant formula. Sheep milk is being marketed as a healthy alternative to cows milk, and thus also complements the health and beauty specialist retail format.

Retailer

Retailer	Store format	Target	Procurement method	Store number
Far Eastern Group	A Mart (hypermarket) CitySuper (lifestyle supermarket)	Chain store for foods, drinks, wines, vegetables, fruit, groceries and daily necessities CitySuper targets medium to high income earners	Directly, consolidations, agents/distributors	19 (Amart) 6 (Citysuper)
PX Mart	PX Mart (supermarket)	Discounter. Low to medium income earners	Directly, consolidations, agents/distributors	678
Costco	Costco (wholesale)	Wholesaler, 2 nd largest hypermarket in Taiwan. High percentage of imported goods, offers membership cards.	Direct, importer, wholesaler, agent	10
Family Mart	Family Mart (convenience store)	Convenient ready to eat meal consumption & fresh foods. 28% convenience market share (July 2014)	Direct, importer, wholesaler, agent	2,914
Hi-Life	Hi-Life (convenience store)	Convenient ready to eat meal consumption & fresh foods. 13% convenience market share (July 2014)	Direct, importer, wholesaler, agent	1,295
OK Mart	OK Mart (convenience store)	Convenient ready to eat meal consumption & fresh foods. 8% convenience market share (July 2014)	Direct, importer, wholesaler, agent	880
Sung Ching/Matsusei Taiwan	Matsuei (supermarket)	Medium to high income earners. Supermarket chain for Japanese, organic and speciality foods	Direct, importer, wholesaler, agent	71
Taiwan Fresh supermarket	Taiwan Fresh (supermarket)	Medium to high income earners fresh organic food offering	Direct, importer, wholesaler, agent	40
Dairy Farm Group	Jason's Market Place (premium - supermarket) Wellcome Taiwan (supermarket)	Jason's Market Place focuses on high and upper middle income earnings and imported foods, which accounts for 50% of the products carried	Directly, and agents/distributors	7 (Jasons) 267 (Wellcome)
Carrefour Taiwan	Carrefour (hypermarket)	Largest food company in Taiwan. Localization, product differentiation, private labels, and flexible new store openings are the main factors of its success in Taiwan	Direct, importer, wholesaler, agent	69
President Chain Store Corporation	7 eleven (convenience store)	Convenient ready to eat meal consumption & fresh foods. 47% convenience market share (July 2014)	Direct, importer, wholesaler, agent	5,000 plus
RT – Market International Ltd	RT Mart (hypermarket)	Targets low income earners	Direct, importer, wholesaler, agent	26

Source

KPMG analysis of data from Euromonitor International, 2016

NOTE: Consolidations: Organisations who can arrange one consolidated shipment for a variety of new and/or already in-the-market products

Distribution channels

Distribution

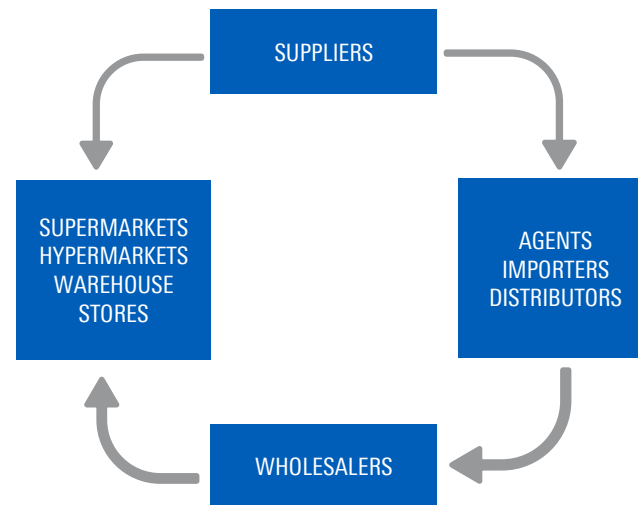
Taiwanese buyers in retail stores tend to buy and import those products that are already well-known in the market. Product catalogues and price lists are essential, along with sample products.

The same importers, distributors, and wholesalers that provide for the supermarkets, hypermarkets, and convenience stores provide for traditional markets, including wet markets and 'mum and dad' grocery stores. Unlike supermarkets, hypermarkets, and convenience stores, the wholesalers and regional wholesale markets play the most important role in distribution of products for traditional markets. Modern warehouse stores, such as Costco, also provide products to traditional markets. Pharmacies (health and beauty stores) need to be targeted for branded nutritional products to position the brand at a higher margin point.

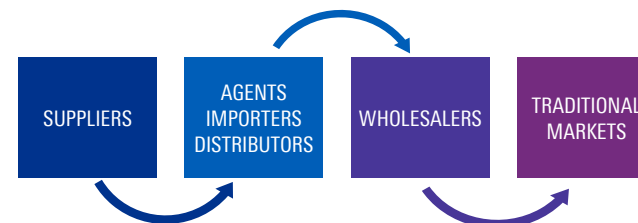
A trend for supermarkets/hypermarkets is to begin importing directly from a consolidator who can arrange one consolidated shipment for a variety of new and/or already in-the-market products.

Product design and packaging is important. Taiwan is very densely populated with a high cost of urban housing. Taiwan consumers keep a low inventory of food and in general prefer smaller units. It is necessary to package goods with regard to this.

Hypermarkets/ Supermarkets/ Warehouse stores



Traditional markets



Alimenta srl, an Italian manufacturer and a worldwide distributor of dairy ingredient powders made of Sardinian sheep milk, is one of the few European products available in Taiwan. They recently formed a joint venture with a Chinese company to make infant formula. This suggests that finding in-country partners is important to develop products and acquire channels to market.

The US Agriculture Trade Office (ATO) in Taiwan strongly recommends exporters exhibit in the Taipei International Food Show, which is the most influential trade show in the food industry in Taiwan, taking place in June every year. Taiwanese buyers in retail stores tend to buy and import directly those products that are already well-known in the market. Instead, stores prefer to buy new-to-market imported products from local suppliers.

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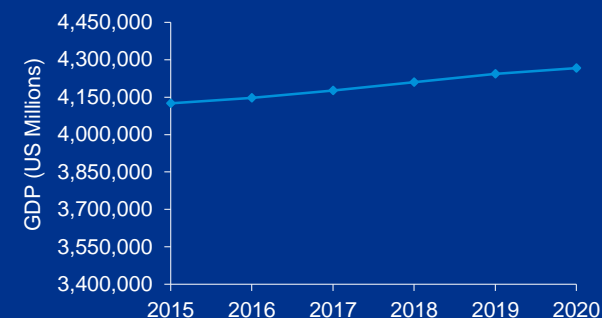
Appendices

Appendix 1: Selected market entry considerations and profiles

Forecast CPI - Japan



Japan - GDP



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)
OECD High Income	127,132,000	42,000	3.9b (2016)

Economy

Japan's economic growth slowed significantly in 2011, driven by reduced private consumption and stock building. Growth resumed in 2012 but the economy stagnated in 2014 as a result of a sales tax hike which reduced consumer spending. Real GDP is forecasted to rise no more than 0.9% per year until 2020 due to deep-rooted issues such as the ageing population.

The impact of cultural business practices, coupled with high tax rates, present potential risks for exporters. Despite a highly educated population, Japan is facing a current skills shortage and has elevated wages when compared to regional peers.

Total number of imported goods fell by 20% in 2015. Japan is dependent on the import of energy, making the country highly susceptible to movements in the global price of oil. Exports have also been declining in recent years.

Japan's ranking in Doing Business 2016 was in the bottom third of OECD High Income countries owing to low rankings for starting a business and obtaining credit. There is no public credit archive to cover the borrowing history of firms and individuals; while procedures, time and costs involved in starting a business are high compared to the OECD average. Japan has a low level of corruption and no significant terrorism risk exists.

Strengths

- Highly educated population
- High levels of expenditure on R&D
- Third largest economy globally and a wealthy consumer market

Weaknesses

- Commercial landscape somewhat constrained by cultural business practices— hierarchy is very important
- High total tax rate points to burden for businesses
- Oldest population globally

Opportunities

- Introduction of a negative benchmark interest rate could increase lending and encourage economic development
- Momentum in innovation positions Japan well in the technology sector
- TPP could open up new avenues of trade, boosting the economy

Threats

- Currency appreciation could negatively impact exports
- Difficulty filling job vacancies could negatively impact economic progression
- GDP performance is likely to remain lacklustre in the coming years

Japan: Trade

The current trading relationship

Japan is the world's third largest economy. It is characterised by consumers with high levels of disposable income, and companies with a strong global orientation and willingness to invest in sustainable, long-term products and services.

It is ranked lower than its counterparts (34 out of 189 countries) in the World Bank's "Ease of Doing Business" 2016 Report, and it is ranked in the top third of least corrupt countries in the Corruption Perceptions Index (ranked 18/167).

Market access

Dairy products may be exported to Japan, subject to tariffs. A certificate of origin is required. New Zealand does not have a Free Trade Agreement in place with Japan, however Japan is involved in the TPP negotiations.

Distribution is highly fragmented, and some cultural barriers exist to foreign market entrants. Our analysis demonstrates a moderate number of suitable distribution partners available.

The consumption tax rate is 8% (inclusive of local consumption tax rate of 1.7%) and is scheduled to increase to 10% (inclusive of local consumption tax rate of 2.2%) in 2017. The corporate tax rate ranges for income brackets - 22.46% for up to 4m yen, 24.90% for 4m yen – 8m yen, and 37.63% over 8m yen.

Tariffs

There may be bilateral negotiations between countries. In Japan some dairy products are pooled for school lunches which allows them a 0% tariff.

Non-school aggregated tariffs average around 25% plus additional tariffs to be determined on importation to Japan. Japan has a number of different categories and tariffs for each product and further advice would be needed to determine the applicable rate. We have presented what we believe will be the most commonly applied rates.

Product Description	Category	HS Code	Base rate	2016	2017	2018	2019	2020
Milk and cream, of a fat content, exceeding 1% but not exceeding 6%	Sterilised, frozen or preserved, For 'the Pooled Quota of other milk products'	0401.20.110	25.0%	25.0%	22.0%	19.1%	16.20%	13.30%
	Sterilised, frozen or preserved, Other	0401.20.190	21.3% + 114 yen/kg	21.3% + 114 yen/kg	21.3% + 114 yen/kg	21.3% + 114 yen/kg	21.30% + 114 yen/kg	21.30% + 114 yen/kg
	Other	0401.20.200	21.3%	21.3%	19.1%	19.1%	19.10%	19.10%
Milk and cream, Of a fat content, by weight, exceeding 10%	Sterilised, frozen or preserved, For 'the Pooled Quota of other milk products'	0401.50.111	25.0%	25.0%	22.0%	19.1%	16.20%	13.30%
	Sterilised, frozen or preserved, Other	0401.50.119	21.3% + 635 yen/kg	21.3% + 635 yen/kg	21.3% + 635 yen/kg	21.3% + 635 yen/kg	21.30% + 635 yen/kg	21.30% + 635 yen/kg
Yoghurt	Frozen yoghurt – for "the Pooled Quota of other milk products" Containing added sugar	0403.10.110	35.0%	35.0%	29.7%	24.5%	19.20%	14.00%
	yoghurt - Other	0403.10.90.00	21.3%	21.3%	19.3%	17.4%	15.40%	13.50%
Whey products	Sterilised, frozen, preserved	0404.10.111	35.0%	35.0%	35.0%	35.0%	35.00%	35.00%
	Other	0404.10.200	21.3%	21.3%	19.3%	17.4%	15.40%	13.50%
Butter	Butter	0405.10.121	35.0%	35.0%	35.0%	35.0%	35.00%	35.0%
Ice cream	Containing added sugar	2105.00.111	21.0%	21.0%	18.7%	16.5%	14.30%	12.1%
Infant formula	Infant formula	1901.10.111	25.0%	25.0%	20.8%	16.6%	12.50%	8.0%
Processed cheese, not grated or powdered		0406.30.00	40.0%	40.0%	36.3%	32.7%	29.0%	25.4%

Source
New Zealand Trade and Enterprise Market Information Japan;
World Bank Group: Doing Business Rankings; and
KPMG analysis and adaption of Euromonitor International 2016 data

Japan: Retail and consumer trends

As the leading importer of food, consumers demand products that are of high quality, nutritious, safe and reasonably priced. Companies that are able to provide this are poised to succeed in this market

In recent years a fundamental shift in attitudes and behaviours of Japanese consumers has become evident. This reflects low consumer confidence following poor economic performance. Traditionally known for their willingness to pay for premium goods, consumers are becoming more cautious and reducing household spending. The Japanese are becoming more accepting of imported food and more frequently use online shopping channels. Japanese consumers place high value on experiences and are willing to embrace experimentation with food products.

There is a strong desire for high quality, nutritious, tasty and safe food at a reasonable price. Product freshness and origin is very important and influences purchasing decisions for foods and beverages.

Changes in consumer behaviour have been influenced by the economic downturn, the digital revolution and a younger, less materialistic generation. Japanese consumers are now more likely to spend time at home and have become more value conscious.

Consumers are focused on health and wellbeing. This remains a key part of the Japanese culture.

The retail food industry has experienced large growth in supermarket space and online shopping channels.

Current value sales of drinking milk products declined by 1% in 2015 due to decline in the general population, as well as the number of young people – the key consumers of milk. Milk alternatives are becoming increasingly popular with soy milk continued to see the fastest current value growth, increasing by 8% in 2015. The strong health benefits of soy milk are becoming more recognised by Japanese consumers.

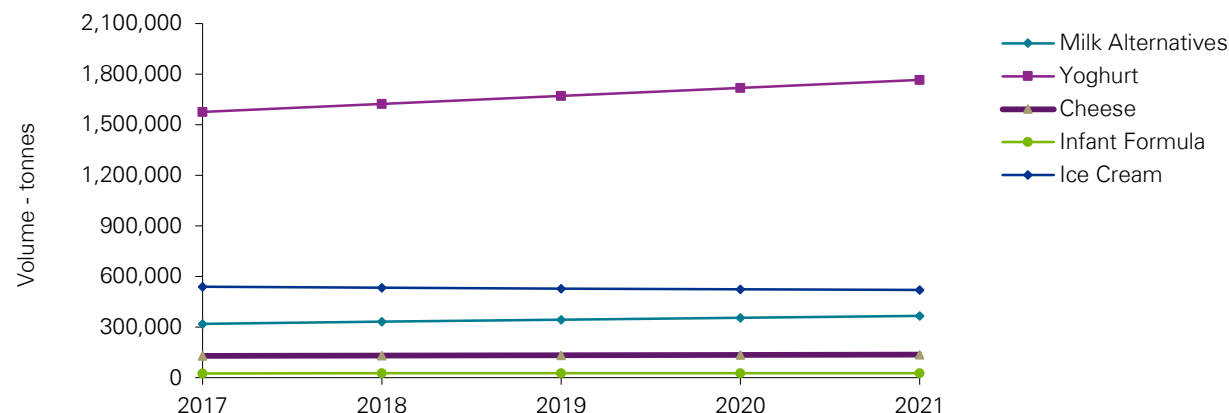
Declining birth rates have contributed to slow growth in the baby food sector. A growing number of mothers are choosing to supplement breast feeding with milk formula.

The establishment of a wine and cheese culture amongst consumers in Japan has lead to an increased consumption of cheese products, with soft cheeses the most popular with 6% current value growth in 2015.

Ice cream and frozen desserts continues to grow, largely due to strong performance in the premium ice-cream category and a shift towards consumption in the colder months.

Japanese consumers' increasing awareness about the health benefits of yoghurt is increasing sales. Drinking yoghurt demonstrated the strongest current value growth of 6% in 2015, primarily driven by the strong sales of pre/probiotic products that have scientifically proven health benefits.

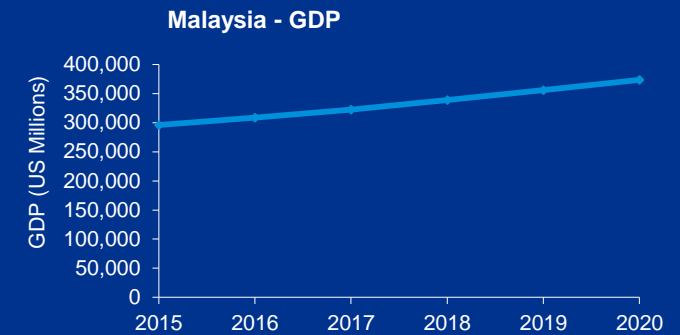
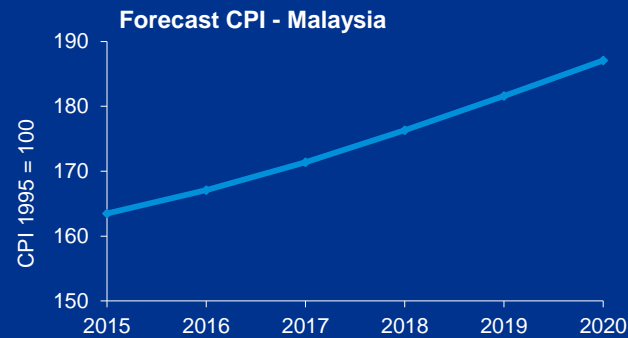
Japan - Forecast volume for dairy products (2017 - 2021)



Source
<http://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/the-new-japanese-consumer>; and
https://www.gov.mb.ca/agriculture/market-prices-and-statistics/trade-statistics/pubs/japan_consumer_report_en.pdf



Malaysia: Economy



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)	GDP Growth
Upper middle income	30,148,000	\$10,660	\$1.1b (2016)	5% (2015)

Economy

Malaysia is a highly trade-dependent economy. In 2015, the economy was adversely impacted by a depreciating currency, declining investor confidence, low commodity prices and subdued global demand. These will continue to impact the economy in the future. Yet despite downside risks, the country's economic outlook remains positive overall.

Private consumption is growing despite the introduction of GST in 2015. Growth of the real value of private final consumption was 5.7% in 2015 and an increase of 5.5% is expected in 2016. Consumer spending benefits from stable wage growth.

The unemployment rate was 3.2% in 2015 and is expected to increase to 3.4% in 2016. Despite the low unemployment rate, youth unemployment is high and labour productivity lags behind that of most Asian countries.

In recent years, political uncertainty has resulted in waning foreign investor interest. However, private investment in manufacturing and services should grow as the regulatory environment in Malaysia is marked by friendly FDI policies, rising economic freedom and low effective tax rates.

Although the country has been successful in nearly eradicating poverty, income inequality persists and was higher than in Japan and South Korea in 2015.

In 2015 Malaysia's Corruption Perceptions ranking was one of the best in Asia Pacific, owing to the impact of anti-corruption measures by the government. However, this ranking was still lower than Singapore and Hong Kong indicating that the country needs to further combat corruption, especially involving top government officials.

Strengths

- Logistical environment is well placed
- Economically free environment

Weaknesses

- Further anti-corruption measure needed
- High youth unemployment rates due to skills mismatch

Opportunities

- Government encouragement of R&D investment
- ICT sector enhancement lead by the Government

Threats

- Foreign work hiring freeze in 2016 expected to reduce the availability of skilled labour.
- A potential further decline in the ease of getting credit

Source
Euromonitor International from International Monetary Fund (IMF);
International Financial Statistics; and
KPMG analysis and adaption of Euromonitor International 2016 data

Malaysia: Trade

The current trading relationship

Malaysia is a newly industrialised market economy and a cost effective gateway into Asian markets. It is ranked highly – 18 out of 189 countries – in the World Bank's "Ease of Doing Business" 2016 Report, and it is ranked in the top third of least corrupt countries in the Corruption Perceptions Index (ranked 54/167).

Malaysia is our ninth largest trading partner and our third largest within ASEAN. In 2016 New Zealand exported \$1.1b of goods into Malaysia; predominantly milk powder, butter and dairy spreads.

Tariffs are the main instruments used to regulate the importation of goods in Malaysia, with import duties ranging from 0% to 50%.

Dairy is amongst the most highly exported product from New Zealand to Malaysia along with lamb, mutton and malt extract. Trade between New Zealand and Malaysia has grown by 56% since 2009 and is one of our fastest expanding export markets.

Market access

Dairy products are able to be exported to Malaysia with exporters only required to submit declarations of origin rather than certificates.

Under the Malaysian FTA, technical barriers to trade are reduced and sufficiently documented exports will be processed within 48 hours of submission by Malaysian customs.

The overall tax rate in Malaysia is high in comparison to regional peers although the government does offer tax rebates. All duties and customs taxes imposed on imported goods must be paid in advance before the goods will be released. Sales tax and service tax rates at 10% and 6% respectively have been replaced with a Goods and Services Tax (GST), fixed at 6%.

Tariffs

Exporters of products to Malaysia are currently able to export under either the Malaysia NZ FTA, or the AANZFTA. The Malaysia New Zealand FTA provides the most favourable terms, with the largest quota volume for milk products and a 5% compounding annual growth rate.

Product Type	Category	HS Code	Quota	Base rate	2016	2017	2018	2019	2020
Milk and cream, of fat content exceeding 1% but not exceeding 6%	In liquid form	0401.20.10	In quota	50%	0%	0%	0%	0%	0%
			Out of quota	20%	0%	0%	0%	0%	0%
	Other	0401.20.90		5%	0%	0%	0%	0%	0%
Milk and cream, of a fat content exceeding 10%	In liquid form	0401.50.1		0%	0%	0%	0%	0%	0%
Yoghurt	Flavoured	0403.10.10		0%	0%	0%	0%	0%	0%
Whey	Whey and modified whey	0404.10.00 0404.10.91		0%	0%	0%	0%	0%	0%
Butter and other fats and oils derived from milk; dairy spreads:	Butter	0405.10.00		0%	0%	0%	0%	0%	0%
Ice cream and other edible ice, whether or not containing cocoa	Ice cream	2105.00.00		0%	0%	0%	0%	0%	0%
Preparations of cereals, flour, starch or milk; pastrycooks' products	Preparations for infant use, put up for retail sale	1901.10.211		0%	0%	0%	0%	0%	0%
Cheese and curd	Cheese	0406.10.10		0%	0%	0%	0%	0%	0%

New Zealand has secured commercially significant liquid milk tariff rate quotas (TRQ) with access to the sum of 2.1m litres through the FTA.

Dairy produce and edible products of animal origin – milk, cream (fresh powder or other solid forms), yoghurt, whey, cheese and curd are exempt from import tariffs for 2016 and subsequent years.

Source
World Bank. (2016). *Ease of Doing Business Report*;
https://www.mfat.govt.nz/en/countries-and-regions/south-east-asia/malaysia/http://2016.export.govt.govt.nz/malaysia/doingbusinessinmalaysia/eg_my_072633.asp; and
<https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/malaysia-fta/>

Malaysia:

Retail and consumer trends

Convenience is increasingly important to Malaysian consumers, resulting in strong growth in products such as ice cream and frozen desserts

Malaysia's consumer market has an expenditure of US\$170.8b which is among the top 50 globally. Malaysian consumers are now demanding fresh, healthy and natural foods. This demand is driven by rising incomes and urbanisation. Malaysia has a young population and an expanding middle class with rising disposable income.

Consumers increasingly demand ice cream and frozen desserts due to the convenience that these products offer, the tropical weather and the consistent addition of new variants to existing brands. Yoghurt and sour milk products are treated as snacks due to their affordable price with steady demand.

Non-dairy milk alternatives recorded 6% current value growth in 2015. These products are mainly made from soy and are considered healthier by consumers. Drinking milk products are experiencing strong demand from consumers due to improving health awareness.

An increasing popularity around the benefits of breastfeeding has reduced demand for infant formula and baby food.

Malaysian consumers continue to display a weak appetite for cheese, as eating out of home is more common than home cooking. In addition, domestic distributors do not focus on educating consumers in the usage of cheese.

Malay Muslims represent a large majority of the population in Malaysia. The growth of Halal foods is an emerging trend in the Malaysian food sector, with Halal certification extending into wider food categories including dairy and halal. Certified products are able to attract a price premium. They cannot include unlawful or "haram" ingredients such as alcohol or animal fats and must not come into contact with haram substances during processing, transport, or packaging.

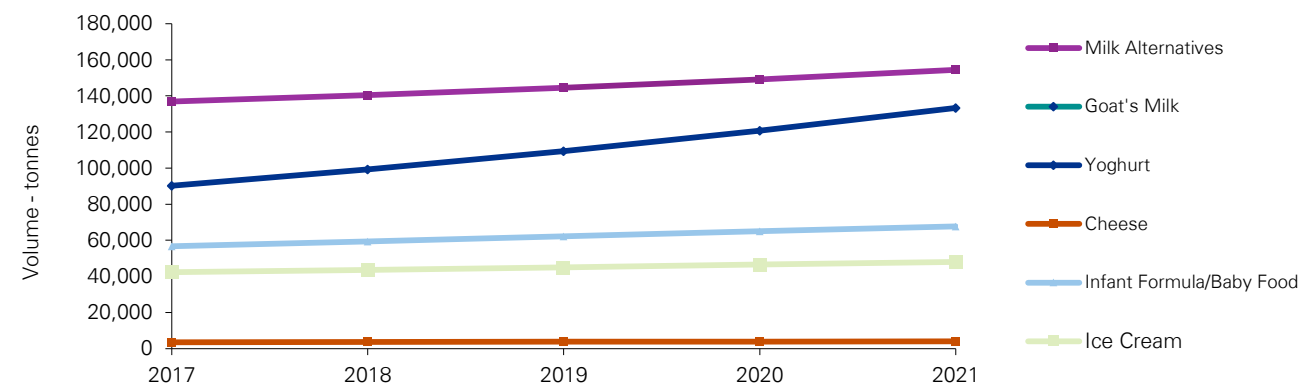
Halal considerations for sheep milk products in Malaysia include: how the milk is sourced; and whether the product contains any more animal products such as animal fats and other additives like thickener, flavours with alcohol etc.

Competitive landscape

Malaysia's food retail sector is highly fragmented, with over 50% represented by small shops and grocery stores. Approximately 43% of the retail food market is represented by larger modern store formats such as hypermarkets.

Hypermarkets and large retailers are the dominant format in urbanised areas and over half of the residents in these areas purchase their packaged goods from these large format retail stores.

Malaysia - Forecast volume for dairy products (2017 - 2021)

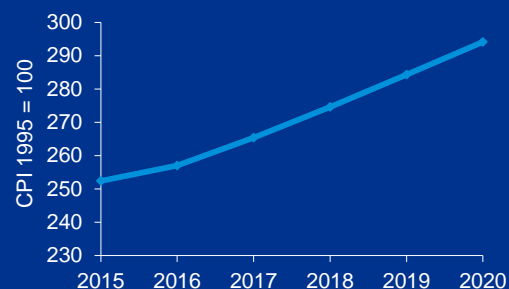


Source
KPMG analysis and adaption of Euromonitor International 2016 data; and
http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods_Kuala%20Lumpur_Malaysia_11-19-2014.pdf

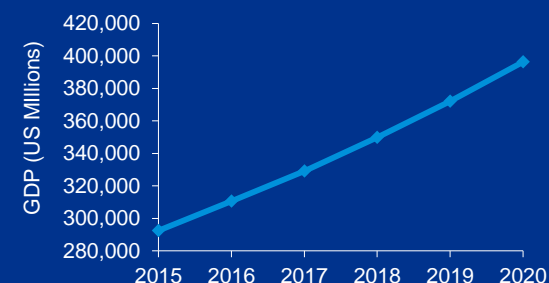


Philippines: Economy

Forecast CPI - Philippines



Philippines - GDP



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)	GDP Growth
Upper middle income	30,188,000	\$7,340 (2015)	\$841m (2016)	5.9% (2015)

Economy

The Philippine economy has been performing well. In 2015, its strong economic growth was backed by robust domestic demand, which outweighed the negative effects of a fall in exports. Low commodity prices and an increase in job opportunities will continue to strengthen household demand. This, along with a modest rebound in exports, will support economic growth. The country has its lowest level of inflation since 1988 (2015).

The Philippines is a relatively well-diversified economy with large manufacturing and services sectors. The country is a global hub for business process outsourcing, such as call centres, information technology support and accounting.

The country's recent year-on-year total goods exports in US\$ has contracted; reflecting sluggish growth in the global economy, especially in Japan and China. There has not been much change in the country's high poverty level, which has contributed to emigration. A large proportion of its population continues to work in the informal sector, due to scarce job opportunities, and the country still suffers from an inadequate infrastructure, due to underinvestment.

Machinery and Electrical was the country's largest import category in 2015. This can be attributed to the rapid growth in the Philippines' middle-class households and a large manufacturing sector that has resulted in high demand for both Chinese and Japanese electricals and machineries.

FDI inflows in the Philippines have been rising continuously since 2010. In 2014 FDI inflows into the Philippines reached a record high, as it experienced the second highest year-on-year real growth of 69.4% in FDI inflows in Asia Pacific. This was partly because of the easing of FDI norms by the government. In 2014 the government allowed the full entry of foreign banks into the country with the right to own up to a 100% stake in local banks.

Remittance inflows stood at 10.2% of GDP in 2015, highlighting the economy's high dependence on remittance inflows for consumer spending.

Strengths

- Pro-foreign direct investment, fastest growing economies of APAC
- Global hub for outsourced business
- ICT environment

Weaknesses

- High level of corruption
- Trade related infrastructure requires significant improvement

Opportunities

- Newly elected president expected to take a tough stance on corruption and crime, significantly improving the regulatory environment
- World's largest deposits of copper, gold and chromate

Threats

- Skill shortage owing to job skills mismatch and 'brain drain' could reduce growth
- Difficult tax environment
- A slowdown in Japan and China will impact export revenue

Philippines: Trade

The current trading relationship

The Philippines is a very important trading partner for NZ being our 18th largest export market (NZ\$841m - 2016) and our sixth largest market for dairy (75% of exports were dairy based products being milk powder butter, dairy spreads and buttermilk).

The Philippines is our 10th largest food and beverage export destination, with exports totalling NZ\$551m in 2012. The Philippines has emerged as one of the fastest-growing economies in Asia Pacific. The country continues to benefit from robust domestic spending, which is supported by remittance inflows from abroad. Strong economic fundamentals and investor confidence, along with a youthful workforce, are driving growth in foreign investments. However, its vulnerability to natural disasters, a poor infrastructure, and a high reliance on Asia Pacific for its export demand remain major drags on the economy.

It ranks low (103 out of 189 countries) in the World Bank's "Ease of Doing Business" 2016 Report, and it is also ranked lowly in terms of least corrupt countries in the Corruption Perceptions Index (ranked 95/168).

The Philippines has a predominantly young population with more than half the population aged less than 23 years old.

Market access

Philippines' tax environment is relatively difficult, with its total tax rate being the sixth highest in Asia Pacific for 2016. The corporate tax rate is 30%.

Income from services and goods are subject to withholding tax from 1% to 15% and this can be used as a tax credit from the corporate income tax.

There is no collection of tax by instalment. VAT is 12%. Sales, real estate, capital gains, consumption and other indirect taxes are also levied.

Philippines' ranking in the Logistics Performance Index has declined from 2010 to 2015, partly owing to a decline in the Timeliness of International Shipments category. The infrastructural environment of Philippines is relatively undeveloped with the quality of port, railroad and road infrastructure requiring significant investment.

As of May 2015, there are 326 operational special economic zones (SEZs) in the Philippines.

These SEZs provide various incentives, such as income tax holidays for a specified time period and simplified trade procedures. Distribution is through mainly traditional trade where there is low suitability for premium products, products are entered through mainly "cash and carry". A moderate number of suitable distribution partners are available.

Tariffs

The Philippines is part of the AANZFTA, accordingly rates under the AANZFTA have been quoted here. Almost all tariffs on dairy exports to the Philippines will be eliminated by 2020 with yoghurt in liquid form and dairy spreads to remain at 5%.

Product Description	Category	HS Code	Base rate	2016	2017	2018	2019	2020
Milk and cream, fat content exceeding 1% but not exceeding 6%	In liquid form	0401.20.10	3.0%	2.0%	2.0%	2.0%	0.0%	0.0%
	Other	0401.20.90	3.0%	2.0%	2.0%	2.0%	0.0%	0.0%
Milk and cream, of a fat content, by weight, exceeding 10%	In liquid form	0401.50.10	3.0%	2.0%	2.0%	2.0%	0.0%	0.0%
	Other	0401.50.90	3.0%	2.0%	2.0%	2.0%	0.0%	0.0%
Milk and cream, in powder, granules or other solid form, of a fat content, by weight exceeding 1.5%		0402.21	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yoghurt	Yoghurt in liquid form	0403.10.20	7.0%	5.0%	5.0%	5.0%	5.0%	5.0%
	All other	0403.10.90	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whey	Whey and modified whey	0404.10.00	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other	0404.90.00	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter	Butter	0405.10.00	7.0%	5.0%	5.0%	5.0%	0.0%	0.0%
Ice cream and other edible ice, whether or not containing cocoa	Ice cream	2105.00	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Food preparations not elsewhere specified or included	Preparations for infant use, put up for retail sale	1901.10.99	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese and curd - Fresh (unripened or uncured) cheese, including whey cheese		0406.10	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Processed cheese, not grated or powdered		0406.30.00	7.0%	5.0%	5.0%	5.0%	0.0%	0.0%

Source
KPMG analysis and adaption of Euromonitor International 2016 data;
<https://www.nzte.govt.nz/en/export/export-markets/east-asia/philippines/Corruptions-perception-index-2015>; and
Tariff data sourced from: <https://tariff-finder.fta.govt.nz>

Philippines: Retail and consumer trends

Nearly all dairy is imported, with volumes for a range of products rising, supported by a growing sense of health consciousness and emphasis placed on convenience

The Philippines is highly dependent on milk imports, with more than 95% of the local dairy requirement being supplied by other countries.

Aside from the growing health consciousness which continues to drive Filipino consumers to make better food choices, another lifestyle trend that is boosting growth in drinking milk products is their increasingly busy lifestyles being led by urban dwellers.

Drinking milk products have recorded current value growth of 3% in 2016, which was marginally slower than the 4% current value growth recorded in the category in 2015.

The milk alternatives available in grocery retailer outlets in the Philippines are mostly in ready-to-drink format. Soy milk is the most widely available of these products in grocery retailers outlets, although some retailers are also selling several brands of almond milk as well. Health food retailers sell wider ranges of milk alternatives, including hazelnut milk, oat milk, rice drinks, seven grains drinks and coconut milk, among others.

Purchases of milk alternatives are driven by various motives. Some favour these products because of health issues such as lactose-intolerance or dairy allergies. The leading soy milk brand has attained success by promoting the brand as a healthy energy booster.

The birth rate in the Philippines is expected to continue on a gradual downward trend in 2016, and this is one factor set to remain adversely impacting growth in baby food.

Powdered milk formula is also more convenient for parents to store as it does not require refrigeration.

Cheese is typically consumed as a sandwich filling or used as an ingredient for cooking. Slow growth in the category is indicative of the stronger preference for more affordable processed cheese brands among the vast majority of the Philippine population.

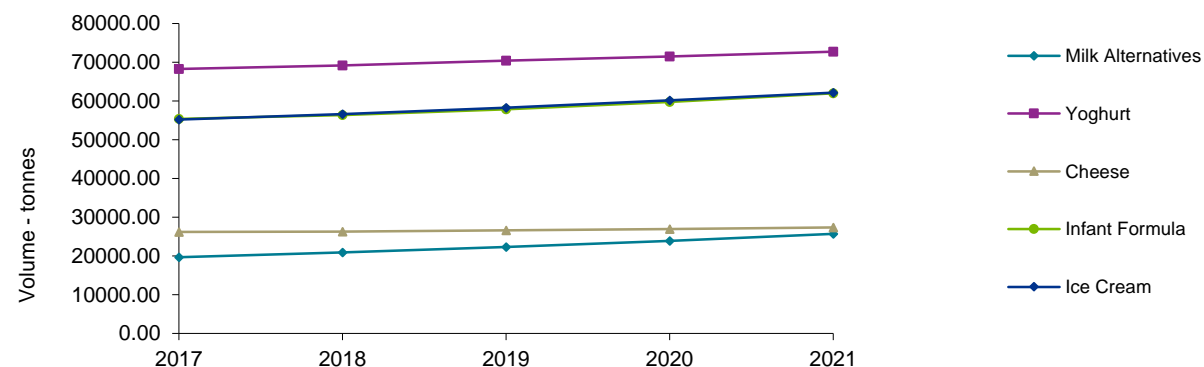
Ice cream is generally regarded as an indulgence, and with the tropical climate in the Philippines, is consumed year-round. Ice cream and frozen desserts current value sales rise by 6% in 2016.

As yoghurt is considered healthy, the consumer base for yoghurt is expected to grow as the health and wellness trend is prompting Filipino consumers to make better food choices in order to avoid developing specific diseases and health conditions related to poor diet.

Competitive landscape

Grocery retailers outlets such as sari-sari stores (traditional neighbourhood stores) are the key distribution channel for drinking milk products, accounting for 47% of value sales in the category in 2016. This is mainly due to the proximity of these outlets to the homes of consumers, as the range available in these outlets is mostly limited to economy shelf stable milk brands. Supermarkets provide a wider range of options in terms of products and brands, and this remains a significant distribution channel for drinking milk products, with a value share of 37% in 2016.

Philippines- Forecast volume for dairy products (2017 - 2021)

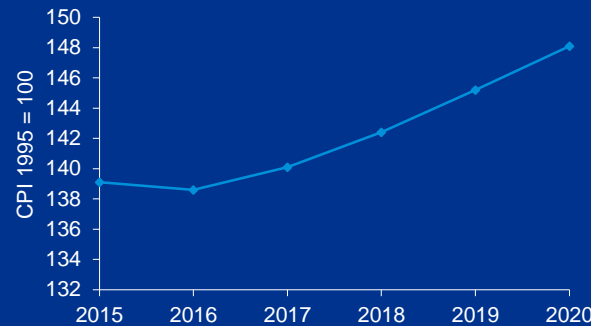


Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports

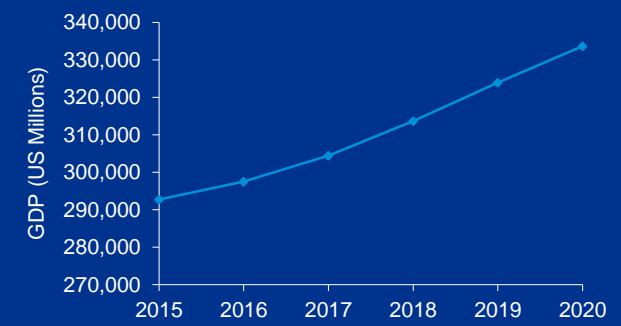


Singapore: Economy

Forecast CPI - Singapore



Singapore - GDP



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)	GDP Growth
High Income	5,470,000	\$76,860	\$1.6b (2016)	2% (2015)

Economy

Singapore's trade profile means a declining global economy is expected to weigh on Singapore's future economic growth. However, the country continues to benefit from its easy business environment, a high current account surplus, and low oil prices since mid-2014. With one of the fastest ageing populations in the world, Singapore's economic output and government finances will face major challenges in the future.

Private consumption growth in Singapore was 1.9% in 2015 with a rise to 4.8% predicted for 2016. Singapore is the world's second most export-dependent economy, with the majority of goods going to China, Hong Kong and Malaysia.

Unemployment in Singapore was 1.9% in 2015, and the country has an above-average higher education rate. Despite this, Singapore faces a shortage in skilled labour. Singapore's government provides financial loans to those in need for education including 75% of the tuition fee. Education attracts large scale government spending and is predicted to record the largest gains in spending in the next decade.

The Singaporean government stand out in implementing reforms conducive to business growth. Singapore's anti-corruption and regulatory strategies are effective and the country has been highly successful in curbing corruption.

Being highly dependant on trade does threaten the economy, with a slowdown in China significantly effecting the economy in 2015.

Strengths

- One of the most business friendly countries in the world, supported by high regulatory quality and competitive business environment
- A rising focus on increasing credit by the government so as to make access to credit easier

Weaknesses

- Highly open economy, therefore vulnerable to external risks and global economic downturns
- High labour costs are a major disincentive for foreign investors

Opportunities

- The government plans to help SMEs through better credit facilities and an increase investments in rail projects, airports and social infrastructure

Threats

- An aging population and high social security spending will put pressure on government finances
- Interest rate hikes in the USA and further slowdown in China will weigh on Singapore's future economic growth

Source

KPMG analysis and adaption of Euromonitor International 2016 data; Euromonitor International from International Monetary Fund (IMF); and International Financial Statistics

Singapore: Trade

The current trading relationship

Singapore is an affluent, Westernised city-state with low corruption and a strong rule of law. As the shipping and logistics hub of South East Asia, it is a gateway into the ASEAN region. Singapore is often used by New Zealand businesses as a base for operations in South East Asia. It is ranked 1st out of 189 countries in the World Bank's "Ease of Doing Business" 2016 Report, and it is ranked very highly in least corrupt countries in the Corruption Perceptions Index (ranked 8/167).

New Zealand and Singapore share open market philosophies with governments of each country facilitating trade between the countries. Singapore is a top ten trading partner of New Zealand, with total trade between the two countries worth NZ\$4.5b in 2014. NZ's goods exports to Singapore (2014) are primarily made up of dairy (43 percent), and oil (12.3 percent).

Singapore has an ageing population; with 8% of elderly in the current population, and this is expected to rise to 11% by 2030. Singapore has a growing population and a high percentage of foreign workers. However, higher than current population growth rates are required to address an ageing population.

Market access

To satisfy rules of origin, Singapore requires its importer to have a certification of origin from the NZ manufacturer.

Singapore is one of the world's most open economies enabling convenient trade and the ability for foreigners to start a business based out of Singapore.

Singapore has a corporate tax rate of 17%, and GST of 7% is payable on non-dutiable goods. Goods subject to duties will also be subject to GST if they are imported for local consumption. Singapore's tax regime is one of the most attractive globally, with the corporate tax rate the third lowest in the region and partial tax exemptions offered on top of this.

Tariffs

Exporters of products to Singapore are currently able to export under the three different trade agreements: the NZ-Singapore CEP; the AANZFTA; or the P4 (Transpacific Strategic Economic Partnership). Under all agreements, the base rate for import is 0% for most goods.

Product Type	Category	HS Code	Base rate	2016	2017	2018	2019	2020
Milk and cream of a fat content exceeding 1% but not exceeding 6%	In liquid form	0401.20.10	0%	0%	0%	0%	0%	0%
Milk and cream of a fat content exceeding 10%	In liquid form	0401.50.1	0%	0%	0%	0%	0%	0%
Milk or cream	In powder, granules or other solid form	0402.21.20	0%	0%	0%	0%	0%	0%
Yoghurt	In liquid form	0403.10.20	0%	0%	0%	0%	0%	0%
Whey	Whey and modified whey	0404.10.00	0%	0%	0%	0%	0%	0%
Butter and other fats and oils derived from milk; dairy spreads:	Butter	0405.10.00	0%	0%	0%	0%	0%	0%
Ice cream and other edible ice, whether or not containing cocoa.	Ice cream	2105.00.00	0%	0%	0%	0%	0%	0%
Preparations of cereals, flour, starch or milk; pastry cooks' products	Preparations for infant use, put up for retail sale	1901.10.20	0%	0%	0%	0%	0%	0%
Cheese and curd - Fresh (unripened or uncured) cheese, including whey cheese	Cheese	0406.10.10	0%	0%	0%	0%	0%	0%
Processed cheese, not grated or powdered	Cheese	0406.30.00	0%	0%	0%	0%	0%	0%

Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports;
World Bank. (2016). *Ease of Doing Business Report*;
NZTE; and
Tariff data sourced from: <https://tariff-finder.fta.govt.nz>.

Singapore: Retail and consumer trends

Country of origin, quality and convenience are major areas of consumer focus in what is a dynamic and competitive market

Despite Singapore's consumer market being limited by the small population, there is expenditure of US\$106.8b. Singapore is a well-developed economy, with consumer spending predicted to grow between 2.3%-3.3% over each of the next two years.

Singapore consumers are being increasingly Westernised in their preference for food and the trend towards healthy eating is well established. Demand for organic, natural products is growing.

The retail food market in Singapore is dynamic, diverse and extremely competitive, with a large proportion of retail food being imported.

Fat-free fresh milk recorded a retail value growth of 6%. Drinking milk products recorded retail value growth of 3% with unit prices set to continue to increase in most categories of drinking milk products.

The milk alternatives category in Singapore continued to be characterised by soy milk, which has recorded stable growth of 4% in 2016. While some lactose intolerant consumers evidently opt for soy milk as a more palatable alternative, the category's strong performance can mainly be attributed to the widespread familiarity and enduring popularity of soy milk among locals.

Demand for other milk alternatives, such as rice milk remains niche. These types of products are usually purchased by a very small segment of consumers who are either lactose intolerant or committed to a gluten-free diet, for example.

Interest in Western cuisine continues to drive cheese consumption in 2016. Retail value growth of cheese is expected to remain robust over the forecast period, as interest in cheese products continues to grow.

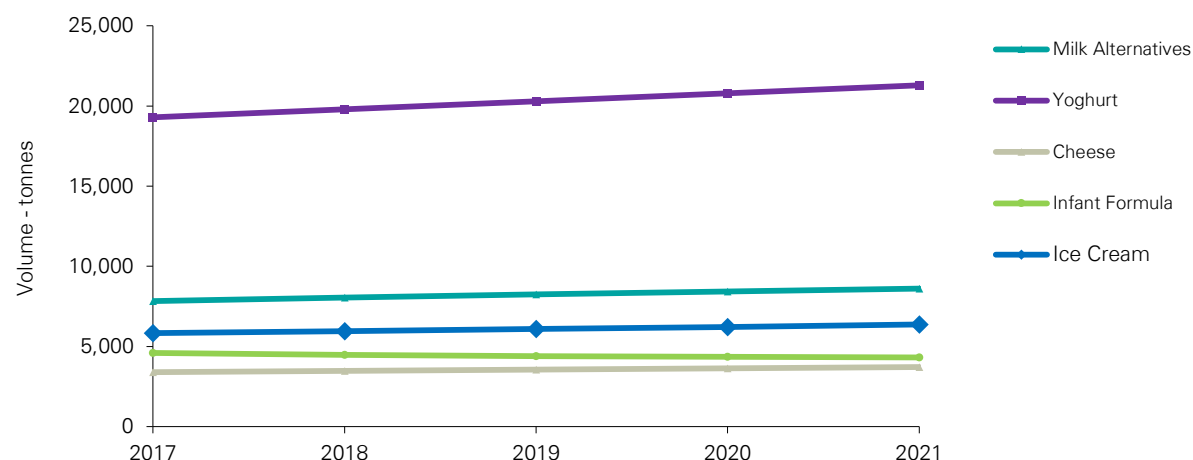
In 2016 reduced sugar and sugar-free ice cream has shaped new product developments. Greek/Greek-style yoghurt is becoming increasingly popular in Singapore with a trend towards more natural ingredients.

Competitive landscape

In 2016, drinking milk products were purchased mainly through major supermarkets, which held a 71% share of retail value sales. Hypermarkets held a 17% share, while convenience stores and independent small grocers each held 5% retail value shares.

Three main chains dominate the retail sector – NTUC FairPrice, Sheng Siong Supermarket and Dairy Farm International, with the later two offering both physical online stores.

Singapore - Forecasted volume for dairy products (2017 - 2021)

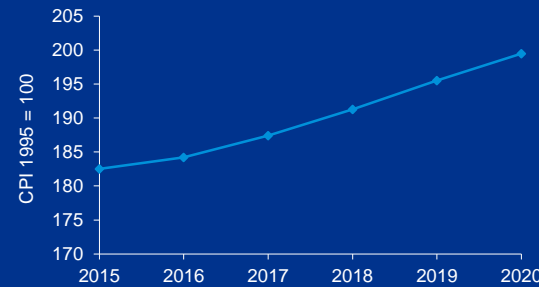


Source
KPMG analysis and adaption of Euromonitor International 2016 data; and
http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods_Singapore_Singapore_10-23-2014.pdf

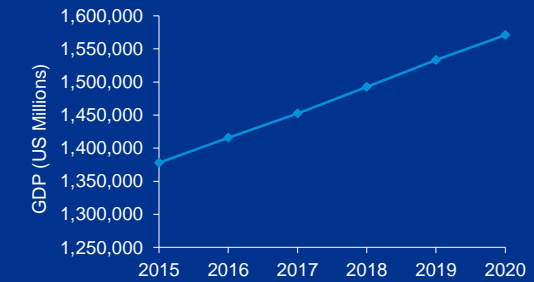


South Korea: Economy

Forecast CPI - South Korea



South Korea - GDP



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)
High Income	50,617,000 – 0.4% growth rate	\$27,253,60	\$2.2b (2016)

Economy

The South Korean ("Korea") economy is the fourth largest in Asia Pacific, in US\$ terms. The government is tackling long term social and economic challenges such as reviving a slowing economy, regional imbalances, addressing the aging population and restoring the middle class.

It is very easy to start a business in South Korea. Coupled with rising levels of economic freedom and a low tax burden, this has made the business environment competitive.

Economic growth was subdued in 2015, with reduced growth in South Korea's household consumption and a decline in exports. Manufacturing is a major driver of growth, however increased competition from the Chinese has lowered profit margins.

Korea relies heavily on trade, exposing the economy to fluctuating demand and exchange rates. The service sector makes up 59.0% of GDP. The sector is excessively protected and productivity is very low. Agriculture employs a small proportion of the workforce, and diminishing access to land makes the country dependant on the import of food and agricultural products.

Farmers enjoy a high level of support, receiving more than twice the OECD average, which may make competition difficult.

The labour market is rigid, however the rising youth unemployment rates are an ongoing challenge. South Korea has a high degree of skilled workers, however faster growth is required in the services sector to reduce the nation's dependency on exports.

Political tension with North Korea's nuclear ambitions has the potential to impact investment and exacerbate the current slowdown in domestic demand.

Strengths

- Ranked 4th out of 189 countries in the Ease of Doing Business 2016 – better than the USA and UK
- Highly innovative nation
- The country continues to experience surplus in current account and trade

Weaknesses

- Lack of corruption eradication reforms
- Rigid labour market makes it difficult to hire and fire employees
- Dependence on trade and low productivity in service sector

Opportunities

- Further investment in infrastructure will make South Korea a more competitive business environment
- High proportion of population have obtained higher education – highly skilled workforce
- A large number of new trade agreements recently signed

Threats

- Rising youth unemployment poses a significant challenge to the labour market
- Household debt is increasing and may suppress consumer spend
- Relations with North Korea

Source
KPMG analysis and adaption of Euromonitor International 2016 data;
Euromonitor International from International Monetary Fund (IMF); and
International Financial Statistics.

South Korea: Trade

The current trading relationship

Korea and NZ have a complementary trading relationship, with each country being able to export goods in demand to the other. Korea is dependent on the import of food and agricultural products, with a large proportion (70%) of food and agricultural products being imported in 2014. New Zealand exported NZ\$220m of dairy products during this period to the country.

South Korea is one of the easiest places in the world to do business, with advantages such as a highly developed information, communications and technology (ICT) environment and a highly educated population. However, tackling corruption and reducing the rigidity of the labour market will improve the business environment further. An efficient regulatory environment coupled with an improving logistical environment are also strengths of the nation, but access to credit needs a significant boost.

Korea is ranked 4th in the world for Ease of Doing Business; as well as 2nd in enforcing contracts, 8th in protecting minority investors, and 31st in trading across borders. Korea has relatively low levels of corruption when compared to other countries in the Asia Pacific region. It is ranked the 37th least corrupt country globally, and 8th in Asia Pacific.

Market access

The New Zealand – Korea Free Trade Agreement entered into force in late 2016, improving access and allowing NZ exporters to grow their presence in the Korean market. Close to 100% of exports will have duties eliminated via progressive phasing out through linear reduction in tariffs and quotas.

There are significant implications for New Zealand's dairy exports to Korea. Prior to the FTA, the cost of import was extremely high with dairy products subject to tariffs ranging from 36 – 176%. These tariffs will be eliminated between Years 6 and 14 after FTA entry comes into force. During the phasing period, New Zealand exporters will also have access to transitional tariff rate quotas with zero quota duty for cheese, butter and infant formula as well as a permanent TRQ on milk powder.

Exporters must submit an electronic or written declaration of origin in order to receive preferential tariff treatment. New Zealand has a double taxation agreement in place with South Korea. The Korean corporate tax rates are currently: 10% on the first KRW 200m of the tax base.

20% up to KRW 20b and 22% for amounts above KRW 20 billion.

Tariffs

Exporters of products to Korea are able to do so under the KNZFTA. Quotas are based on auctions held throughout the year, with quotas growing at a rate of 2-3% per year.

The quota for whole milk powder is capped at 1957MT with a quota of 1545MT in 2016. Butter will be tariff and quota free by 2024 with the quota currently 824 tonnes. Cheese will be tariff and quota free from 2026, with the quota currently 7210 tonnes. Infant formula currently has a quota of 235 tonnes and will be tariff and quota free from 2027.

Product Description	Category	HS Code	Quota	Base rate	2016	2017	2018	2019	2020
Milk and cream, fat content above 1% but not exceeding 6%	In liquid form	0401.20.00.00		36.0%	32.4%	30.6%	28.8%	27.0%	25.2%
Milk and cream, in powder, granules or other solid form, of a fat content exceeding 1.5%	Whole milk powder	0402.21.10.00	In quota	176.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			Out of quota	176.0%	176.0%	176.0%	176.0%	176.0%	176.0%
Yoghurt	Yoghurt - Fluid	0403.10.10.00		36.0%	31.2%	28.8%	26.4%	24.0%	21.6%
Whey	Whey and modified whey	0404.10.10.11		49.5%	39.6%	34.6%	29.7%	24.7%	19.8%
Butter	Butter	0405.10.00.00	In quota	89.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			Out of quota	89.0%	70.2%	62.3%	53.4%	44.5%	35.6%
Ice cream and other edible ice, whether or not containing cocoa.		2105.00.10		8.0%	5.7%	4.5%	3.4%	2.2%	1.1%
Infant formula	Infant formula	1901.10.10.90	In quota	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%
			Out of quota	40.0%	34.7%	32.0%	29.3%	26.7%	24.0%
Cheese and curd - Fresh (unripened or uncured) cheese, including whey cheese	Other	0406.10.30	Out of quota	36.0%	31.2%	28.8%	26.4%	24.0%	21.6%
			Out of quota	36.0%	31.2%	28.8%	26.4%	24.0%	21.6%

Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports;
World Bank. (2016). *Ease of Doing Business Report*; and
Tariff data sourced from: <https://tariff-finder.fta.govt.nz>.

South Korea: Retail and consumer trends

Young South Korean consumers are moving away from traditional local products, presenting opportunities for international producers – particular of niche products

South Korean consumers are becoming increasingly sophisticated – they seek premium products, international brands and new flavours. Korea depends on the import of food and beverages and young consumers are looking to try non-traditional, niche products. Trends in health are evident, with organic products experiencing strong growth.

South Korea has the penetration of online grocery globally. Koreans are digital consumers and highly influenced by marketing, so social media platforms will be important for exporters.

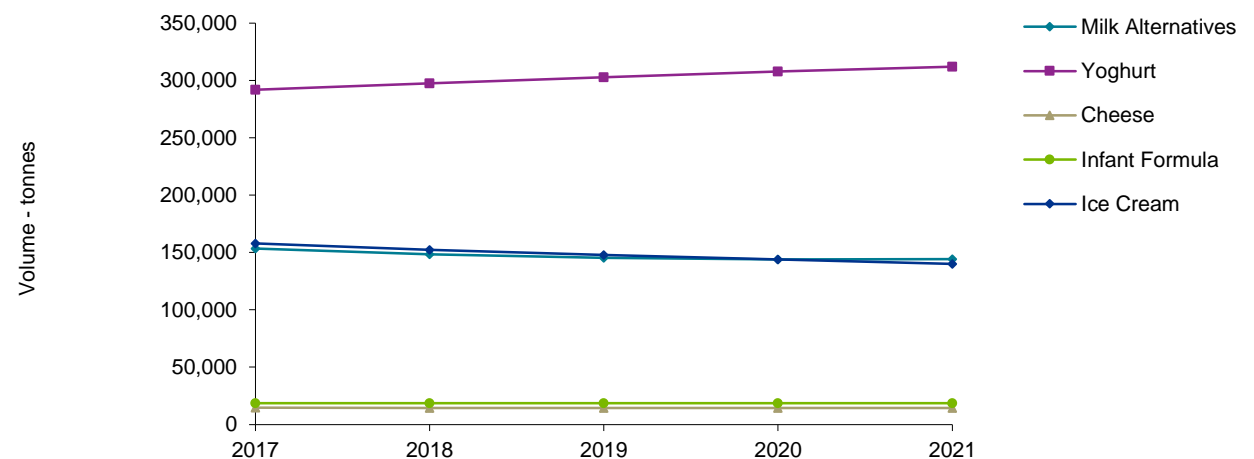
However Korea is not traditionally an early adopter in the food and beverage space. It can be a very difficult market to penetrate for products with new concepts, and generally requires the product to be well-proven in other markets first e.g. Japan, USA.

Liquid infant formula emerged rapidly in 2016, with demand increasing by 50%. Goat milk formula, considered a premium product by Korean consumers, has also experienced growth with an increasing number of brands and retailers. Consumers are very loyal in this category, with few changing brands once they have made a choice. Just under 50% of baby food is distributed through internet retailing, with consumers valuing the relative ease of purchasing in bulk and home delivery.

Dairy products are predominantly distributed through hypermarkets and supermarkets, with some convenience stores and mixed retailers gaining market share. Cheese products are increasing in popularity, as the Korean consumer becomes more interested in non-traditional foods. There is a growing demand for healthy, high quality products and new taste experiences.

Bulk ingredients supply for major Korean dairy suppliers could be the most appropriate entry channel. Finished sheep milk consumer products exported under New Zealand company branding may find it difficult to enter the market - as in almost all dairy categories, local brands dominate. It is difficult for foreign brands to enter without very significant brand power already well-established overseas. As sheep milk is a new product to the South Korean public, it will need the marketing support of a local South Korean brand (and the trust associated with that brand) to convince consumers to make their first purchase.

South Korea - Forecast volume for dairy products (2017 - 2021)

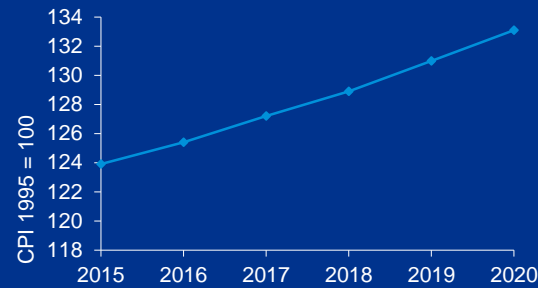


Source KPMG analysis of data from Euromonitor International, 2016

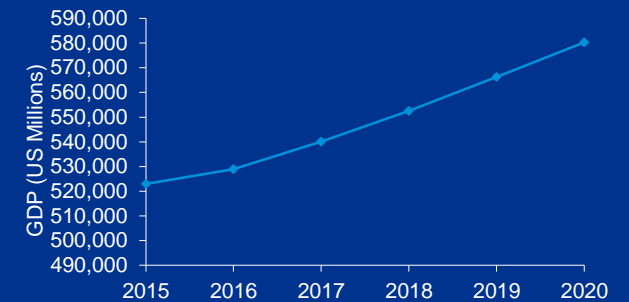


Taiwan: Economy

Forecast CPI - Taiwan



Taiwan - GDP



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)	GDP Growth
High Income	23,434,000	\$22,598	\$1.3b (2016)	3.7% (2014)

Economy

Taiwan's economy is expected to improve but still perform sluggishly in 2016. The economy is supported by tourism, a healthy domestic job market and modest gains in consumption. Exports are expected to continue to contract, owing to the slowdown in mainland China. Growth of investment will also slow. The high cost of housing significantly limits spending for other purposes. Growth of real GDP will average about 2.7% per year in 2017-2020 and a rise in private investment and growth in the manufacturing sector will provide most of the support.

Taiwan's complex relationship with China continues to evolve. China (along with Hong Kong) buys a large portion of Taiwan's exports and the economic ties have become too important to jeopardise. The present Government is hesitant to build closer ties with the mainland.

Unemployment was 3.8% in 2015 and it will rise to 4.0% in 2016. Approximately 17% of the workforce is employed at the minimum wage. In the World Economic Forum's global competitiveness ranking (2014), Taiwan ranked 14 out of 144 economies, versus 12 out of 148 economies in the previous year.

Agriculture accounts for a small portion of GDP and 5.3% of the workforce. Taiwan's dense population requires small-scale farming. To compete with factory-farms in industrialised countries, they have become very adept at developing high value-added products such as organic foods. Scandals over the use of tainted oil hurt food suppliers in 2014. A new trade agreement between China and Taiwan came into effect in 2014 (ECFA). The ECFA cuts tariffs on 539 Taiwanese exports to China and 267 Chinese products entering Taiwan. Almost US\$14 billion of Taiwanese goods exported to China will have their tariffs reduced or removed. Chinese exports worth just under US\$3 billion will enjoy lower or zero tariffs.

Strengths

- 6th largest economy in Asia Pacific (2015)
- Leading high tech manufacturing hubs of Asia Pacific

Weaknesses

- High cost of housing limits discretionary spending
- Heavy dependence on trade exposes FX vulnerability
- Female employment rates are low

Opportunities

- Government aims to make Taiwan a regional start-up hub
- 2010 FTA with China

Threats

- Aging population could hinder public finances
- Growing Chinese influence could increase public discontent

Source

KPMG analysis and adaption of Euromonitor International 2016 data; Euromonitor International from International Monetary Fund (IMF); and International Financial Statistics

Taiwan: Trade

The current trading relationship

New Zealand is the largest supplier of dairy products in Taiwan. In addition, New Zealand's meat, fruit, seafood and forest products are very popular with the Taiwanese.

Taiwan's limited agricultural capacity means there is a strong reliance on imported food and beverages. Competition tends to be with other imported brands. The NZ\$4b market of nutraceuticals/health products is mostly supplied by imports. Taiwan holds opportunities for branded natural products and ingredients.

Taiwan's potential for trade is heavily influenced by China. Owing to China's considerable influence, Taiwan has only a limited number of FTAs in force and their participation in any future agreements will also be influenced by China.

Taiwan is ranked highly (11 out of 189 countries) in the World Bank's "Ease of Doing Business" 2016 Report, and is in the top 20% of least corrupt countries in the Corruption Perceptions Index (ranked 30/168).

Market access

The total tax rate equated to 34.2% of commercial profits, almost on par with the East Asia & Pacific average of 34.4%, according to Doing Business 2015.

Taiwan has an attractive corporation tax rate of 17.0% in 2015. NZ has a DTA with Taiwan. Taiwan has two goods and services tax, VAT (5% standard) and BT (ranges between 0.1%, agricultural products and 25% for establishments).

Taiwan has modern and intermediate distribution channels. A moderate level of suitable domestic trading partners are available to exporters.

New Zealand does not have an Embassy in Taiwan, however trade and cultural interests are supported by the NZ Commerce and Industry office in Taiwan.

Tariffs

ANZTEC is a comprehensive trade agreement that liberalises and facilitates trade of goods and services, and investment between the two markets. This will result in the removal of tariffs, over time, on 100% of New Zealand current exports to Taiwan.

The agreement took force on 1 December 2013. On issue, virtually all New Zealand dairy exports including milk powder cheese and butter became duty free. After a period of 12 years from coming into force, tariffs on New Zealand liquid milk will be eliminated.

New Zealand will enjoy specific duty-free trade tariff quotas with expanding volumes. Initially, the liquid milk quota volume will be 5,500 tonnes. Importantly, New Zealand exporters will also retain the right to trade under Taiwan's WTO global tariff quotas.

ANZTEC does not require third-party issued certificates of origin to support an importer's claim of preferential tariffs. Rather, the Agreement allows an importer to make a claim for preferential tariff treatment based on a written declaration/certificate of origin or other evidence to substantiate the tariff claim.

Product Description	Category	HS Code	Base rate	2016	2017	2018	2019	2020
Cream and other milk, of a fat content, exceeding 1% but not exceeding 6%	Not concentrated	0401.20.90	20%	5%	0%	0%	0%	0%
Milk and cream, of a fat content, by weight, exceeding 10%	Not concentrated	0401.50.1	20%	0%	0%	0%	0%	0%
Milk or cream, in powder, granules or other solid form, of a fat content, by weight exceeding 1.5%	Milk powder	0402.21.20	10%	0%	0%	0%	0%	0%
Yoghurt	Yoghurt	0403.10.00	15%	0%	0%	0%	0%	0%
Whey	Whey and modified whey	0404.10.00	5%	0%	0%	0%	0%	0%
Butter	Butter	0405.10.00	5%	0%	0%	0%	0%	0%
Ice cream and other edible ice, whether or not containing cocoa	Ice cream	2105.00.10	10%	2.5%	0%	0%	0%	0%
Preparations of cereals, flour, starch or milk; pastrycooks' products	Infant use -retail sale	1901.10.00	5%	0%	0%	0%	0%	0%
Cheese and curd - Fresh (unripened or uncured) cheese, including whey cheese	Cheese	0406.10.10	5%	0%	0%	0%	0%	0%
Processed cheese, not grated or powdered	Cheese	0406.30.00	5%	0%	0%	0%	0%	0%

Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports;
World Bank. (2016). *Ease of Doing Business Report*; and
Tariff data sourced from: <https://tariff-finder.fta.govt.nz>

Taiwan: Retail and consumer trends

Consumers in Taiwan have a high dependency on food imports and place a premium on New Zealand products.

In 2015, drinking milk products grew by 2% in current value terms to reach sales of NZ\$1.2b. A series of food scandals impacted baby food in Taiwan, where fertility rates are low. This saw parents switch to better quality or more expensive imported brands, while trade players responded by developing new premium baby food products to regain consumer confidence.

Other non-dairy milk alternatives outpaced dairy growth in 2015 with 4% value growth. Some consumers switched from fresh or powder milk due to concerns about food safety or lactose intolerance.

Average unit price in drinking milk products increased by around 2% in current terms in 2015 due to limited milk supply in Taiwan.

Consumers prefer chilled fresh milk to flavoured milk drinks because flavoured milk contains sugar and some artificial flavourings or colours.

The main non-dairy milk alternatives are made from soy, rice and oats in Taiwan. Drinking milk products are dominated by domestic players, as all fresh milk is produced locally. International players mainly sell powdered milk or shelf stable milk, which are less popular. Convenience stores accounted for a 41% value share of drinking milk products in 2015.

New product launches such as organic milk could boost value growth in the future. Consumers are becoming willing to pay a premium for better quality products following several food safety scandals. However, it is not easy to produce organic fresh milk in Taiwan due to environmental constraints. In addition, the only imported organic milk is shelf stable, while consumers prefer chilled fresh milk.

While a rise in the consumption of non-dairy milk alternatives has been observed, consumption of goats milk had declined by 12.1% over the last five years.

The potential of cheese in Taiwan continues to grow, as consumers' eating habits become increasingly Westernised, especially more sophisticated consumers.

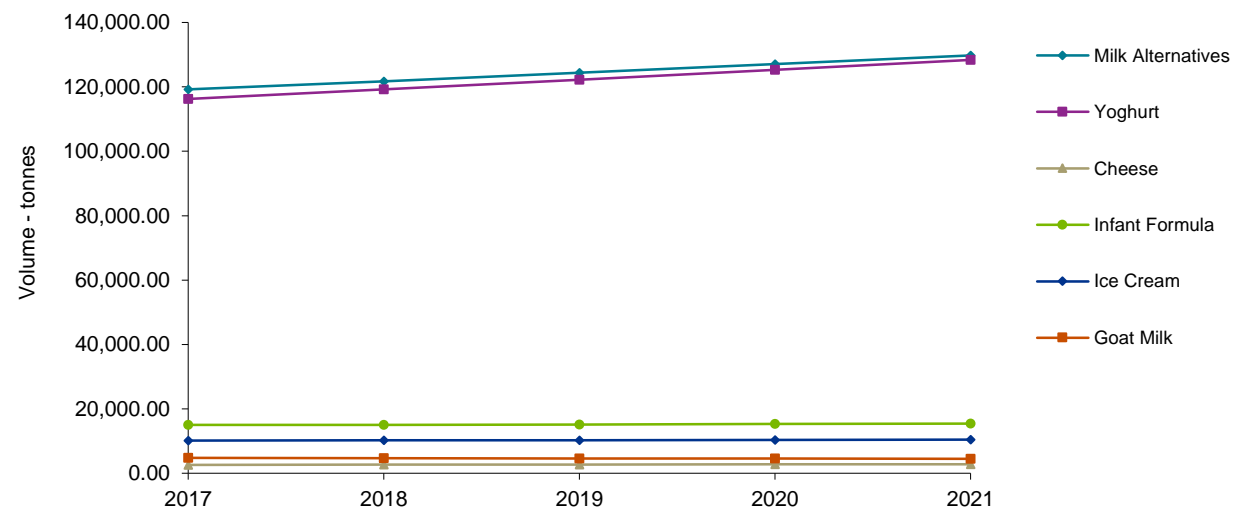
In the last few years, upscale supermarkets have all offered hard cheese products from the Netherlands, Denmark and France. The variety includes gouda, cheddar, parmesan and edam to create demand among this niche group.

Moreover, consumers are increasingly willing to pay more for better quality and imported brands.

The competitive landscape

To sustain consumers' interest in dairy products, manufacturers are investing in new product development to satisfy ever-changing consumer tastes. For 2016, non-additives remained the key marketing focus following the food scandals of 2013 and 2014. However, more innovative package designs and product names were introduced to drive consumers' excitement via emotional attributes.

Taiwan - Forecast volume for dairy products (2017 - 2021)

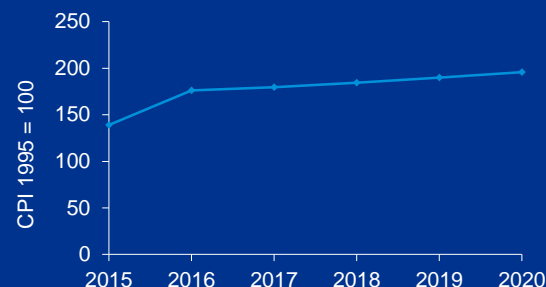


Source
KPMG analysis and adaption of Euromonitor International 2016 data

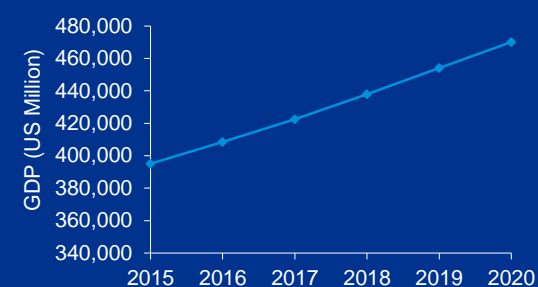


Thailand: Economy

Forecast CPI - Thailand



Thailand GDP



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)	GDP Growth
Upper middle income	67,222,000 (2016)	\$5,410 (2016)	1.0b (2016)	0.7% (2014)

Economy

Thailand's growth remains below expectations and slower than most other ASEAN economies. In 2016, real GDP is forecast to grow by 3.3% after gains of 3.4% in 2015. Thailand's attractiveness lies in its FDI-friendly policies which offer lucrative foreign investment incentives.

Private final consumption growth is minimal. In 2015, final consumption rose by 1.7% in real terms and growth of 2.2% is expected in 2016.

Rates of growth in real GDP are expected to increase 3.6% per year during the remaining years of this decade. Public investment will continue to be a major driver though it could crowd out private investment. Exports should gather strength over time.

Total consumer expenditure (in real terms) is expected to grow by 3.0% in 2016. In the period 2015-2030, total consumer expenditure is forecast to grow at an average annual rate of 3.3%.

Total New Zealand exports to Thailand in 2014 were \$800m. Top exports were milk powder, butter and dairy spread and butter milk.

In 2014, the military government approved a US\$75 billion master plan to upgrade the country's transport infrastructure.

Thailand's high levels of household debt, a struggling farm sector and slow growth in wages limit private consumption. Labour scarcities are widespread. Unemployment was just 0.9% in 2015 and is expected to be the same rate in 2016. Businesses face increasing difficulty recruiting both skilled and unskilled workers.

Strengths

- Pro-foreign investment introducing policies such as 100% ownership of firms by foreign entities
- Effective tax rate low

Weaknesses

- High level of corruption
- Getting credit post-2012 has been and continues to be difficult
- Decline in ease of doing business from 2010 to 2016

Opportunities

- 20 infrastructure related projects to occur in 2016 and 2017 to improve platforms for business and trade
- High growth IT sector following Government Digital Plan

Threats

- Skill shortage owing to job skills mismatch and shrinking labour force due to declining birth rates

Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports;
Euromonitor International from International Monetary Fund (IMF); and
International Financial Statistics.

Thailand: Trade

The current trading relationship

Thailand is the second largest ASEAN economy and the fourth richest.

New Zealand and Thailand are complementary economies, with Thailand exporting mainly manufactured goods here, and New Zealand exporting agricultural goods and wood. Thailand is New Zealand's 10th largest trading partner, with the total trade in goods between our countries reaching more than NZ\$2.5b in 2014. Although the value of our exports to Thailand fluctuates from year to year, since the Closer Economic Partnership (CEP) came into force in 2005, total exports have almost doubled. Following the conclusion of the CEP with Thailand, an ASEAN Australia NZ FTA was signed and came into force in January 2010. New Zealand exports face a situation where more than one set of trade rules could potentially apply to their activities (generally, CEP rules apply to goods and the AANZFTA for services and investment).

Thailand is ranked moderately 49 out of 189 countries – in the World Bank's "Ease of Doing Business" 2016 Report, and it is ranked moderately in the list of least corrupt countries in the Corruption Perceptions Index (ranked 76/168).

Market access

The total tax rate at 27.5% for Thailand in 2016 was low and in the bottom 10 among Asia Pacific nations.

Tax exemptions are in place for foreign firms. Thailand has a VAT rate of 7.0% (one of the lowest regionally) which is unchanged since 1997 (there have been plans to increase this but as of 2016 this has not occurred).

Thailand offers a developed logistical space and a moderately flexible labour market. However, political instability has resulted in a decline in the ease of doing business since 2010.

Thailand has high intermediate trade (convenience) and modern trade, mainly cash and carry; and accounts for approximately 70% of shoppers. There is low suitability in traditional trade (wet markets) for premium products.

Bangkok has established five special economic zones in border regions and is working to encourage higher value-added activities via revised incentives. Investors in the zones get several tax breaks.

Tariffs

Exporters of products to Thailand are currently able to export under either the NZ Thailand CEP, or the AANZFTA.

The AANZFTA is not binding for dairy exports and as such the CEP rates have been displayed in the tariff table.

Safeguards operate in the same way that quotas operate. Quotas are determined under Thailand's WTO notifications. All dairy exports from NZ are to be quota free from 2025. Milk and cream have a joint quota of 164.3 tonnes. Butter's safeguard is currently 258.7 tonnes growing by 5% per year and will be safeguard free from 2021. Cheese safeguards also grow at 5% per year and are eliminated by 2021 with the safeguard currently 370.1 tonnes.

Under the agreements only a declaration of origin is required to qualify as tariff-free.

Product Description	Category	HS Code	Quota	Base rate	2016	2017	2018	2019	2020
Milk and cream, of a fat content, exceeding 1% but not exceeding 6%	In liquid form /	0401.20.10/ 0401.20.90	In quota	20%	9.0%	8.0%	7.0%	6.0%	5.0%
	Other		Out of quota	41%	90% of MFN	90% of MFN	90% of MFN	90% of MFN	90% of MFN
Milk and cream, of a fat content, exceeding 10%	In liquid form/other	0401.50.10.00/ 0401.50.90.00	In quota	20%	9.00%	8.00%	7.00%	6.00%	5.00%
			Out of quota	41%	90% of MFN	90% of MFN	90% of MFN	90% of MFN	90% of MFN
Yoghurt	Yoghurt in liquid form	0403.10.20.00		30.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whey	Yoghurt - Other	0403.10.90.00		5.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	In liquid form or condensed form	0404.10.00		30.0%	30.0%	30.0%	30.0%	30.0%	0.0%
	Other	0404.10.00		30.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter	Butter	0405.10.00	Below safeguard	30.0%	8.0%	6.0%	4.0%	2.0%	0.0%
			Above safeguard		30.0%	30.0%	30.0%	30.0%	30.0%
Ice cream and other edible ice, whether or not containing cocoa		2105.00.00		30.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Food preparations not elsewhere specified or included	Infant use, for retail sale	1901.10.10.90		30.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese and curd - Fresh (unripened or uncured) cheese, including whey cheese		0406.10	Below safeguard	30.0%	8.0%	6.0%	4.0%	2.0%	0.0%
			Above safeguard		30.0%	30.0%	30.0%	30.0%	30.0%
Processed cheese, not grated or powdered		0406.30.00	Below safeguard	36.0%	8.00%	6.00%	4.00%	2.00%	0.00%
			Above safeguard		MFN	MFN	MFN	MFN	MFN

Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports;
World Bank. (2016). Ease of Doing Business Report; and
Tariff data sourced from: <https://tariff-finder.fts.govt.nz>

Thailand: Retail and consumer trends

As Thai incomes continue to rise, so too will demand for Westernised products

The average income of Thai consumers is rising, a major driver for the economy. As a result, upper and middle class consumers have access to more disposable income and are more willing to spend this on Western products. Rising household debt is becoming a drag for consumer spending. As the population ages, spending habits are changing with an overall reduction in consumption and a focus towards necessities. For younger generations, social media plays a very important role in influencing buying habits. Concurrently, online shopping is becoming increasingly popular. Younger consumers are more willing to try new products and engage with trends that align with Western culture. There is increasing demand across all categories of consumers for international food and beverage products that offer health benefits.

The abundance of drinking milk products suiting a variety of consumers is a key driver of growth in 2016. There are products readily available in the market that target: all age stages; with different health propositions; in many flavour choices to suit varied taste preferences' and in both fresh and shelf stable storage formats to suit different lifestyles.

Goat milk and fresh milk have posted the highest value growth rate, 12% and 10% respectively, in 2016. The reason for its optimistic performance prospect is the higher consumer awareness of goat milk driven by manufacturers. The average unit price continued to grow in 2016. Consumers have become willing to pay more for improved reformulations of drinking milk products. There has also been new product launches in the form of exotic flavours, such as coconut.

Soy milk is the most popular dairy alternative in Thailand. Other popular types of milk alternatives in the form of ready-to-drink beverages include rice milk, oat milk and almond milk. They are displayed in leading supermarkets.

Whilst big chain mass retailers are ideal in reaching out to a wider range of consumers, these leading supermarkets also price such products higher to target the middle- to higher-income groups, as well as health-conscious consumers. As such, these products can also be found at more premium retailers. Premium brands catering to a niche consumer group are growing in popularity, but remain very niche.

Dairy alternatives are promoted to consumers allergic to dairy and soy milk. Typically, lactose-intolerant consumers in Thailand tend to avoid dairy products altogether and so are not familiar with dairy alternatives.

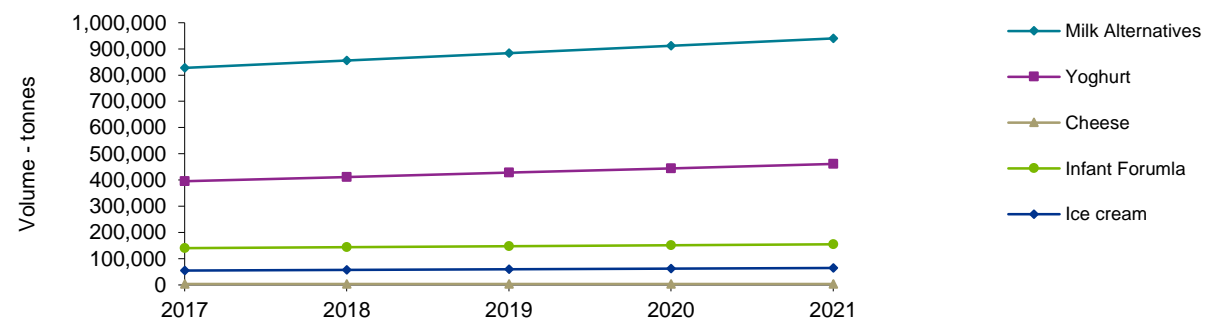
Campaigns on breastfeeding are common. Mothers use milk formula in conjunction with breastfeeding their children, and they tend to continue giving their children milk formula as they grow.

Growth in the cheese market is driven by a niche consumer group, as the average Thai does not typically consume cheese products. Most cheese products are imported and hence are sold at premium prices. However, as these products mainly target urban Thai residents, foreigners and expatriates; the higher pricing is still considered affordable to its core consumers. For other locals, however, the high price does little to stimulate consumption.

More consumers are becoming aware of the nutritional benefits of yoghurt, particularly for digestive health. There are also more variants being introduced (from flavours to fruited yoghurt) to attract consumers and generate interest. Research in 2016 found that Thais valued convenience and were also more aware of the flexibility of yoghurt consumption (some were eating it as a breakfast meal or snack).

Population growth is decelerating. The slowdown means the country's pool of young workers will shrink in the medium term.

Thailand - Forecast volume for dairy products (2017 - 2021)

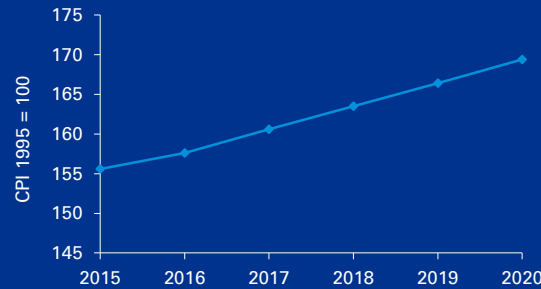


Source
KPMG analysis and adaption of Euromonitor International 2016 data

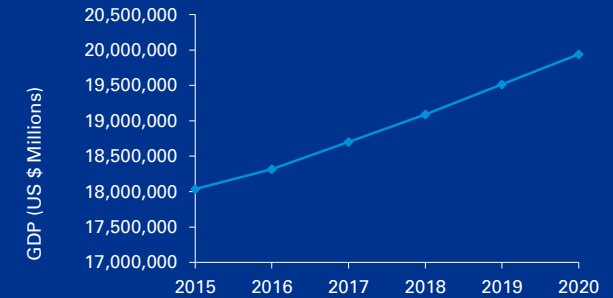


USA: Economy

Forecast CPI - USA



USA - GDP



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)
OECD High income	318,857,000	\$55,200	\$8.3b (2016)

Economy

The USA accounted for 24.5% of global GDP in 2015. The country benefited from improved housing and labour markets, and a rise in consumption expenditure, as well as investment and a reduced budget deficit. However, the country's high public debt level, the slowdown in China, and increased uncertainty in emerging markets (due to the rise in interest rates) will weigh on its economic growth.

The real value of private final consumption grew by 3.3% in 2015 and gains of 2.4% are forecasted for 2016. The jobless rate was 5.3% in 2015 and is expected to fall to 4.9% in 2016. As employment rises, companies are increasing wages and trying to attract part-time workers. A rise in employment and growth in consumer borrowing support private consumption.

As the world's biggest consumer market, the USA's dependency on exports is low. Exports represented 8.4% of GDP in 2015, down from 8.7% in 2008.

In terms of financial risks, the USA provided easy access to credit in 2015 but an increase in lending rates in 2016 may put pressure on private investment.

A growing risk of terrorism and need for further anti-corruption reforms are key operating challenges. The USA is subject to a relatively high terrorist threat compared to other developed economies.

California has an enormously productive economy, which if it were a nation would be one of the ten largest in the world. Agriculture plays an important role in the economy, leading the nation in the production of fruit and vegetables, however faces acute challenges with the supply of water. Economic growth for California will continue to outpace the rest of the nation over the next five years.

Strengths

- High technological advancement, highly skilled labour, well defined laws and numerous foreign trade zones
- Strong government reforms have helped to narrow the budget deficit
- Well established logistical environment to facilitate trade

Weaknesses

- The corporate tax rate in 2015 was 40%, which was one of the highest in the world
- High degree of public debt – 105% of GDP in 2015
- USA ranking on index of Economic Freedom and Ease of Doing Business has been declining in recent years

Opportunities

- New trade agreements, if ratified, will diversify export destinations
- Plans to increase investments in clean transportation infrastructure
- A larger proportion of the population expected to attain higher education

Threats

- Aging population and high social security spending will put pressure on government finances
- Slowdown in China and emerging economies will weigh on its future economic growth
- Uncertainty following election results (2016)

USA (California): Trade

The current trading relationship

As the world's largest, most complex and technically advanced economy, the USA is an important source of innovation, research and investment. The USA is New Zealand's third largest individual trading partner, and there continues to be scope for further development. It's a major market for agricultural products, and New Zealand's largest market for frozen beef and protein (worth NZ\$1.5b in 2014). It's also a significant source of foreign direct investment, innovation and research, and tourism.

It is ranked very highly (7 out of 189 countries) in the World Bank's "Ease of Doing Business" 2016 Report, and it is ranked in the top 10% of least corrupt countries in the Corruption Perceptions Index (ranked 16/167).

Securing a free trade agreement negotiation with the US has been a key New Zealand trade objective for more than a decade.

Market access

Dairy products may be exported to USA, however are subject to tariffs. A certificate of origin is required. The US Customs authorities are very precise about import documentation being provided completely and accurately.

The US tax system is complex, and has a high corporate tax rate (40% in 2015). In California, the sales tax rate is 7.5%, and the maximum local rate is 2.5%. Sales of food for human consumption are generally tax-free.

Importation of milk and dairy products is subject to stringent regulations requiring import permits, licences and adherence to quotas and must comply with requirements of the USDA and APHIS.

The USA has highly developed logistics and infrastructure, coupled with a modern trade formats and large number of suitable distribution partners.

Tariffs

New Zealand has no Free Trade Agreement in place with the United States of America, so imported goods are subject to the base rates set out in the Harmonised Tariff Schedule. It is a complicated process requiring the application of the General Rules of Interpretation: the section, chapter and subheading and explanatory notes. The importer is responsible for properly classifying merchandise before entry.

Product Type	Category	HS Code	Base rate	2016	2017	2018	2019	2020	2021	2022
Milk and cream, fat content exceeding 1% but not exceeding 6%	In liquid form	0401.20.20	0.43 ¢/L	0.43 ¢/L	0.43 ¢/L	0%	0%	0%	0%	0%
Milk and cream, of a fat content exceeding 10%	In liquid form	0401.50.02	3.2 ¢/L	3.2 ¢/L	3.2 ¢/L	0%	0%	0%	0%	0%
Yoghurt	Not in dry form	0403.10.90	17%	17%	17%	13.6%	10.2%	6.8%	3.4%	0%
	In dry form	0403.10.05	20%	20%	20%	0%	0%	0%	0%	0%
Whey – protein concentrates	Whey protein concentrate	0404.10.05	8.5%	8.5%	8.5%	0%	0%	0%	0%	0%
Butter and other fats and oils derived from milk; dairy spreads:	Butter	0405.10.05	12.3 ¢/kg	12.3 ¢/kg	12.3 ¢/kg	0%	0%	0%	0%	0%
Ice cream and other edible ice, whether or not containing cocoa	Ice cream	2105.00.05	20%	20%	20%	0%	0%	0%	0%	0%
Food preparations not elsewhere specified or included	Infant formula	1901.10.05	17.5%	17.5%	17.5%	0%	0%	0%	0%	0%
Cheese and curd	Cheese	0406.10.24	10%	10%	10%	10%	0%	0%	0%	0%

For some products, a permanent Tariff Rate Quota applies. From a certain point in time after the agreement comes into force (such as Year 30), the quota volume will increase year-on-year by a said percentage. Above that volume the out-of-quota volume applies.

Source
<https://www.mfat.govt.nz/en/countries-and-regions/north-america/united-states-of-america/>;
 World Bank. (2016). *Ease of Doing Business Report*;
 New Zealand Foreign Trade and Affairs;
 Corruptions perception index; and
 Tariff data sourced from: <https://tariff-finder.fta.govt.nz>

USA (California): Retail and consumer trends

This large and diverse market is seeing the most growth come from non-dairy milk alternatives

The USA represents the largest consumer market, with an expenditure of \$10 trillion. It is the world's largest consumer of sheep milk products, consuming over half of the world's production of sheep cheese. There are opportunities for importers of organic, natural and gluten free food and beverage offerings.

American consumers are interested in a number of product attributes, and a shift towards a balanced and natural approach to consumption is becoming increasingly common – with an emphasis on positive nutrition; and fresh, quality, unprocessed foods. Health and wellness consumers, although still a minority, play an increasingly influential role in defining the food culture. Generation Z1 makes up 23% of the population – this generation are highly proactive participants in the health and wellness trend.

In 2015, non-dairy milk alternatives saw the fastest growth with a 13% current value increase. These products, dominated by soy and almond milk, have grown strongly from a relatively small base, as manufacturers introduced numerous new products, and consumers purchased them for their health and wellness benefits. Such benefits include being lactose-free and lower in fat than cow's milk.

In drinking milk products, the premium segment consists primarily of organic and lactose-free products. Consumption of goat's milk accounts for only 2% of total milk consumption, although this has increased by a third since 2007.

Demand for yoghurt and sour milk products remains high, as these products offer multiple benefits, including health, convenience and multiple flavour options.

Demand for speciality cheese, both hard and soft varieties, is expected to continue to rise in the future. Artisanal cheeses are becoming increasingly popular, with premium brands typically imported.

Brands in the ice cream category are increasingly embracing non-dairy recipes; involving milk substitute ingredients such as coconut milk and almond milk. Recent food scandals in the ice-cream sector, as well as health concerns, have contributed to a reduction in consumption. The biggest obstacle in the ice cream industry is consumer demand; Americans are not consuming as much ice cream as they have historically. There are many factors which contribute to this; urbanisation and busy lifestyles, delaying parenthood amongst millennials and health concerns.

'Premiumisation' is another trend. When consumers buy ice cream, they are inclined to buy less, but of a more high-quality product.

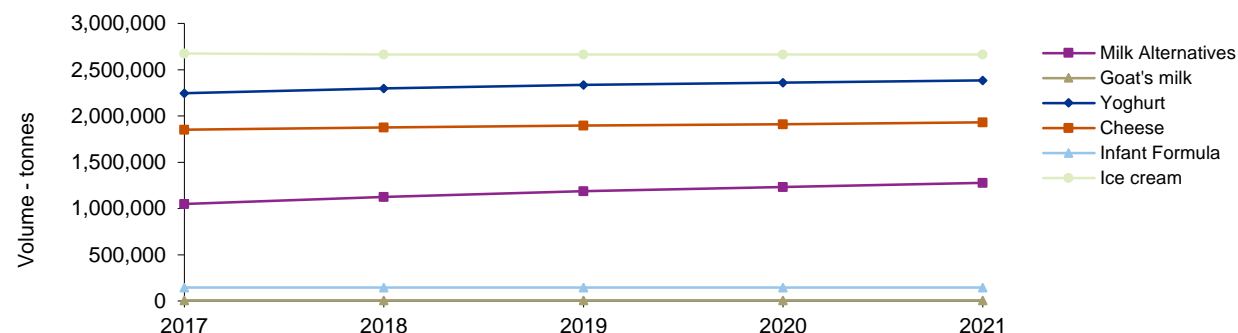
Competitive landscape

The USA is the major importer of sheep milk cheeses, with 50%-60% of annual world exports shipped there.

The local sheep dairy industry is facing challenges, as imports subject to low tariffs rates and favourable exchange rates are more cost competitive, undermining domestic product.

The majority of sheep milk produced locally is used in the production of cheese, however some is sold as whole milk and some is processed into ice-cream and yoghurt.

USA - Forecast volume for dairy products (2017 - 2021)

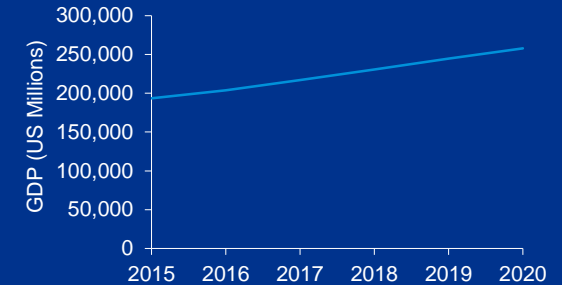
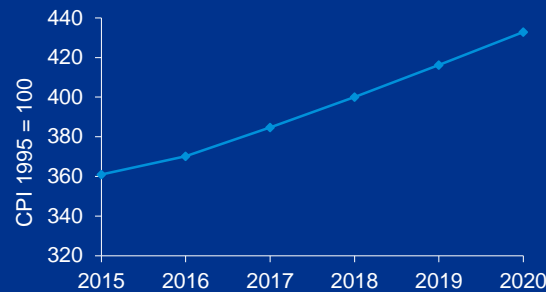


Source
Griffiths, L. (2014). *Business Plan for the New Zealand Sheep Dairy Industry*. Christchurch: Nuffield, New Zealand; Euromonitor;
Thomas, D. L., Berger, Y. M., McKusick, B. C., & Mikolayunas, C. M. (2014). Dairy sheep production research at the University of Wisconsin-Madison, USA – a review. *Journal of Animal Science and Biotechnology*, 5(1), 22. <http://doi.org/10.1186/2049-1891-5-22>;
<http://modernfarmer.com/2015/03/goodbye-cow-milk-hello-goat-milk/>;
<http://www.thesheepsite.com/articles/87/us-sheep-dairying-small-industry-thinks-big/>; and
<http://www.forbes.com/sites/thehartmangroup/2015/11/19/consumer-trends-in-health-and-wellness/#3f573fda4be7>



Vietnam: Economy

Forecast CPI - Vietnam



Country profile

Income category	Population	GNI per capita (US\$)	NZ Exports to (NZ\$)	GDP Growth
Lower middle income	93,447,000	\$1,968.40	\$548m (2015)	6.7% (2015)

Economy

The Vietnamese economy posted one of the highest growth rates in the world in 2015. The Vietnamese government aims to achieve average annual real GDP growth of over 6.5%. Growth in 2016 will remain high although this will be moderated due to the severe drought and saltwater intrusion that has hindered output in the agricultural sector.

Private consumption was robust driving GDP growth in Vietnam along with higher inflows of direct foreign investment.

Agriculture employs 56.6% of the workforce and is a major contributor to the economy. Coffee, cashew, pepper and rubber are major exports.

Unemployment and youth unemployment rates for Vietnam in 2015 were among the lowest in the world. This is driven by low-cost labour with one of the world's lowest minimum wage rates. This is causing underemployment in Vietnam as many educated people are working in very low skilled jobs that do not match their skill levels. There are significant levels of government interference in labour markets. However some rules are relaxing, making it easier to issue foreign work permits for non-Vietnamese workers.

Vietnam's economy is highly dependent on exports which have been growing rapidly. The outlook for future exports is strong.

Political stability has helped the economy in Vietnam grow through increasing direct foreign investment. Corruption remains an area where improvement is needed. The banking system is burdened with uncomfortable levels of bad debt and this issue continues to be prominent despite several major mergers in the sector.

Strengths

- Government bringing in reforms to encourage higher foreign direct investment
- Minimum wage per month is one of the lowest globally, signalling a wage cost advantage for labour intensive firms

Weaknesses

- Economic freedom is an issue, as, despite reforms, government interference in market operations is significant
- A high rate of nonperforming loans to total gross loans signals a weak banking system

Opportunities

- Relatively nascent market, indicating firms can obtain first mover advantage for market share in some sectors
- Privatisation of state run telecom firms, as well as the implementation of the 2016 National Broadband Plan, will enhance high tech sectors

Threats

- High skill shortage as educational institutions fail to provide job specific skills
- Corruption is an issue which may restrict FDI as firms find it hard to operate in Vietnam

Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports;
Euromonitor International from International Monetary Fund (IMF); and
International Financial Statistics

Vietnam: Trade

The current trading relationship

Vietnam's attractiveness comes through its cheap labour costs and government measures to increase competitiveness, political stability and relatively untapped market potential. Vietnam is mid-ranked regionally in the World Bank's "Ease of Doing Business" 2016 Report, sitting at 90 out of 189 countries. It is also ranked in the midrange regionally in the 2015 Corruption Perception ranking, signalling that corruption is an issue.

Vietnam has enjoyed rapid economic growth. It has been New Zealand's fastest growing two-way trade relationship in South East Asia, with 120% growth from 2010 to 2015. Vietnam is our 19th largest trading partner. In 2015 New Zealand exported \$548m worth of products to Vietnam.

Vietnam is highly dependent on imports from Asia Pacific, especially China, which renders the country vulnerable to demand shocks arising in China and the region. Top Vietnamese exports include: milk powder, butter and dairy spreads.

Market access

Rules of Origin in AANZFTA allow for "cumulation". This means New Zealand goods used in products made in ASEAN countries or Australia are considered as local content. Cumulation makes New Zealand products an attractive supply option for businesses in the region.

The standard corporate tax rate in Vietnam is 20% although preferential tax rates can be obtained for encouraged projects. A 10% Value Added Tax is applicable although some agricultural products are exempt. VAT registration is compulsory to all organisations and individuals producing and trading taxable goods and services in Vietnam.

Product Type	Category	HS Code	Base rate	2016	2017	2018	2019	2020
Milk and cream of a fat content exceeding 1% but not exceeding 6%	In liquid form	0401.20.10	15%	5%	0%	0%	0%	0%
Milk and cream of a fat content exceeding 10%	In liquid form	0401.50.10	15%	5%	0%	0%	0%	0%
Milk or cream	In powder, granules or other solid form	0402.21.20	3%	0%	0%	0%	0%	0%
Yoghurt	In liquid form	0403.10.20	7%	7%	0%	0%	0%	0%
Whey	Whey and modified whey	0404.10.00	7%	5%	0%	0%	0%	0%
Butter and other fats and oils derived from milk; dairy spreads:	Butter	0405.10.00	13%	7%	0%	0%	0%	0%
Ice cream and other edible ice, whether or not containing cocoa	Ice cream	2105.00.00	20%	7%	5%	0%	0%	0%
Preparations of cereals, flour, starch or milk; pastrycooks' products	Preparations for infant use, put up for retail sale	1901.10.20	10%	7%	5%	0%	0%	0%
Cheese and curd - Fresh (unripened or uncured) cheese, including whey cheese	Cheese	0406.10.10	10%	5%	5%	4%	0%	0%
Processed cheese, not grated or powdered	Cheese	0406.30.00	10%	5%	0%	0%	0%	0%

Tariffs

The AANZFTA is a comprehensive trade agreement between Australia, New Zealand and ASEAN countries (including Vietnam) that has been in force since 2012. Under the AANZFTA, 99% of tariffs on exports to ASEAN markets will be eliminated by 2020.

Source
KPMG analysis and adaption of Euromonitor International 2016 data and reports;
World Bank. (2016). *Ease of Doing Business Report*;
<https://www.mfat.govt.nz/en/countries-and-regions/south-east-asia/vietnam/>; and
Tariff data sourced from: <https://tariff-finder.fta.govt.nz>

Vietnam:

Retail and consumer trends

The origin and quality of products is a major factor in consumer decision making, placing New Zealand companies in an excellent position to capitalise on a growing market

Vietnam's consumer market is a similar size to New Zealand's and has an expenditure of US\$149.4b. Vietnamese consumers are becoming more concerned about the quality and origin of products including drinking milk products.

Vietnam's food and beverage sector is less developed than other countries in Southeast Asia, but it is growing quickly. A youthful population, changes in lifestyle and rising incomes are driving growth of high quality imported food and beverage products. Vietnam has a rising trend towards health and wellness which is continuing to positively affect drinking milk products in the country. This trend has also meant more Vietnamese people consume yoghurt products.

In 2016, drinking milk products have seen current retail value growth of 12%, which was equivalent to that in 2015. Higher consumer demand, new product developments, active marketing activities and the higher inflation rate play key roles in supporting the strong growth of drinking milk products.

More consumers have become aware of the existence of other milk alternatives and their health-related benefits and tend to consume them on a more regular basis. Market players also try to stimulate demand for this type of product by introducing 'new' launches and running promotional programmes.

Other milk alternatives have recorded the strongest retail value growth of 25% in current terms in 2016. However, sales of other milk alternatives continued to be very small compared to many other drinking milk products in 2016.

The most popular type of milk alternative in the country is soy milk. Soy milk has been in the market for quite some time, and can be found in most distribution channels. It is often perceived as a healthy drink, which meets the rising trend towards health and wellness. In 2016, soy milk has seen strong current retail value growth of 13%.

The average unit price of drinking milk products is projected to decline gradually over the forecast period due to the expected tougher competition from alternative dairy sources and the further decline in tariff.

Rising exposure to Western culture and cuisine had a positive impact on the demand for cheese, especially among young people and children.

More Vietnamese consumers are tending to cook Western dishes and desserts for their family using cheese. In 2016, cheese saw current retail value growth of 13%.

Younger consumers, in particular, are becoming more willing to pay for premium ice cream brands. Higher disposable incomes, better living standards and the rising number of retail and consumer foodservice outlets offering premium ice cream have been the key drivers of this trend in 2016.

Competitive landscape

Both domestic and international players compete intensely in drinking milk products. Nevertheless, domestic players seem to perform the best.

Manufacturers are likely to keep prices as low as possible in order to stay competitive in the face of declining average unit prices for drinking milk products.

In milk alternatives, new product developments such as Ba Vi in red bean milk and other brands imported from countries such as Japan or Thailand have been the key driver for the strong performance in 2016.

Appendix 2

Dairy import data

Specific imports by target country

Highlights

- By value, the USA is the largest importer of the analysed dairy products
- Japan and the USA are the largest importers of cheese
- 'Milk and cream, concentrated or containing added sugar' is the largest product category imported from all countries excluding Japan, where cheese is the largest import

Trade value - Imports (2015) (USD'000s)						
Product description	Japan	Malaysia	Philippines	Singapore	Thailand	United States
Blue-veined cheese and Other cheese	13,048	58	304	367	299	44,274
Butter and other fats and oils derived from milk; dairy spreads.	94,813	140,570	156,633	163,925	82,464	304,026
Buttermilk, curdled milk and cream or yogurt			102,666			
Buttermilk/curdled milk & cream/kephir & oth. fermented/acidified milk & cream...			69,662			
Cheese (excl. of 0406.10-0406.40)			74,302			
Fresh (unripened/uncured) cheese, incl. whey cheese, & curd	438,412	10,788	19,657	13,003	14,195	522,065
Grated/powdered cheese, of all kinds	50,588	9,028	22,978	18,838	13,270	389,198
Milk and cream, concentrated or containing added sugar	201,860	1,150,709	523,241	711,245	575,251	1,627,288
Milk and cream, not concentrated nor containing added sugar	8,660	48,395	72,063	117,621	41,131	107,359
Other	377	27,640		19,584	125,200	27,286
Other cheese	746,120	52,848		11,154	36,800	1,727,737
Processed cheese, not grated/powdered	32,152	62,625	24,499	67,773	13,796	114,713
Whey, whether or not concentrated or containing added sugar	143,090	120,565	71,512	140,633	97,924	1,296,526
Yoghurt	548	6,566	33,004	31,615	50,540	53,790
Total	1,729,667	1,629,790	1,170,522	1,295,756	1,050,871	6,214,262

Source
Food and Agriculture Organisation of the United Nations

Specific imports by target country - continued

Trade value – Imports (2014) (USD'000s)								
Product description	Japan	Korea, Rep.	Malaysia	Philippines	Singapore	Thailand	United States	Vietnam
Blue-veined cheese and Other cheese	13,518		28	161	429	327	49,846	54
Butter and other fats and oils derived from milk; dairy spreads.	80,307	38,334	165,161	151,986	222,379	115,552	430,203	127,478
Buttermilk, curdled milk and cream or yogurt				133,436				
Buttermilk/curdled milk & cream/kephir & oth. fermented/acidified milk				114,146				
Cheese (excl. of 0406.10-0406.40)				46,904				
Fresh (unripened/uncured) cheese, incl. whey cheese, & curd	441,221	301,757	7,467	22,032	16,369	18,046	621,465	4,516
Grated/powdered cheese, of all kinds	66,499	23,812	9,131	24,168	14,507	11,683	353,546	5,914
Milk and cream, concentrated or containing added sugar	284,024	120,340	1,465,356	699,427	1,151,152	803,433	2,460,884	793,727
Milk and cream, not concentrated nor containing added sugar	7,940	47,634	62,566	85,278	124,852	45,808	101,773	24,972
Other	148	955	36,275		23,195	154,763	37,230	3,879
Other cheese	887,286	172,082	43,515		11,885	37,573	1,915,453	20,153
Processed cheese, not grated/powdered	47,139	52,381	65,479	22,233	77,189	14,674	126,448	2,504
Whey, whether or not concentrated or containing added sugar	168,867	193,945	232,699	100,234	218,149	121,078	1,671,578	70,683
Yoghurt	495	10,691	6,365	19,290	32,302	40,051	64,494	10,367
Total	1,997,444	961,931	2,094,042	1,419,295	1,892,407	1,362,989	7,832,921	1,064,247

Trade value – Imports (2013) (USD'000s)								
Product description	Japan	Korea, Rep.	Malaysia	Philippines	Singapore	Thailand	United States	Vietnam
Blue-veined cheese and Other cheese	12,254			161	328	337	43,442	42
Butter and other fats and oils derived from milk; dairy spreads.	34,959	35,110	125,160	131,278	187,897	88,283	439,392	147,843
Buttermilk, curdled milk and cream or yogurt				147,959				
Buttermilk/curdled milk & cream/kephir & oth. fermented/acidified milk &				127,596				
Cheese (excl. of 0406.10-0406.40)				47,264				
Fresh (unripened/uncured) cheese, incl. whey cheese, & curd	442,047	288,865	13,764	14,838	14,338	13,406	459,311	5,303
Grated/powdered cheese, of all kinds	62,638	15,764	7,002	13,801	12,711	8,969	252,272	4,881
Milk and cream, concentrated or containing added sugar	169,992	103,130	954,014	740,370	1,111,543	633,828	2,390,732	685,995
Milk and cream, not concentrated nor containing added sugar	6,019	44,545	70,765	88,275	143,657	38,667	87,607	19,624
Other	94	580	38,088		21,699	121,325	45,282	9,208
Other cheese	812,257	158,967	37,708		11,134	28,833	1,642,475	21,144
Processed cheese, not grated/powdered	53,145	42,881	53,478	26,099	74,698	11,878	112,657q2,160	
Whey, whether or not concentrated or containing added sugar	153,171	173,808	487,677	76,237	161,860	110,043	1,524,983	64,855
Yoghurt	576	9,569	5,580	20,363	26,427	41,459	96,102	7,178
Total	1,774,153	873,220	1,793,235	1,434,241	1,766,292	1,097,028	7,094,254	968,232

Source
Food and Agriculture Organization of the United Nations

Composition

Lactose content is relatively similar in all species. However the milk fat globules are much smaller in sheep's milk and thus easier to digest.

Proximates	Human Average	Cow		Buffalo		Goat		Sheep	
		Average	Range	Average	Range	Average	Range	Average	Range
Energy (kJ)	291	363	347-274	412	296-496	270	243-289	420	388-451
Energy (kcal)	70	62	59-66	99	71-118	66	58-74	100	93-108
Water (g)	87.5	87.8	87.3-88.1	83.2	82.3-84.0	87.7	86.4-89.0	82.1	80.7-83.0
Total protein (g)	1	3.3	3.2-3.4	4	2.7-4.6	3.4	2.9-3.8	5.6	5.3-6.0
Total fat (g)	4.4	3.3	3.1-3.3	7.5	5.3-9.0	3.9	3.3-4.5	6.4	5.8-7.0
Lactose (g)	6.9	4.7	4.5-5.1	4.4	3.2-4.9	4.4	4.2-4.5	5.1	4.5-5.4
Ash	0.2	0.7	0.7-0.7	0.8	0.7-0.8	0.8	0.8-0.8	0.9	0.9-1.0

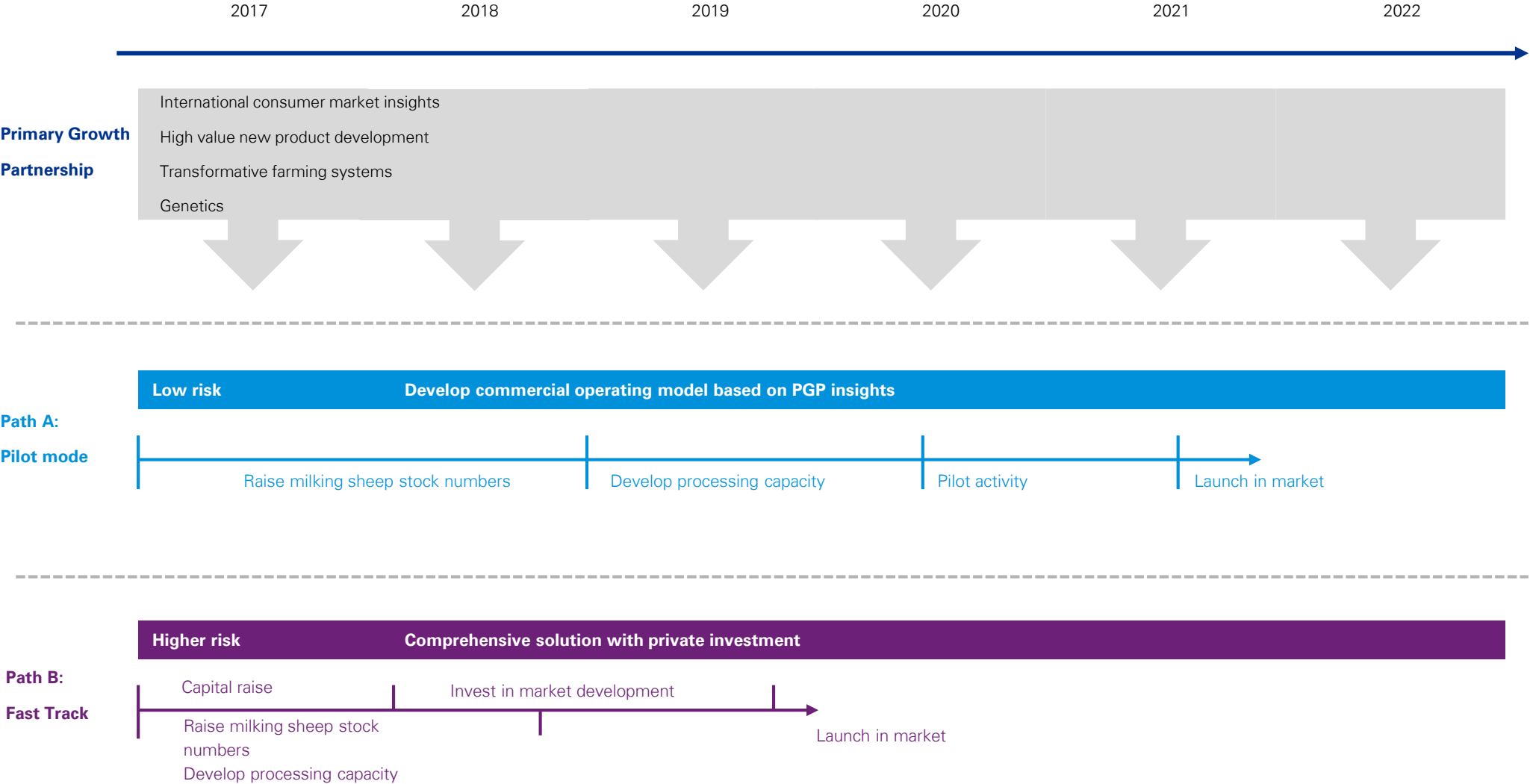
*Values for human milk (mature, fluid) are from USDA (USDA 2009), food code 01107. The values for cow, goat and sheep milks were calculated using values where available in the following food composition tables: USDA: cow – food code 01211 *Milk whole 3.25 percent milk fat, without added vitamin A and vitamin D; goat – 01106 'Milk, goat fluid with added vitamin D; sheep – food code 01109 'Milk sheep fluid (USDA 2009); FSA (2002); cow – food code 12-316 'whole milk, pasteurised, (average of summer and winter milk)' ; goat – 12-328 "Goats milk pasteurised"; sheep – food code 12-329 "sheep's milk raw" (FSA 2002); Danish food composition databank; cow – food code 0156 "milk, whole, conventional (not organic), 3.5% fat; goat – 0516 "Goats milk" (NFL 2009) New Zealand food composition tables sheep –food code f52 "sheeps' milk raw" (Esperance et al 2009) Columbian food composition table: cow – food code G101 "milk whole, crude"; goat – G806 "goats milk, whole, crude" (FAO/LATINFOODS 2009) Argentinian food composition table; sheep – food code G087 "milk of sheep, whole, fresh (FAO/LATINFOODS 2009). The number of data points varied. Values for buffalo milk were obtained from Medhammar et al 2011.

Source
Food and Agriculture Organisation of the United Nations

Appendix 3

Potential timeline for the industry

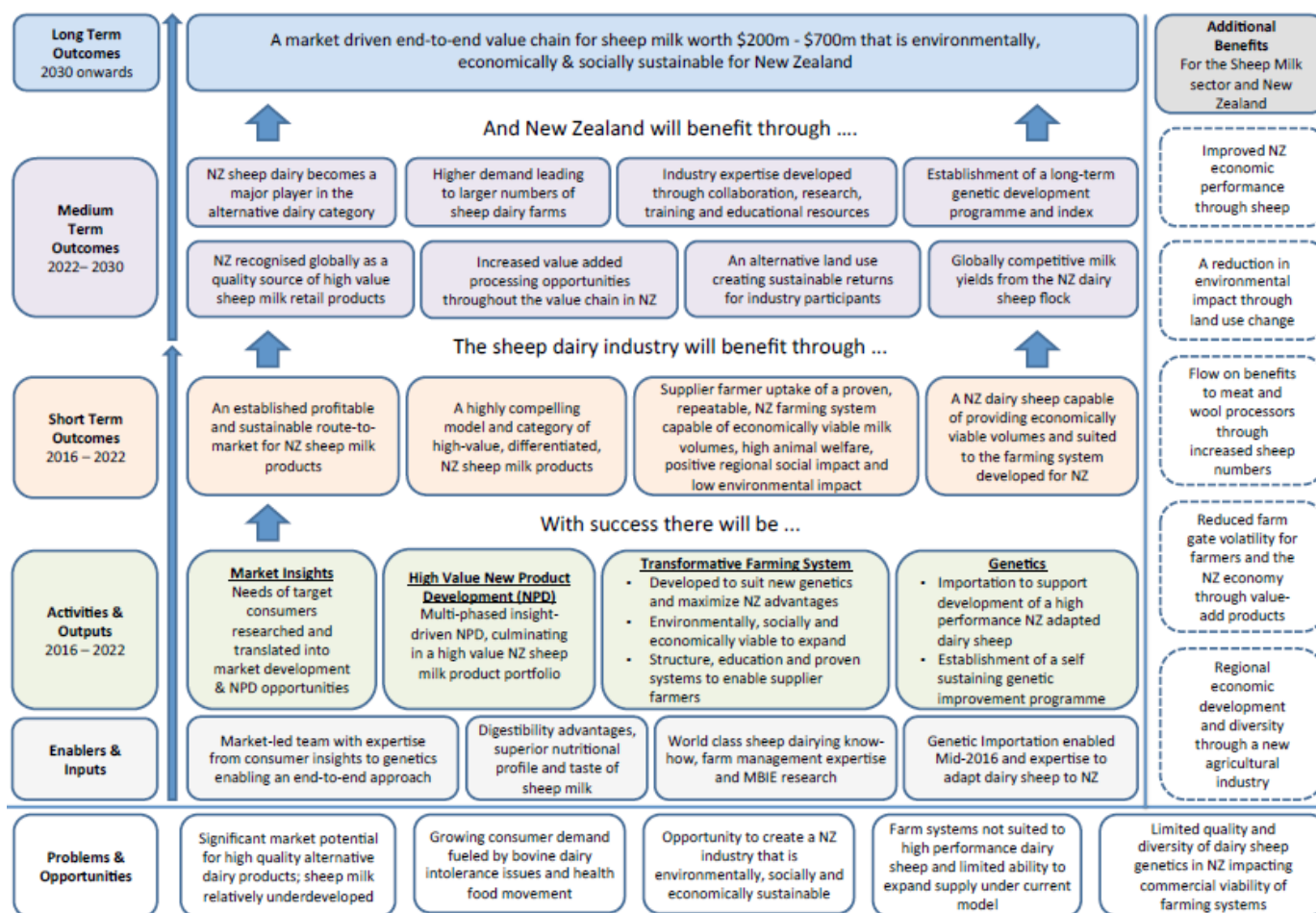
Pathways to a viable sheep milk industry in Canterbury



Appendix 4

PGP - Sheep - Horizon Three Model

Outcome Logic Model: Sheep - Horizon Three PGP Programme 2016-2022



Key facts

Programme start: July 2016

Length: 6 years

PGP funding: \$12.56 million

Industry funding: \$18.83 million

Crown funding paid out to programme for work done to 31 January 2017: \$625,866

Commercial partner: Spring Sheep Dairy NZ Limited Partnership

Estimated potential economic benefits to NZ: The programme's financial goal is \$200 million annual gross revenue for New Zealand's sheep dairy industry by 2030. The programme's aspirational target is annual gross revenue of \$700 million by 2030.

Appendix 5

Industry Overview

Global sheep milk industry

Market profile

The global sheep milk industry has an estimated value of US\$8b at the farm gate.¹ This is equivalent to just 2% of the cow milk market. The sheep milk industry is growing strongly, with increasing demand from Asian markets where a high proportion of the population is lactose-intolerant. A critical success factor for sheep milk exporters is the ability to be market-led, and thus create a niche, value-add position for their products. The risk of attempting to produce a commodity product is that there is simply not enough volume to supply the market.

The USA is the world's largest consumer of sheep milk products. It consumes over half of the global production of sheep milk cheese. In 2014, China, Greece and Turkey were the largest producers of sheep milk.

Production landscape – New Zealand

Producer	Products	Export markets
Blue River Dairy	Infant formula, bulk milk powder, and cheese (sheep milk products)	USA, Australia, China, the United Arab Emirates, Iraq, and Singapore
Dairy Goat Co-operative	Goat milk formula products	Taiwan, Singapore, Malaysia, Hong Kong and China
Maui Sheep Milk	Whole milk powder (sheep milk products)	China
Spring Sheep	Probiotic milk powder, whole milk powder, chewable tablets, fresh milk, butter and ice-cream in production (sheep milk products)	Taiwan. Also taking products to trade shows in Singapore, Malaysia, Indonesia, Thailand, Vietnam, Japan and South Korea

Global consumption of dairy

While dairy cow milk undoubtedly dominates global milk production, milk from other animals is important in specific regions, countries and local contexts. Data shows that cow's milk represents 85% of global production and at least 80% of total production in all regions except South Asia, where its share is less than half (44%). Buffalo milk makes a substantial contribution at the global level, accounting for 11% of global production and 23% of developing country production. The contribution of milk from goats (3.4%), sheep (1.4%) and camels (0.2%) is limited at the global level. However, it can be higher among certain developing countries. In South Asia, for instance, Buffalo is the most important source of milk, accounting for slightly more than half (51%) of total production.²

¹ <http://alimentasrl.com/2641/new-zealand-sees-a-rise-in-areas-devoted-to-sheep-milk-production.html>

² S. Gerosa and J. Skoet. (2012). Milk availability – Trends in production and demand and medium-term outlook ESA Working Paper No. 12-01 February 2012. Retrieved from URL <http://www.fao.org/docrep/015/an450e/an450e00.pdf>

Source
<http://www.stuff.co.nz/business/farming/75251342/milking-sheep-has-potential-to-earn-billions-of-dollars-for-new-zealand>
 Spring Sheep Milk Co, publicly available data
 L. Griffiths (2015). Business plan for the NZ sheep dairy industry. Retrieved from http://nzaginvest.co.nz/wp-content/uploads/2015/10/2014_BUSINESS-PLAN-FOR-THE-NZ-SHEEP-DAIRY-INDUSTRY_Lucy_Griffiths.pdf

Sheep milk industry

Production and genetics

For established markets such as Europe and North America, profitability, gross margin and other financial modelling in the sheep dairy industry is easily found. New Zealand is yet to compile a robust model that will demonstrate to farmers the financial benefits of investing in sheep milk. In the research paper '*Business plan for the NZ sheep dairy industry*' Lucy Griffiths attempted a gross margin analysis, but given the limited actual cost data in New Zealand, this analysis was limited. It will be critical to analyse feed options in relation to production outputs by analysing pasture-based versus housed 'cut and carry' systems as they relate to costs and yields.

In observing farms around the world, Lucy Griffiths found that most 'large-scale' sheep dairy farms were 1,000 – 1,500 sheep. Smaller farms face difficulties in supply, and potentially unsustainable set-up costs. Larger farms with milking herds of more than 1,000 sheep are more likely to be successful.

Most operators and industry experts agree that, while New Zealand has dozens of dairy goat farms with proven productivity at world-class levels, New Zealand sheep milk yields are not yet equal to those achieved in Europe and that the current cost of producing milk here is too high. It is important that New Zealand establish what its optimal yields are, given our farming conditions. Further investment in research is required; this is currently being undertaken in the PGP 'Sheep – Horizon Three'. This PGP aims to develop a sustainable and high value New Zealand sheep milk industry; with Spring Sheep Dairy NZ Limited Partnership the commercial partner. Refer to Appendix 4 for an overview of the programme.

The success of the New Zealand sheep milk industry in the intermediate term requires investment in the genetic improvement of sheep. Operators note this is imperative, and the potential to bring in new genes from Europe may assist this process.

One operator noted the first challenge is getting animals with high genetic merit (from offshore) or bred domestically through selective breeding processes from established flocks. There is a push amongst some industry players for this. If successful, operators will then need to develop a farm system that integrates with the livestock. Geneticists call this 'GxE', or 'genotype by environment interaction'.

Rather than chasing volume-based success, the New Zealand sheep milk industry is focused on sustaining a competitive advantage and margins to provide stable milk prices. One of the key drivers for this is sustainable farming practices. Many in the industry note that unless producers can drive out cost, it will be tough to compete on the world stage against European producers.

The difference in productivity is in the output per ewe. New Zealand's output per lactation is behind international standards, according to many in the industry. To improve output per ewe, there needs to be focus on the efficient conversion of feed to milk. This is seen as a key metric, rather than milk per sheep. This could be achieved by housing sheep in barns etc; as is mostly the case in the global dairy goat industry. The counter argument is to make better use of grazed pasture, thus reducing dependence on supplements.

Some have suggested that hybrid farming is the best approach combining grazing (that offers marketing benefits), with barn-housed methods (for benefits on productivity). Currently the New Zealand sheep milking industry is predominantly grazing-based. Maui Milk uses predominately outdoor grazing, although they will begin to utilise some barns in 2017. Spring Sheep Milk is mostly an outdoor operation but has also installed barns.

In the North Island, a significant proportion of total sheep milk is processed at the Innovation Hub in the Waikato. Blue River Dairy has its own processing capability in the lower South Island.

Source

<http://www.sheepdairying.com/sheep-dairying;>

Various discussions with industry operators;

L. Griffiths (2015). *Business plan for the NZ sheep dairy industry*. Retrieved from http://nzaginvest.co.nz/wp-content/uploads/2015/10/2014_BUSINESS-PLAN-FOR-THE-NZ-SHEEP-DAIRY-INDUSTRY_Lucy_Griffiths.pdf; and

Downie-Melrose, K. (2014). *A Bio economic Feasibility Study of Sheep Dairy Systems in Canterbury*.

Sheep milk profile

Sheep milk supply curve



FoodWaikato specialises in the production of sheep, goat and nutritional powders for local and export markets.

It operates New Zealand's first and only independent spray dryer capable of developing new products from concept to commercialisation. The commercial-sized processing plant provides scale-up opportunities and access for independent milk suppliers and nutritional brands looking to produce milk or ingredient powders.

FoodWaikato advise that for a spray dryer, the sheep milk season is relatively short, running from approximately September to mid-March. Any processing plant - whether a dryer or a UHT processor - needs to be operated efficiently. Therefore, the short season becomes problematic.

Many industry experts believe as the current stage of the industry there is insufficient milking flock to support large-scale investment in a processing plant. Currently at the FoodWaikato site, there is only one day per week on the dryer (from September to mid-March in peak season) allocated to sheep milk.

Given low production volumes, producers and new entrants need to:

1. Target the full day capacity to reduce manufacturing and product testing cost per kg.
2. If the volume is not sufficient to maximise the plant capacity from one supplier, sharing the day with another sheep company can reduce the manufacturing costs. Products can remain independent and run consecutively.

At present, the New Zealand dairy industry is dominated by seasonal production following the pasture production curve and production of commodities. One of the consequences of seasonal production is that on average, processing plants are only utilised at about 55% of annual capacity. Most overseas dairy industries utilise their processing capacity at about 90%.

Experts note the cost of trying to flatten the milk curve may be counter-productive. How milking sheep are farmed and their welfare will likely impact the value of the end-product, and how the 'milked/sourced in New Zealand' story is articulated to the global market.

Sheep milk industry

Marketing and innovation

Consumer education will be a very important determinant of success. This is likely to require investment in each market; supported by marketing material, and product samples and tastings. Less investment is required in the USA, where the market is more established, although investment is still required. More education is needed in Singapore to generate market demand.

In order to avoid becoming a commodity product and accepting commodity pricing, it will be critically important for sheep dairy exporting to determine and invest in the pathway to a premium product. There is an opportunity for New Zealand to invest in new product development and set the stage for innovation in the global dairy market. As the number of lactose-intolerant consumers has risen in recent years, non-dairy substitutes have increased in popularity. However the current offerings have faced criticism regarding their nutritional composition when compared to dairy. Products that are suited to the physiology and tastes of lactose-intolerant consumers, as well as offering a relative nutritional advantage, represent a significant opportunity for New Zealand exporters.

It will be important to leverage these product attributes and storytelling to influence the beliefs of targeted consumers and enhance the consumer experience. Understanding the drivers and channels for purchase - and positioning New Zealand product as high value brand with distinct points of difference - will be crucial.

There are also critical factors when it comes to penetrating new markets. It requires becoming intimately acquainted with consumers in each market, to understand how premiums can be created along each step of the value chain; and pairing this understanding with innovative product development.

KPMG believes that while it is important for companies to recognise and communicate their New Zealand origins, they must articulate a wider story than purely origin in order to de-risk their business and gain traction.

Europe has a strong competitive advantage in milking sheep – both in terms of genetics and volume – having done so over centuries. This means the proposition and story of New Zealand sheep milk must be expressed in each market in a way that is relevant, engaging and compelling to the consumer. It should leverage the key characteristics intrinsic in New Zealand sheep milk; namely our clean green pure image, pasteurised farming, sustainability, animal welfare and food safety. If our sheep are milked intensively or in full-time barns, New Zealand may lose its value proposition on the global market. In addition, the potential environmental advantages of sheep milk over traditional cow milk allows a strong story to be told. Research is currently being undertaken through the PGP to assist in determining the characteristics that make New Zealand sheep milk 'special'.

Supply chain and logistics will be impacted by the business model employed when establishing sheep dairy in the Canterbury region. Effective marketing and innovation will help to establish a consumer 'pull' in order to achieve brand trial and adoption.

Factors driving demand

Income and population growth are generally considered the strongest driver of increased demand for dairy products. In the longer term, growing consumer incomes will continue to fuel demand.

Demand is more responsive to income growth in low-income countries than in higher-income countries.

As high value sheep milk products is still a niche market, there are few recent statistics relating to consumption available. This report relies on developing trends in other categories to infer opportunities, as well as input from subject matter experts.

Insights are generated from global dairy reports and statistics, goat milk data (where available), trends in non-dairy alternatives and demographic drivers of demand.

There is significant investment currently being made into agri-food technologies, not only in productivity but in the very fundamentals of how, where and when we sustainably grow food.

The world population is expected to grow to more than 9 billion people by 2050. With the population being wealthier than ever before, the growth in food demand will be particularly focused on animal proteins. Some experts suggest that production of animal proteins will need to double to maintain sufficient supply.

While there will always be a place for natural proteins, it is likely that the majority of the growth in demand for animal proteins will be satisfied through alternative forms. Cultured farming systems will provide part of the answer, as will textured plant proteins.

The implication of these trends is that we face a future where alternative plant-based products will no longer be reserved for the dedicated vegan; but will provide a healthy, sustainable, ethical and affordable food experience to the mainstream population.

Source

Fulgoni et al.(2011). *Nutrients from dairy foods are difficult to replace in diets of Americans*, *Nutrition Research Journal*.

Sheep milk industry

Non-dairy alternatives

Backed by major equity investors, companies like Impossible Foods, Whitewave, Beyond Meat and Hampton Creek are developing alternative foods that closely replicate the experience of meat, dairy and egg producers. Made from plants, these products may offer a sustainable, ethical and healthy form of proteins to consumers.

Research by Mintel shows that Americans are slow at embracing protein from alternative sources¹. However more and more of our foods are now sourced in non-traditional ways (such as cultured foods, insects, plant-based proteins etc.). For traditional farmers, a place will be preserved for those farms who produce authentic natural protein from farm systems that are excellent in all respects. Artisan, storied foods will come from 'model' farmers that focus on: restoring the biodiversity in their farming system, valuing water, reducing their carbon foot print, treating their staff with respect, and contributing substantively to their communities.

The current emphasis on plant content reinforces the growing interest in vegetarian and vegan products, many of which are chosen by consumers for an occasional drink, snack or meal rather than as part of a comprehensive change to a plant-based lifestyle. Many consumers already place a personal emphasis on plants within their health and wellness goals. Another example is probiotics in dairy products, which are creating high value markets targeted at those taking a holistic view of their health.

The Chilean start-up Not Company, for example, uses artificial intelligence to develop plant-based alternatives to animal products including milk, mayonnaise, yoghurt and cheese. The company's artificial intelligence algorithm is said to understand food at a molecular level as well as human taste and texture preferences; leading to products such as 'Not Milk', which is made with almonds, peas, rice, nuts, linseed, coconut and vanilla.

In 2017, the time spent on (or saved by) a food or drink product will become a clear selling point. The paradox between fast and slow often manifests itself at meal times. The food industry has seen myriad of emerging shortcuts, including extended-shelf life herb purees, quick cooking sides and home delivery services. Many of these timesaving solutions allow consumers to bypass one portion of the meal-making process without sacrificing key elements such as nutrition or personalisation. In the future, products will have to share specifics about the time a product will conserve or require.

There is also a focus in the cow dairy sector on A2 milk. This is cow's milk that contains only the A2 type of beta-casein protein, rather than the more common A1 protein commonly found in regular milk. Published independent science states that all natural A2 protein digests differently to the A1 protein. This may be the reason some people have issues digesting ordinary cow's milk yet can enjoy A2 Milk.

In conclusion

Many industry operators agree that there must not be a 'boom' in the New Zealand sheep milk industry. High set-up capital costs, followed by reduced returns through increased market volume, could cause many industry participants (particularly new entrants) to struggle. Rather, the new industry must be developed carefully and strategically.

The biggest issues facing the industry can be summarised as follows:

- Market shaping
- Investing in building demand
- Delivering unique and tailored experiences
- The need to control supply

KPMG sees the main competitive advantage of New Zealand sheep milk based products over other countries as follows:

- Sustainability
- Animal welfare
- Pasture fed
- Food safety and quality control
- Pure NZ, brand perception
- Any positive sheep milk composition differentiation

¹Mintel Global. Food & Drink Trends 2017

Source
<http://www.stuff.co.nz/business/farming/75251342/milking-sheep-has-potential-to-earn-billions-of-dollars-for-new-zealand>;
Milk availability – Trends in production and demand and medium-term outlook ESA Working Paper No. 12-01 February 2012; and
Spring Sheep Milk Co, publicly available data; and FAO: How to Feed the World in 2050

Appendix 6

Value chain considerations

Value chain - considerations

Releasing the value

KPMG analysis highlights that the closer the producer gets to ultimate consumer of the product, the potential value to be realised from a value chain grows exponentially. It is often the retailer – who closely controls the relationship with the end consumer – that captures the lion's share of value.

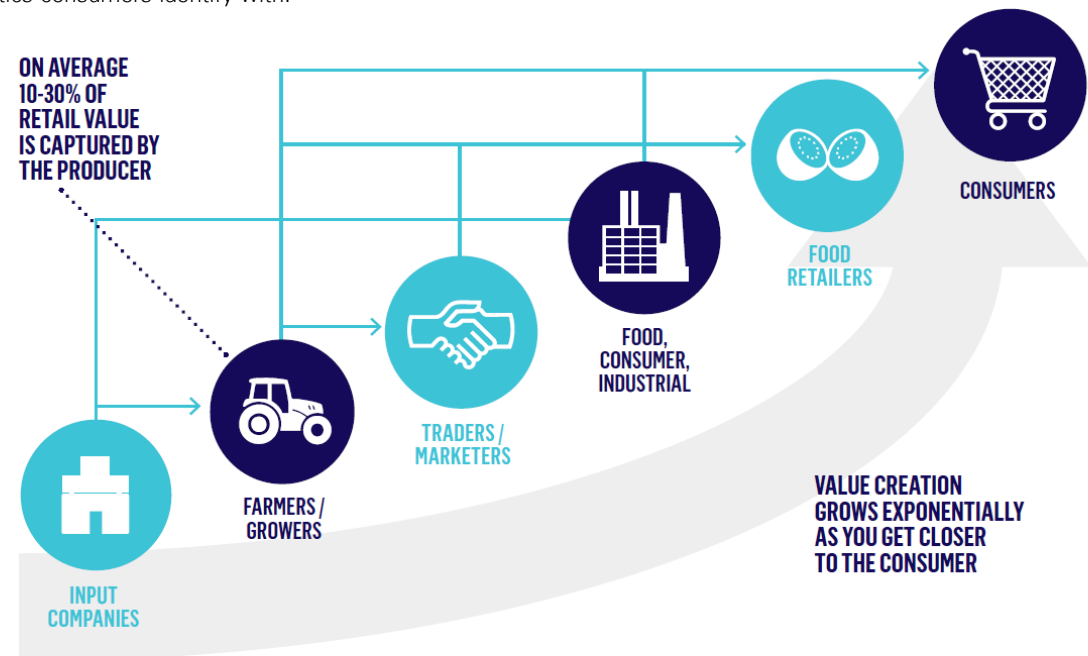
We estimate that the average value returned to the producer's gate lies between 10 and 30 percent of the final retail value of the product produced.

The return for many key sectors, including dairy, lies towards the lower end of this range. For example, in 2015 New Zealand exported a total of \$37b worth of agriculture products. KPMG estimates that our products generated more than \$250b of retail sales when on-sold to their ultimate consumer. This means the New Zealand primary sector captures less than 15% of the value we produce.

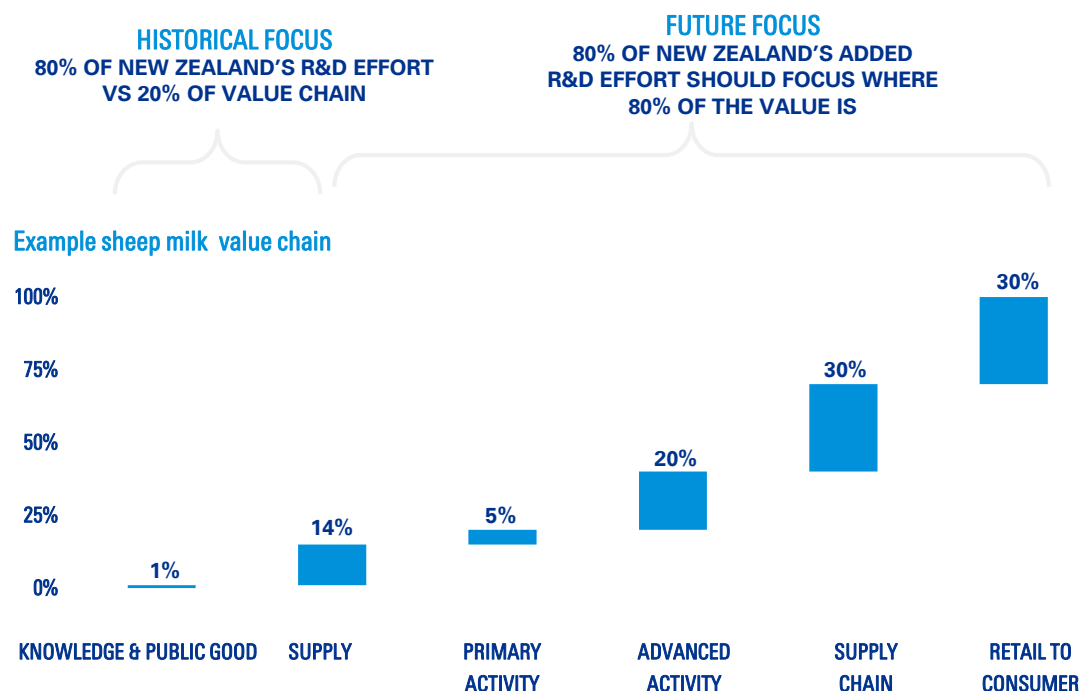
The sheep milk sector, given its early stage and low production volumes, needs to focus on FMCG targeted at the premium end of the market. In this market, 'indulgence', 'pleasure', 'distinction', and 'artisanal' qualities are characteristics consumers identify with.

Products need to have high quality ingredients, provide an engaging consumer experience, and offer something that no (or limited) other products provide.

To operate in this space, New Zealand sheep milk standards and quality assurance systems in this industry need to be rigid to ensure consumer trust. Producers need to seek to disrupt traditional FMCG in the market with innovation and premium products or look to emerging categories.



Value chain - considerations

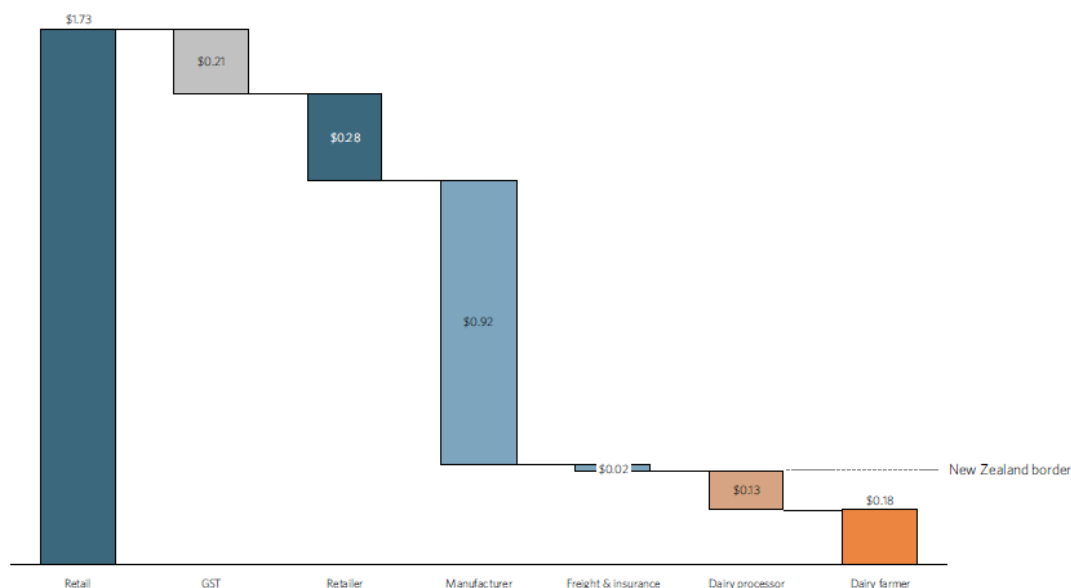


To capture a greater slice of the value chain, the focus needs to be on consumer-ready sheep milk products. Traditionally, New Zealand's spend has been focussed on creating knowledge and innovation at the start of the value chain. Given the early stage of the sheep milk industry in New Zealand, there is a unique opportunity to position the industry further along the value chain with a focus on the end product. Value is created by investing in market rather than increasing the production volumes. To optimise industry spend, the sheep milk industry needs to focus investment in R&D that is connected to the consumer.

Value chain - product example

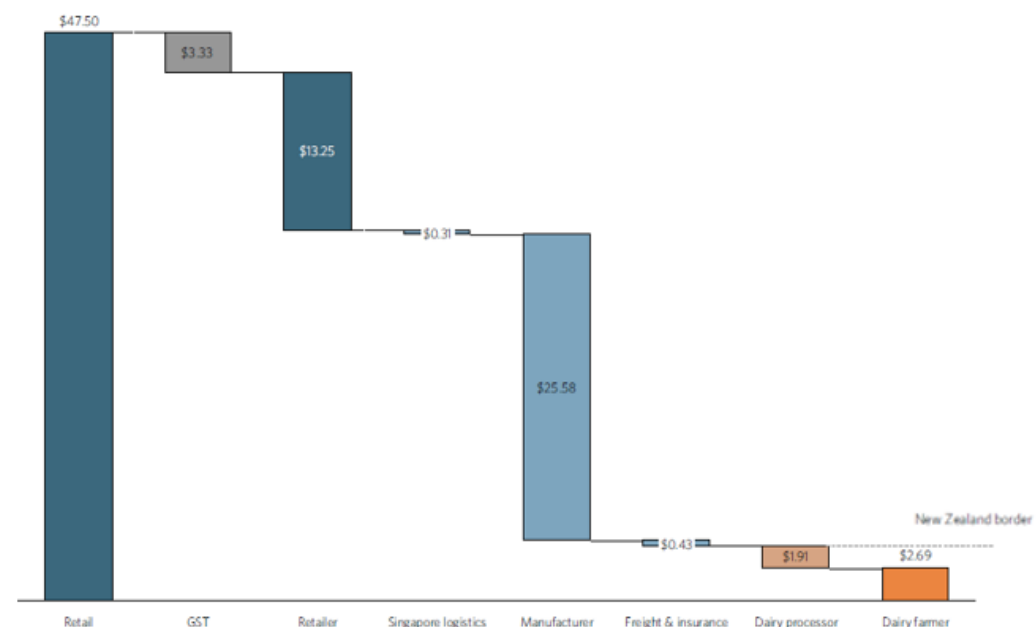
UHT milk

Preliminary analysis of the infant formula value from retail in the Asian market, through to the farm gate return, shows most of the value being added beyond the NZ border.



Infant formula

Preliminary analysis of the infant formula value from retail in the Asian market, through to the farm gate return, shows most of the value being added beyond the NZ border.



The dairy farmer can demand a higher premium

The above waterfall charts illustrate that after the 'milk' leaves the farm gate, there is significant amounts of value being added before the final retail price. If the sheep dairy farmer were able to provide more of the value chain, i.e. processing, manufacturing and brand ownership for example, a greater share of the final retail price would be captured.

Appendix 7

Trade success

Market focus - Brand New Zealand

Recognising the power of New Zealand as a brand

The cost of creating a mainstream, global FMCG brand continues to spiral upwards¹. As the number of high value markets grow, and media channels become increasingly fractured, the reality is that the cost of creating mega brands is outside the financial capability of most New Zealand companies. Given the importance of a brand to articulate the experience a consumer can expect from a product, the majority of New Zealand companies explore one of three branding options. They are either creating niche brands that appeal to the consumers they are targeting; or they partner with a brand owner to leverage their IP; or they align their product with 'brand New Zealand'.

1. The niche strategy enables highly tailored messages but does require the approach to be shaped to each market the organisation operates in, which can increase cost and complexity. This strategy can confuse consumers if they are offered a number of similar New Zealand products telling different stories, directing their focus towards price rather than a product's attributes.
2. Partnering and collaborating with a brand partner is an attractive option for organisations wishing to scale quickly. In such arrangements, organisations need to be careful where the power lies. If their product has exclusive features/characteristics to enhance the brand owner's story, the risk of commodifying a product decreases. If power lies predominately with their partner, this could erode the value able to be realised at the farm gate.

3. When marketing their products, many organisations look to leverage New Zealand's brand perceptions of quality, safety and integrity. While this works well for those with previous engagement with New Zealand, for many others, their knowledge is limited. We therefore need to tell the story in many dimensions to enable consumers to connect with the aspects that are relevant to them. For some, that may be our values and the way we do business, or the imagery of New Zealand and our iconic landscapes; while for others, it may be seeking comfort around the innovation and integrity of our products.



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Appendix 8

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Appendix 9

Glossary of terms

Glossary of terms

1MBD	1Malaysia Development Berhad fund
3PL	Third Party Logistics
AANZFTA	Asean Australia New Zealand Free trade agreement
ANZTEC	Agreement between New Zealand and the Separate Customs Territory of Taiwan, Penghu, Kinmen, and Matsu on Economic Cooperation
APAC	Asia Pacific
ASEAN	Association of Southeast Asian Nations
AVA	Agri-food and Veterinary Authority
BT	Business tax
CAGR	Compound annual growth rate
C2C	Consumer-to-Consumer
Certificate of GMP	Good Manufacturing Practices
CSQ	Country specific quota
DTA	Double tax agreement
ECFA	Economic Cooperation Framework Agreement
FDA	US Food and Drug Administration
FDI	Foreign Direct Investment
FMCG	Fast-moving consumer goods
FMD-free	Foot and Mouth Disease free
FSR	Full Service Restaurant

FTA	Free Trade Agreement
g	Gram
GDP	Gross Domestic Product
GMO	Genetic Modification Organism
GNI	Gross National Income
HACCP	Hazard Analysis Critical Control Point
IP	Intellectual Property
JV	Joint Venture
Kg	Kilogram
KNZFTA	Korea New Zealand Free Trade Agreement
KRW	South Korean Won
L	Litre
LOHAS	Lifestyles of Health and Sustainability
MFN Tariffs	Most-favoured Nation tariffs
MI	Millilitre
MPI	Ministry of Primary Industries
Mt	Metric Tonne
NTB	Non-Tariff Barriers
NDP	New Product Development
NZ-Singapore CEP	NZ-Singapore Closer Economic Partnership

OECD	Organisation for Economic Co-operation and Development
OOAP	Official Organic Assurance Programme
Oz	Ounce
PGP	Primary Growth Partnership 'Sheep – Horizon Three'
Pt Lqd	Pints (liquid)
QCP	Quota Compliance Programme
QSR	Quick Service Restaurant
Qt	Quarts
SEZ	Special Economic Zone
SKU	Stock keeping unit
SME	Small Medium Enterprise
T	Tonne
TPP	Trans-Pacific Partnership
TRQ	Tariff-rate quota
USDA	United States Department of Agriculture
VAT	Valued Added Tax
WTO	World Trade Organisation
w/w	Percentage by mass

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