

Functional and Luxury Foods Market Analysis

Luxury Foods Market Analysis

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Background and Objective

The Market Analysis phase of the *Study into the Functional and Luxury Food Value Chains in Asia and Australia including Foresights* involves an assessment of markets for selected functional and luxury foods in specified Asian countries, and in Australia.

This report includes an analysis of the market opportunity for luxury foods in Asia and in Australia, including an identification of the foods that can be categorised as luxury, and an analysis of their current markets in Asia and Australia. Value-chain opportunities for South Australia (SA) in each food product, and more generically, are identified where these can be inferred from the Market Analysis.

Luxury foods are defined as those possessing three characteristics – limited availability / rarity, high price and symbolism (i.e. their consumption in contemporary societies has a symbolic effect as an indicator of social status). The largest opportunities for luxury foods are therefore in countries where there are significant numbers of high net worth individuals, a relatively high degree of social stratification and where symbolism in food consumption is important (for example, at formal events such as banquets and weddings). However, there are cultural, ethnic and historical aspects to luxury food consumption, which means that the specific foods that can be regarded as luxury can differ by country.

Approach

As the Market Analysis is based on markets for specific luxury foods, an initial research stage to assess and agree upon the specific foods in the project scope was undertaken before commencement of the Market Analysis (Luxury Foods Market Analysis – Stage 1). This focused on the Asian countries which represent the most significant markets for luxury foods.¹

Stage 1 was undertaken to identify luxury foods in the Asia Pacific markets that would be the focus of the Market Analysis – Stage 2. Stage 1 involved interviews with participants in the luxury food ecosystem in each country, including importers and distributors, associations, food journalists and executive chefs. Based on this research, a range of luxury foods were identified in each market. These luxury foods were screened to short-list those that are, or could be, produced in South Australia (SA).

Stage 2 of the Market Analysis for Luxury Foods has involved deeper analysis of the markets for the short-listed luxury foods in the Asia Pacific region, including market size and growth, demand trends, product preferences and opportunities for South Australia in each product. Given the niche nature of many products, the availability of market data varies by product type. Data has been used from published industry sources, industry journals and primary interviews with market participants.

¹ See the Literature Review for this project

Luxury Foods Identified

Based on the stage 1 research, the foods identified as *luxury* by industry stakeholders in each country in scope are listed in Table 1. Those that are considered feasible for production in SA (and therefore included in this report) are highlighted in green.

Table 1: Luxury Foods Identified

Food	Main Countries Where Consumed	Viability for SA?
Abalone	China Indonesia Japan Korea Malaysia Singapore	Yes – already produced
Beche-de-mer	China	No
Bird's nest	China Malaysia Singapore	No
Bluefin Tuna	Japan	Yes
Caviar	China India Japan Malaysia Singapore	Yes – no current production but feasible
Chocolates	China India Japan Korea Malaysia Singapore	Yes
Cognac (Brandy)	China India Indonesia Malaysia Singapore	Yes – brandy produced in SA
Da Hong Pao tea	China	No
Distilled spirits (e.g. Maotai, whisky, Japanese rice wine)	China India Korea Malaysia Singapore	Yes
Dong Chong Xia Cao	China	No
Empurau Fish	Malaysia	No

Food	Main Countries Where Consumed	Viability for SA?
Exotic reef fish (e.g. Napoleon Wrasse)	China	No
Fish Maw	Malaysia Singapore	No
Foie Gras	Indonesia	No
Fugu (Puffer Fish)	Japan	No
Geoduck Clams	Malaysia Singapore	No
Grapes	Japan	No
Hanwoo Beef	Korea	No
Kopi Luwak	Indonesia Korea	No
Matustake mushrooms (known as Song Rong mushrooms in China)	China Japan Korea	Yes - no current production but feasible
Olive oil	India	Yes
Melons	Japan	No
Red wine (specifically Bordeaux)	China India Indonesia Korea	Yes – premium red wines already produced
Rock lobster	China India Indonesia	Yes
Saffron	India	No
Saw Edged Perch (Dageumbari)	Korea	No
Sea urchin roe	China Japan	No
Shark's fin	China	No
Spider Crab	Japan	No
Truffles	China India Indonesia Japan Korea Malaysia Singapore	Yes
Wagyu beef	China Indonesia Japan Malaysia Singapore	Yes

Source: Frost & Sullivan

Summary of Markets for Luxury Foods

Asia Pacific is the fastest growing global market for luxury foods, stimulated by factors such as rapid economic growth and significant wealth disparities (compared to Europe, North America and Australia) which has stimulated the development of a rapidly growing number of high net worth individuals (HNWIs).² In Asia Pacific in 2014 there was an estimated 4.5 million HNWIs, more than in North America or Europe.³ This has created a rapid increase in demand for luxury foods in Asia. About 75% of Asia Pacific HNWIs are located in Japan and China (including Hong Kong). Coupled with the importance of status in these cultures, often demonstrated via consumption of luxury products, these are by far the largest markets for luxury foods. Conversely, markets such as Indonesia and India are much smaller, although they have growth prospects (India and Indonesia combined only have approximately the same number of HNWIs as Australia).

A notable trend in luxury food consumption has been the westernisation of tastes in luxury food, with foods from Europe in particular gaining significant share of consumption in Asia. European producers have generally been successful in developing and promoting the heritage and narrative of their brands, in addition to the strict classification systems that have often limited availability, contributing to a perceived exclusivity of their products. Luxury foods in Asia Pacific therefore include both traditionally Asian foods (such as abalone and matsutake mushrooms) and western foods, generally processed, such as brandy and chocolates.

Within individual countries, opportunities for luxury foods mainly exist in the largest cities (often defined as Tier-I cities, for example Beijing, Shanghai and Guangzhou in China), where there are significant numbers of HNWIs and where most fine dining establishments and luxury hotels are located. The luxury food market is dominated by the food service segment (i.e. for consumption in restaurants and hotels) rather than the retail segment, although opportunities in retail are growing. For SA producers, gaining access to distribution channels that serve food service in selected countries is therefore critical.

The estimated size of the market in Asia Pacific for luxury foods are listed below. Also indicated is estimated production in Australia and SA, and SA's estimated share of Asia Pacific market demand (calculated as production in SA as a percentage of Asia Pacific demand).

Currently, SA only has a market share above 1% in Bluefin tuna and red wine (however, in Asia sales of *luxury* red wine are dominated by France). In other luxury food products, SA's current share of Asia Pacific demand is currently negligible. Hence, SA has an opportunity to substantially grow its sales of luxury foods through increased penetration of the Asia Pacific market.

² HNWIs are individuals with investable assets of US\$1 million or more

³ Cap Gemini, World Wealth Report, 2015

Table 2: Luxury Food Markets

Product	Asia Pacific Demand	Australian Production	SA Production	SA Share
Abalone	110,000 t	5,200 t	1,100 t	1%
Bluefin Tuna	30,000 t	8,000 t	7,900 t	26%
Brandy	49 million bottles	~100,000 bottles	n/a	<1%
Caviar	100 t	0	0	0%
Chocolates	~\$12 billion	n/a	n/a	<1%
Distilled Spirits	\$93 billion	~\$500 million	n/a	<1%
Matsutake Mushrooms	3,500 t	0	0	0%
Olive Oil	300,000 t	20,000 t	2,000 t	0.7%
Red Wine	~3.5 billion bottles	~1.0 billion bottles	~500 million bottles	14%
Rock Lobster	150,000 t	10,500 t	1,500 t	1%
Truffles	100 t	7 t	<0.5 t	<0.5%
Wagyu Beef	>\$3 billion	A\$261 million	n/a	n/a

Source: Frost & Sullivan estimates. Note: data for chocolates, distilled spirits, olive oil and red wine is for all products, not specifically luxury only, as data only for luxury products is not available.

Summary of Opportunities for South Australia

Based on the Market Analysis, there are a number of apparent opportunities for South Australia to exploit value-chain opportunities in luxury foods in Asia Pacific. These opportunities exist at both the individual product level, and more generically. Product-specific opportunities are identified within each product section of this report. More generic opportunities (across multiple product categories) are summarised below.

- An opportunity exists to position SA products as luxury in markets where there is not a long-standing product heritage and attachment to established European brands. For example, in Hong Kong and southern China, Cognac is synonymous with luxury brandy, and SA producers of premium brandy would struggle to compete. However, in other markets, such as Thailand, Vietnam or the Philippines, the same association does not exist, and SA producers could enjoy first-mover advantage in establishing Australian products as “luxury”. These opportunities could exist in products such as brandy, chocolates, red wine, wagyu beef, etc.
- In many cases, SA producers are losing significant value in the supply chain, with the price charged to the end-user many times the price obtained by the SA producer. By enhanced branding and greater control and influence over supply chain partners, SA producers have the potential to capture more supply chain value. However, the small scale of many SA producers currently limits their ability to obtain more value through the supply chain.
- Even in established markets for luxury foods, there is a tendency for growth at the premium (as opposed to the super-premium) end of the luxury brand scale. For example, in brandy many consumers are trading down from super-expensive to merely expensive brands. SA producers could focus on this opportunity, positioning SA brands as (slightly) less expensive alternatives to European luxury brands.
- A holistic story of SA as a “luxury food region” needs to be presented to Asian consumers, promoting SA’s benefits of cleanliness, high environmental standards etc. but with a lengthy and well-established heritage in luxury food production. In some luxury categories (e.g. abalone, matsutake mushrooms, truffles) Chinese production has increased significantly in recent years, but many consumers (even in China) have significant concerns about the quality and cleanliness of foods produced in China. SA has the potential to switch Asian consumers from products produced in China, particularly where the recent boost in Chinese consumption has widened the number of consumers for specific luxury foods (e.g. abalone, truffles). Additionally, in some product categories (such as olive oil) the high quality production methods used in SA can be used to differentiate SA producers even against European competitors.
- The SA story can also comprise inward-focused activities, e.g. the promotion of luxury food tourism into SA in Asian markets, and the development of infrastructure in

SA to support luxury food tourism, for example, expanding the Wine Centre into a Culinary Centre.

- Traceability will be increasingly important in Asian markets where concerns about fake products and food safety are becoming more acute. SA producers will increasingly need to utilise traceability technologies and promote the traceability as a key part of differentiation in end-markets. Government support may be needed for smaller producers to advise on approaches to traceability, and to support traceability implementation.
- Although functional foods and luxury foods are distinct, there are opportunities to piggy-back off any promotion of SA as a production centre for functional foods. Consumers of luxury foods are increasingly concerned about the health aspects of consumption, and promotion of SA luxury foods as “healthy” can play to this trend.
- Many SA luxury food producers are small-scale and lack the resources to access supply chains in many Asian markets. Access to distribution partners who have the infrastructure to maintain high quality standards and provide access to consumers in the key Asian markets is critical. In many cases, this involves distribution into the food service sector, as most luxury foods are predominantly sold in restaurants and hotels rather than through retail channels (although these are also developing). Additionally, supply chains are evolving; for example, there is a much greater focus on e-commerce (online sales) for food products, even including luxury food products. Many SA producers need help and support to access these evolving supply chains, for example in establishing e-commerce platforms to sell into China, or in developing contacts and relationships with distributors in end-markets. An industry-wide e-commerce platform for SA luxury food may also be worth considering.
- There are likely to be product innovation and value-add opportunities arising from combinations of SA luxury foods, for example blended products (such as truffle-infused olive oil) and from joint packaging (such as SA luxury food gift packs). Hence, encouragement of collaborative development between disparate luxury food producers in SA is recommended.
- Certification is likely to be an increasingly important means of differentiation for SA producers, given the increasing concern over food safety, traceability and sustainability in Asia. However, the costs of gaining certification can be prohibitive for some small producers. Government support and encouragement of SA producers to become certified with relevant bodies (e.g. ASC certification for aquaculture) should therefore be explored.
- Within the luxury seafood sector, there is likely to be an opportunity for SA to expand its existing aquaculture operations (for example, increased abalone production, possible caviar production). A fast-tracking process for establishment of aquaculture facilities, possibly in pre-approved aquaculture zones, could therefore be investigated.

- For some luxury foods, such as caviar, matsutake mushrooms and beche-de-mer, research is likely to be required into the technical feasibility of production in SA, given climatic and environmental conditions, quarantine regulations, etc.
- In certain areas of luxury food production, there is likely to be a requirement for skills development to allow the SA industry to grow, e.g. in mycology.

Stage 1: Analysis by Country

China and Hong Kong

Luxury Foods Consumption

Social characteristics of luxury food consumption

Luxury food within China is no longer solely defined by the price and rarity of an item; it also encompasses the quality and craftsmanship that is used to prepare and handle the food that gives it its aesthetic quality.

Luxury foods in China are largely purchased for and consumed on special occasions, such as business and formal banquets, weddings and intimate gatherings for close friends and family. These occasions are an opportunity to display the wealth and status of the host and to demonstrate appreciation and hospitality to guests by providing them with expensive, rare and wild cuisine. Gift-giving is a natural part of the Chinese culture, and there is a status implied when presenting gifts to others. Luxury brands and foods are common gifts, and are usually pre-packaged or come in gift sets/boxes. Therefore, consumers pay specific attention to product packaging and the aesthetics of luxury food when purchasing for gift-giving.

China has a rapidly growing class of HNWIs, with 890,000 in 2014 (growth of 17.5% over 2013), with an additional 138,000 in Hong Kong.

Trends in luxury food consumption

Chinese economic growth over recent years has driven the emergence of China's middle-class. This is a significant factor for the luxury market in China, as middle-class consumers' spending power has increased enormously. The packaging of luxury food is an important aspect, as Chinese consumers judge the level of luxury based on the quality and appearance of the product's packaging. Consumers believe that the more luxurious the packaging, the better the quality. If consumers cannot afford to buy an expensive high-quality gift, then they will at least purchase a gift with elegant and attractive packaging. Foreign and local brands are therefore paying more attention not only to the product itself but also to the packaging to attract potential luxury food consumers.

Concerns about fraudulent luxury foods are increasing as consumers are finding it difficult to authenticate luxury food. As consumers are increasingly purchasing luxury food items from international sellers they are paying more attention to the traceability of the luxury item, including the country of origin and the credibility of the distributor.

In addition to traditional local luxury foods, luxury wines, especially those from France, are heavily sought after in China. Imported wines are highly regarded throughout the Chinese

market and bought because of the quality and the perceived status of wealth and elegance consuming imported wine embodies. Red wines, such as Chateau Laffite and other French Bordeaux, dominate the Chinese luxury wine market and sales are growing strongly.

Regional or ethnic differences

Traditional luxury foods, such as bird's nest soup, shark's fin soup and local Chinese white rice wine liquor, are seen as luxury food throughout China and Hong Kong. However, regional differences are present in preferences for wine and distilled spirits.

In south China there is a growing market for imported red and white wines, as drinking imported wine is regarded as a symbol of elegance and sophistication among consumers. Imported wines are also believed to be of higher quality than local wine, and are commonly given as gifts as they are largely available at high-end wine and liquor stores. Cognac is also widely consumed in south China and Hong Kong.

As the climate is relatively colder in north China, consumers prefer strong liquor and spirits such as whiskey, gin, brandy, vodka or local Chinese liquor (such as Maotai⁴) as opposed to grape wine or brandy. Strong liquor is regarded as a way to keep warm and store energy during the colder seasons. There is also an emerging market for grape and rice wine in the north in response to the growing health trend, as some wines are alleged to be of nutritional value. This is significant, as there is great importance placed on food and beverages that provide nutritional value.

Barriers and challenges of luxury food consumption

Luxury gift-giving and spending for corporate banquets and entertainment for clients is the norm within Chinese culture and is symbolic of status and wealth within China. The anti-corruption campaign implemented in 2013 is mainly aimed at government officials in order to reduce lavish, extravagant red-carpet banquets, business banquets, weddings and formal gatherings. As such the campaign has prohibited serving luxury foods such as shark's fin soup, bird's nest soup, other expensive wild animal products, and high-end liquor and cigarettes at government official dinners and banquets. Corporate gift-giving and expensive luxury goods have also been banned, especially luxury Chinese liquor such as Maotai, which is the gift of choice at many official banquets.

Counterfeiting of luxury goods has become a prolific issue within China. More and more sellers continue to offer counterfeit versions of luxury goods, with similar logos, packaging and brand names at discounted, equal or even higher prices than the authentic product. Both international and local luxury items are at the forefront of counterfeiting issues in China, as the lack of government enforcement of intellectual property rights and lack of criminal

⁴ Maotai is distilled from fermented sorghum and is produced in the town of Maotai.

prosecution enables more luxury counterfeit products to saturate the market. There has been a slight decline in luxury food consumption in China that has been blamed on counterfeiting, as consumers can no longer discern the difference between counterfeit and authentic luxury items. More consumers are now willing to pay a premium and purchase foreign luxury brands from the country of origin, rather than purchase it within China, to ensure the authenticity of the product.

Luxury Foods Identified

- **Abalone** is a delicacy in Chinese cuisine as it is highly valued for its medicinal and nutritional properties. Not only is the meat consumed but the shell of abalone is also used as a treatment for various health ailments in Traditional Chinese Medicine (TCM). Abalone is customarily reserved for occasions such as weddings and formal banquets as it is regarded as a symbol for status and wealth. However, due to its medicinal purposes, bottled abalone meat is commonly gifted to friends, colleagues and family members who are hospitalised or recovering from an illness. The price of abalone is relative to its size, the larger it is the more expensive it becomes. Large top-tier abalone can retail at up to US\$2,700 per piece though average market-sized abalone (roughly 5-10cm) generally retails at US\$40-\$60 per piece and around US\$130/kg. Imported abalone (e.g. from Australia) sells for much higher prices than Chinese-produced abalone.
- **Shark's fin soup**, traditionally a symbol of wealth and luxury, is highly valued due to its rarity. It has been regarded as an aphrodisiac and used as a tonic for many health ailments and for its alleged anti-ageing properties. Shark's fin soup is typically served as a public display of social status, prestige and wealth but is also served to guests as a sign of respect, honor and appreciation. Commonly prepared and considered obligatory at weddings, business deals and formal banquets, shark's fin has been recognised as a premium product throughout China and Hong Kong, and can retail at up to US\$130-\$200/kg (dried shark fin).
- **Bird's nest** is considered a delicacy in China. The swiftlet is a type of bird species largely found in the southeast of Asia in caves near the coastline. The male swiftlet has two glands under its tongue that produces fine strands of saliva which adheres and then hardens to the ceilings and walls of the caves. The difficulty in harvesting the nests and the perceived nutritional benefits to consumers makes this a highly sought after product in China. It is typically consumed at banquets or formal gatherings and celebrations. Price for bird's nest is up to US\$2,500/kg, while a 50gm bottle of bird's nest can retail at US\$40. Bottled bird's nest is commonly gifted to friends, colleagues and family members.
- **Beche-de-mer** (sea cucumber) was once an imperial dish that was served during the Qing Dynasty, and as such is revered throughout China as a traditional delicacy, typically

served at important dinners and banquets. As it is difficult for many regions to procure and consume fresh Beche-de-mer, it is commonly marketed and purchased in dried form. As a result, there is an extensive amount of time required to prepare the dried Beche-de-mer, as it needs to be soaked in water for several hours before being cooked. Beche-de-mer is considered an aphrodisiac, and in TCM it is used to manage conditions such as tuberculosis, atherosclerosis and various neurological conditions. The most highly sought after Beche-de-mer species include *Holothuria scabra* (Sandfish), *Holothuria whitmaei* (Black Teatfish), *Actinopyga mauritiana* (Surf Redfish), *Holothuria fuscogilva* (White Teatfish) and *Thelenota ananas* (Prickly Redfish). As the price is dependent on the species and size, the Beche-de-mer retail price can range from US\$15-385/kg (dried). For premium species, such as the Sandfish or Prickly Redfish, it can sell at up to US\$17,000/kg. Dried Beche-de-mer are also available in gift sets and can retail at US\$1,700 per gift set, usually gifted to family, friends and colleagues for their nutritional benefits.

- **Napoleon Wrasse** is one of the most sought-after reef fish to be sold alive at fish markets. The rarity of the Napoleon Wrasse accounts for its high cost and it is seen as a symbol of status and wealth throughout China and Hong Kong. The key aspect is the price of the fish. Serving them to guests at special occasions, business dinners and banquets, is testimony that you value and respect them. The female Napoleon Wrasse is reddish-orange in colour, and because the species are protogynous hermaphrodites, some females become male in their lifetime. The male Napoleon Wrasse is greenish blue in colour and has a very distinct protruding bump on the forehead, and also commonly referred to as Humphead Wrasse. They can grow over 2 metres in length and weigh as much as 190kg, with a retail price of up to US\$660/kg. The live reef fish trade is common throughout China and Hong Kong and features rare high valued reef fish species, such as Groupers, Wrasse or any colourful, aesthetically appealing rare reef species. The fish are sold to restaurants and kept in live tanks before being consumed, as the freshness of the fish is extremely important and is the main reason for the live reef fish trade.
- The French red **Bordeaux Chateau Lafite-Rothschild** is classified as the icon of luxury wine throughout China. Not only is the quality of the wine highly regarded, but it is a key status symbol representing wealth. It is typically consumed during banquets, entertaining important clients and business and government affairs. The retail price for Chateau Lafite can range from US\$700 - US\$4,000 per 750ml bottle depending on the year. A Chateau Lafite 2010 recently auctioned for over US\$10,000 for a case of 12x750ml bottles. Lafite wines are widely available at high-end wine stores, however due to the status and price of Chateau Lafite wines, counterfeit Chateau Lafite is a growing and there is widespread concern as this is making it difficult for consumers to discern the difference between authentic and counterfeit wines. As such, most consumers are willing to pay a premium

to purchase wine directly from the producer as it guarantees the authenticity and quality of the product.

- **Maotai** is a highly regarded local liquor in China. It has a strong yet pleasant smell and flavor which is distinct from other locally made rice white wines as the rice used is only grown in the Guizhou province. Maotai's retail price is dependent on the age of the wine; the older it is the higher the cost. Maotai's retail price can range from US\$200 right up to US\$17,000/500ml bottle. A 1958 Maotai recently auctioned at over US\$226,000. Chinese consumers consider Maotai more premium than foreign wine. It is a staple liquor within Chinese culture, and is present at every business or government deal, as well as at banquets, weddings and other formal gatherings throughout China. Wu Liang Ye is another local rice white wine that is held in high regard and comparable to Maotai. However, it is relatively cheaper than Maotai, although it can sell at up to US\$2,630/500ml.
- **Da Hong Pao Tea** is a rare tea found in the province of Fujian. It is the most famous among the Oolong black teas and comes from Wu Yi Mountain. Da Hong Pao tea bushels are very limited and less than 1kg of tea is harvested from the bushels each year, making it very rare. Due to its rarity, the tea is usually reserved for honoured guests in China and is alleged to sell at US\$15,000/kg. The area in which Da Hong Pao Tea grows has become a UNESCO (United Nations Educational, Scientific and Cultural Organisation) protected World Heritage Site due to its rare and rich surrounding environment. Pu-Erh Tea is another sought-after Chinese black tea, and is sourced in the southern Yunnan China province. Pur-Erh Tea is a highly regarded due to its medicinal benefits, and is unique in a way as its taste improves with age. The processing of Pu-Erh tea is slightly different than other black teas as the leaves are not fully dried out, and retain some of their moisture. The leaves are then piled and formed into a tea biscuit and are then placed in special underground rooms or caves and left to age. Pur-Erh teas are sold as whole biscuits and can be priced up to US\$20,000/kg. An aged high quality Pur-Erh tea biscuit can auction for up to US\$662,000. Pur-Erh tea is commonly purchased as premium gift sets and often given to wish the receiver a long and healthy life.
- China has become the largest importer of **rock lobsters** over the years. Rock lobsters are considered symbols of prestige in China due to their rarity, and as such are considered more expensive than any other species of lobsters. Rock lobsters are largely sourced from Australia and are in high demand, particularly over the Chinese New Year period. Consumers prefer to purchase rock lobster live, as the freshness of seafood is of great importance in Chinese cuisine. Chinese prefer hard-shell lobsters over soft-shell lobsters, as they have more meat and are more durable. Rock lobsters are typically served at weddings and formal banquets, and are a delicacy which signifies luxury and

wealth. Australian rock lobsters can currently sell at around US\$70/kg at wholesale prices, and up to about US\$180 each in restaurants.

- **Caviar** is a preferred delicacy largely popular and associated with young and wealthy millennials, as they are more willing to try new exotic western delicacies. Caviar can reach up to US\$20,000/kg. The market for caviar infused cosmetic and nutraceutical products is gaining popularity among young Chinese consumers, due to their alleged anti-ageing and nutritional benefits.
- China is one of the largest consumers of **sea urchin roe**, which is considered a luxury food and commonly used as gifts or consumed on special occasions. The sea urchin roe is a commonly served dish in Japanese cuisine, and the popularity of sea urchin roe has led to an increase in Japanese restaurants throughout China and Hong Kong which offer it. However, with the ongoing anti-corruption campaign by China, sea urchin imports to Hong Kong have declined by about 11%. Although the campaign has affected the luxury seafood market in China, there is still a demand from countries such as Australia which export live sea urchin.
- **Song Rong (matsutake) mushrooms**, grown within the Yunnan province of China, are difficult to find and cultivate due to their symbiotic relationships with the roots of a limited number of tree species, most often pine trees. This has made it a rare delicacy in China, and its perceived anti-cancerous and nutritional benefits are widely-regarded among consumers. It is also prized for its pungent spicy aroma, most often used as a flavour enhancer in Chinese cuisine. Song Rong mushrooms, also known as matsutake mushrooms, are highly sought-after in Japan for their taste, aroma and the cultural significance of the mushroom being a representation of the autumn season. This has made Japan one of China's largest markets for Song Rong (matsutake) mushrooms as the production of matsutake mushrooms in Japan has declined over recent years. Due to its limited production, these mushrooms can range in price up to US\$2,000/kg. They are often purchased and given as a gift to wish people a long and healthy life.
- **Dong Chong Xia Cao**, also known as caterpillar fungus or *Cordyceps sinensis*, is one of China's most recognised and revered by foods that "strengthens, supplements, and sets the body back into harmony". It is a traditional Chinese medicine that is consumed to enhance the immune system, lungs, and kidneys. The caterpillar fungus is the result of a parasitic relationship between the larvae of a moth (caterpillar) and the fungus, which enters the body of the larvae, kills it and fruits up into an orange-brown club-shaped body. The remains of the dead caterpillar larvae, along with the fungus, are harvested then dried and can sell up to US\$32,000/kg. Gathering and harvesting of the wild fungus is difficult and is only found in the Tibetan plateau region which includes parts of China. There has been success in the cultivation of the fungus which has claimed to have the same potency and health enhancing qualities as wild caterpillar fungus.

- **Cheese** is considered to be pungent by the Chinese and is non-existent in traditional cuisine. Although it is still a niche market in China, it is growing, as there is an increasing interest in cheese by the younger generation. Marketed as a nutritional product for its high calcium content, China's cheese imports have increased by 30% from 2013 to 2014. There are also attempts in changing Chinese palates, for instance, Le Fromager de Pekin, a French artisan cheese manufacturer in Beijing, aims to promote unprocessed artisan cheese to the Chinese market. Currently, processed cheese from New Zealand is in high demand and is consumed as a snack by children. With regards to luxury, some consumers in China are learning to combine eating cheese with wine. The growing number of residents having the opportunity to travel, study, and live overseas has exposed them to Western cuisine. Wine and cheese tasting events are gaining popularity, especially amongst the young and affluent demographic groups. To raise cheese to a luxury status, it may be endorsed as a packaged set with high-end wine in gift boxes or as something that is consumed by the rich.
- **Wagyu beef** is a prized delicacy in China and is one of the most widely-known cuts of luxury beef throughout China. The growth in demand for wagyu beef is largely due to its high standard of quality and its perceived nutritional value. The grading standard of wagyu beef is very strict to ensure its quality, the different grades of wagyu beef consist of a yield grade (A, B, C) and quality grade (1, 2, 3, 4, and 5) A5 is the highest grade given only to the finest beef. The cost of wagyu beef can vary due to the differences in the grades of wagyu beef, but it can retail for more than US\$400/kg.
- The rarity of **white truffles** has made them one of the most expensive and luxurious food items. Young and wealthy Chinese consumers are starting to develop a palate for western cuisine, in which luxury foreign foods such as truffles are becoming increasingly popular. During November, when the white truffle season begins in China, dishes are prepared tableside during banquets and formal dinners adorned with white truffles to signify their luxury and rarity. A white truffle can retail at up to US\$3,000/kg.
- There is an increasing market for **chocolates** in China. Foreign producers, such as Mars, Ferrero Rocher and Nestle, hold the majority of the market share in China. With 70 grams as their annual per capita chocolate consumption, the Chinese middle class is driving the market. Expensive European chocolates, such as Lindt & Sprungli and Ferrero Rocher, are sought after for their high-quality and taste. Chocolates have an image of being an exotic luxury food, generally based on brand and packaging. Chinese consumers opt for foreign products more than local ones, as taste and brand are the top two qualities consumers are interested in. Price is an indicator of value, which means that the more expensive the chocolate is, the higher the perceived quality. Chocolate is mainly purchased as gifts or used as wedding favours. There is a large opportunity for foreign luxury chocolates if manufacturers offer a wide range of products, especially as a gift set or boxes.

- **Premium luxury spirits** are no longer limited to high end whisky and cognac brands, such as Diageo's Johnnie Walker Blue Label (average retail price of US\$295/bottle) or Remy Martin XO (average retail price from US\$150 - US\$250/bottle). Whisky and Cognac are seen as a symbol of power in the business world and are used as a drink for celebration, mostly consumed in bars and nightclubs. Cognac is a luxury gift that is given largely around the Chinese New Year, and Chinese consumers pay great attention to the packaging and the ornamental value of the Cognac bottle, as the bottle is considered a sign of wealth. Vodka and gin are also starting to gain popularity in China, especially among the young and new generation of drinkers, as they are more open to the western style and cultural drinking habits. International brands such as Absolut Vodka and Bacardi are beginning to localise and market their brand specifically for Chinese consumers. Bacardi have released "Tang" a green-tea distilled liquor sold at upscale restaurants for US\$250/500ml bottle. Bars all around Hong Kong and China have also started to create cocktails using gin and vodka that make the western liquors more palatable for Chinese consumers. Distilled liquors are not as widely accepted among the older generation as with the young affluent, but are still considered a luxury expense largely given as gifts. Distilled liquor gift sets can range from US\$250 - US\$450 depending on the age of the liquor, the brand and its packaging.

India

Luxury Foods Consumption

Social, Cultural and Economic aspects of luxury food consumption

In India, over recent years there has been a discernible increase in the purchasing power in many parts of the country, with rising affluence in many urban pockets. However, almost a quarter of the population lives on less than US\$1 per day, although GDP per capita is now US\$3,787. This essentially means that India has two separate consumer segments, namely the middle class and the masses. Despite its strong economic growth over recent years, the HNWI population in India is still relatively small at approximately 200,000 in 2014 (less than one-tenth of the number in Japan, and fewer than in Australia). This means that the market for luxury foods is still relatively small.

For many Indian consumers, even upper class consumers, imported luxury foods and foreign cuisines are a completely new experience. India now has several 24-hour food TV networks and cooking competition shows that are becoming popular on television. Amongst these, is Masterchef India, an 'Indianised' version of the Masterchef franchise which started in 2010, and has now completed four seasons. This has had a major impact on raising gourmet and luxury food awareness among the masses in India.

An estimated 20-30% of the Indian population is strictly vegetarian in accordance with the tenets of Hinduism. The ones who consume meat tend to do so sparingly as beef consumption is considered to be a taboo among Hindus, Jains and Sikhs which comprise over 80% of the Indian population. Non-vegetarian food is avoided during religious festivals and special days. Hence, certain luxury foods such as wagyu beef are unlikely to be applicable in India.

Trends in luxury food consumption

India is now experiencing a change in trend when it comes to consumption of meat, and especially high quality imported meat. Meat consumption is going up rapidly in tandem with more liberal attitudes and western influence. Strong economic growth has given rise to increasingly affluent and better travelled consumers, which is partly the reason behind this changing trend. Another notable trend is to regard a product as luxury if it is exclusively available only at high-end restaurants or 5-star luxury hotels, particularly food items that cannot be purchased or consumed elsewhere for a cheaper price.

Barriers to luxury food consumption

High Tariffs: Tariffs are generally 30-50% on imported food products and around 140-150% for imported liquor, which, when coupled with local excise and sales taxes, distributor

margins, and transportation costs, can double or triple the manufacturer's price of an imported product.

Infrastructure: Refrigerated warehousing and transportation facilities are limited and expensive, although these facilities are now improving.

Stringent Food Laws: The Government of India has recently consolidated its food laws under a single regulatory authority, the Food Safety and Standard Authority of India (FSSAI). Exporters from other countries have to follow an array of food laws covering use of additives, colours, labelling requirements, packaging, weights and measures, and shelf -life which can be time consuming.

Banned Imports: The imports of most animal and livestock-derived food products are effectively banned due to established Indian import requirements; this includes certain categories in the Harmonized Tariff Schedule under Chapters 2, 3, 4, 5, 16, and 21 (e.g., certain dairy products, poultry, meat, certain seafood, ovine and caprine products, as well as pork products, and some pet foods). Further, imports of beef are banned due to religious concerns. Imports of alcoholic beverages are constrained by local taxes and a complex licensing system for distribution and sales.

Diverse Food Habits: Indians have a number of food preferences that are derived from religious requirements such as Halal and vegetarianism. In addition, food habits and preferences can change dramatically from region to region, posing a challenge for food marketers.

Lack of Luxury/Gourmet awareness: While India has a huge potential for luxury food items, there is still a very small current customer base. A very small number of Indian consumers and expatriates are aware of gourmet foods. Hence, currently luxury foods are still mainly consumed only at high-end restaurants and luxury hotels.

Regional and Ethnic differences

Regionally India can be divided into six main areas, namely the North, East, West, South, Central and North Eastern regions. There are differences in attitudes for domestic non-luxury food items, for example, good quality seafood would be considered as luxury for the cities that are not situated along the coastal lines in India, as Indian seafood lovers have a preference for fresh seafood. However, for luxury food items, the regional or ethnical differences do not have a significant role to play since the Tier-I and Tier-II cities⁵, which hold the major consumers for luxury foods are evenly spread across the nation. Moreover, a majority of the luxury dining, high-end retailers or restaurants are located in Tier-I and a few Tier-II cities.

⁵ The Reserve Bank of India (RBI) classifies centres into 6 tiers based on population. Tier-I cities have a population of over 100,000, Tier-II over 50,000 and Tier-III over 20,000

Luxury Foods Identified

- **Caviar:** Caviar is a prominent imported delicacy in India. It is selectively available, found at fine dining or five star luxury hotels only. Its availability is limited outside Tier-I cities. Beluga Caviar is the most expensive form of caviar priced at as much as US\$ US\$10,000 per kg. Caviar is typically consumed as a way of indicating sophistication and western exposure, as opposed to any real dietary preference.
- **Lobster:** India is a major exporter of lobster, and therefore the demand for imported lobsters is not high. India has its own production of high quality lobsters that are appreciated by consumers, but not considered luxury items. The most expensive lobster is Canadian lobster, at almost US\$50 per serving or dish at an expensive high-end restaurant. These are not widely available in India, especially because Indian seafood lovers prefer fresh local seafood over imports, but there is demand in the luxury sector.
- **Truffles:** Probably the most luxurious imported food item in India, these are not easily available at high end retail outlets and are generally only found in heritage and five star hotels. Truffles are priced at US\$150- US\$200 for two small chunks of truffles in a bottle. However, with such a high price tag, the demand for these is rare but increasing gradually due to growing awareness of the product among Indian consumers.
- **Saffron:** Kashmir is the only saffron producing area in India, where saffron grows in its wild valleys. Known as the magical herb or the golden crop, it has occupied a special place in Indian culture. Saffron is famous for its perceived medicinal, colouring and flavouring properties. Saffron has a number of uses. Saffron is very popular as a spice in international cuisines. It is an indispensable ingredient in most Mughlai dishes and erstwhile Mughlai chefs used this herb liberally in rich concoctions they prepared for the royal table. In India, to serve dishes decorated with saffron is regarded as a mark of honour to the guest. On account of its colouring and aromatic properties, saffron is mostly used as a food additive in culinary, bakery and confectionary preparations. As a result of the floods in Kashmir in 2014, India is facing a 75% shortfall in production of the spice. This shortfall has led to the price of saffron increasing to US\$40 per 10 grams.
- **Chocolates and confectionery:** Global chocolate manufacturers today offer small serving packages that are easily affordable to not only the Tier-II or Tier-III cities, but also for the rural areas. Lindt was one of the only brands that targeted the Tier-I and possibly Tier-II cities in India. However, it has now withdrawn from the Indian market, due to the stringent food labelling requirements in India. There has been a growth in gifting chocolates in big basket sizes (0.5 / 1.0 / 1.5 kg), over the traditional Indian sweets for festive occasions. A small serving pack of Lindt can cost around US\$10

per 100 grams, while in bigger serves a 475 grams basket of Whitakers would cost around US\$100. Also, Japan's luxury chocolate maker Royce recently introduced their special range of chocolates - Royce Nama chocolate and Royce potato chip chocolate that cost up to US\$20 per 100 grams. Meanwhile, imported specialty cookies are another emerging luxury product in the Indian market, typically priced at US\$40 – US\$60 per 500 gram box.

- **Wines:** Consumption of wine has been growing in popularity. This is in part due to the growth of the middle-class population and the aspirational lifestyle of many younger Indians, especially in the major cities. In a country where many people have traditionally frowned on alcohol consumption, thousands of people a year are acquiring a taste for wine. About 60% of the imported wines are from France. Up to 80% of wine is consumed in the major Indian cities: Mumbai (39%), Delhi (23%), Bangalore (9%) and the foreign tourist dominated state of Goa (9%). The remaining 20% is sold in the rest of India. Red (45%) wine is slightly preferred to white wine (40%) followed by sparkling (13%) and Rosé wine (2%). A bottle of French wine (French Bordeaux) can be priced at as much as US\$680. Chandon, a product of Moet Hennessy, is now produced in India.
- **Whisky:** India has traditionally been a whisky consuming nation and, in fact, India drinks more whisky each year than Scotland produces. There is a huge market for imported whisky in India, which is the world's largest whisky consumer as it consumes about half of the world's whisky, at almost 1,600 million litres annually. The price of single malt whisky in India depends upon its age and brand. The price generally ranges from US\$270 per bottle to US\$680 per bottle for a really old imported premium brand of whisky.
- **Cognac:** Though Cognac has been available in India since 1818, the market is significantly underpenetrated. Cognac is very highly priced and is sold at high end hotels only. Hennessy, a major Cognac company that sells only to high end hotels, claims to have sustained a 28-30% growth in sales over the last year in India. The price of a Cognac bottle is typically around US\$280, and will vary depending upon its quality and premium value e.g. variation in prices for V.S.O.P / V.S / X.X.X versions.
- **Olive Oil:** In India olive oil is a premium product when compared to other edible oils. Olive oil is considered healthy but awareness of its use as a food ingredient is relatively low in India. Olive oil currently makes up only 12,000 tons of India's 17 million ton cooking-oil market — but the demand is growing. The International Olive Oil Council estimates a rise of sales by a minimum of 60% over the next few years. The general price of olive oil ranges from US\$20 – US\$25 per litre. However, the high-end olive oils in India, for example the Castillo brand, can cost up to US\$80 per litre, and these could be regarded as luxury products.

Indonesia

Luxury Foods Consumption

Indonesia is the fourth most populous country in South Asia and is classified in the World Bank's index of the "next 15" economies for economic growth. Luxury foods in Indonesia are primarily consumed by the relatively small upper middle class and rich population primarily in Jakarta and to a lesser extent in the island of Bali, which has a burgeoning "luxury tourism" industry. However, overall the luxury food market in Indonesia is still relatively small. There are less than 50,000 HNWI's in Indonesia in 2014, less than one-quarter of the number in Australia, despite Indonesia having ten times Australia's overall population.

The Indonesian government has aimed to drive increased local consumption of luxury goods by reducing luxury tax on several products (except alcohol), thereby allowing for an increase in consumer spending from the middle class as well, though this group currently accounts for a very small proportion of luxury food consumption. Indonesians are becoming increasingly status conscious and this has driven a growth in luxury food consumption, particularly at restaurants. Weddings are also a major occasion for luxury food consumption, as Indonesian weddings are often lavish and aimed at exhibiting the family's affluence and status.

The Japanese influence is also strong with several Japanese manufacturers, such as Asahi and Suntory, forming joint ventures and launching their high end alcoholic beverages amongst other products. In spite of being a mainly Muslim nation, Indonesia is witnessing growth rates for its imported spirits at over 6% year on year. However, growing fears of increased imports of contraband luxury products, which in some cases such as distilled spirits accounts for over 90% of imports, is driving the government to increase its focus on food safety. (Luxury taxes are up to 200%, depending on the product)

Key barriers to the growth in luxury food consumption include inflation, which is increasing the prices of necessities and restricting expenditure on high priced foods to only the very rich. In addition, increased import tariffs on products such as spirits have now doubled their prices, reducing demand as a 150% import tax now makes these products extremely expensive for the average consumer.

Since most luxury foods in Indonesia are imported, the geographical trends are more demographic (urban/rural) based than location based. Urban Indonesians tend to spend more on luxury food at restaurants, particularly in and around Jakarta. This is also because, apart from in Java, logistics costs significantly increase the price of even basic products, making them expensive and restricting purchasing of any form of luxury products.

Luxury Foods Identified

- **Abalone:** Abalone has witnessed growing investment by local Indonesian aquaculture producers who are increasing production within the country. However, most of this production (over 95%) is destined for export. Affluent Indonesians consume abalone similarly to how they consume red wine or Cognac, as a sign of their affluence and western exposure. However, Indonesia with Australian guidance via institutions such as the Rural Industries Research and Development Corporation, is currently developing a larger abalone aquaculture industry to cater to the export sector. Prices of this species in Indonesia can range from US\$60/kg (imported) to US\$33 /kg (local).
- **Alba White Truffle:** Truffles are a known luxury staple in high end restaurants in Indonesia although the average consumer is hardly aware of their existence. While they are rare, the white ones are even rarer. Like most other luxury foods, truffles are also mainly used in continental cuisine, particularly in restaurants where French chefs decide the menus. Prepared in dishes found at high end hotels and restaurants, these may be priced at up to US\$10,000 per kg.
- **Rock Lobster & Spiny Blue Lobster:** Rock and Spiny Blue lobsters are highly sought after in the luxury sector in Indonesia, particularly for consumption in Bali (mainly imports) which caters to a large amount of Australian tourists. Demand is mainly for frozen lobsters, with a minimal demand for live versions. Indonesia has also now started its own production of lobsters, as over 60% of Indonesian protein demand is met by seafood. Average prices of live lobsters can range from US\$40-US\$100/kg.
- **Wagyu:** Beef accounts for the largest form of protein consumption in Indonesia after seafood. While Australia remains the largest beef importer into Indonesia, Japan is a key supplier of premium wagyu beef. There are strict regulations on imported wagyu beef as it must meet the Halal certification. Wagyu beef in Indonesia is famed for its taste and supposed health benefits, and is witnessing growing demand in upmarket supermarkets and high end restaurants. Prices for this product in Indonesia vary from US\$350 to US\$450 /kg.
- **Red Wine:** Almost 80% of wines consumed in Indonesia are red wine, particularly French and Italian red wine. Indonesians believe that wine creates an image of being well-heeled and health conscious, making wine consumption a status symbol. Red wine is largely consumed in Jakarta while white wine is popular in Bali, largely influenced by Caucasian tourists. The growing number of wine tasting events, trendy wine bars, and domestic breweries has definitely benefitted sales in the country. Average wine prices in Indonesia range from US\$ 50-100/litre.

- **Cognac:** Top brands are seen as an important social marker of success and wealth. These include Hennessy VSOP, Martell and Camus XO Cognac. These drinks are largely purchased for gift giving within Indonesia. Average prices range from US\$150 to US\$200 /litre.
- **Foie Gras:** Foie gras is very popular among connoisseurs of the finest luxury foods and is considered a delicacy in Indonesia. Consumers regard the product as healthy with its buttery, rich flavor, yet very delicate, unlike traditional goose or duck liver. It is in high-demand, especially the pan-seared foie gras, and is found in several high-end French restaurants throughout Jakarta and luxury hotels. A foie gras dish can cost as much as US\$100 – 150 at a fine dining restaurant in Indonesia.
- **Chocolate:** Although Indonesia is the third largest cocoa producer in the world, 90% of the chocolate produced in Indonesia is of low quality (compound chocolate). The chocolate demand in Indonesia is witnessing growth driven by the expanding middle class, and increased disposable income, which has already spurred expansion of cocoa grinding capacity in Indonesia. Chocolate from Belgium, Switzerland and the USA is deemed premium. The Nama chocolate with a hint of champagne by Royce from Japan is by far the most popular imported chocolate in Indonesia, while Monggo chocolate produced from the best cocoa beans is the most highly regarded domestic chocolate. The chocolates are largely purchased for gift giving within Indonesia, and Halal chocolates are a growing trend. Gifting opportunities benefit from the dual nature of the market in Indonesia, where Muslim and Chinese holidays both are of major significance. These gift boxes can be priced at as much as US\$170 per box.
- **Kopi Luwak:** The original raw material of Kopi Luwak is coffee beans that are eaten by a cat-like animal called the Luwak, also referred to as the 'Asian palm civet'. The digestive process of the civet gives these coffee beans a uniquely rich aroma, and a smooth and rounded flavour. The droppings of the Civet containing the undigested coffee beans are collected, cleaned and then roasted. Indonesian coffee chains stock Kopi Luwak as it is a key status symbol and considered extremely rare. Production is capped at 500 tonnes per year, and there is growing export demand from US, EU, Korea and Japan. The Kopi Luwak beans are typically priced at up to US\$700 per kg.

Japan

Luxury Foods Consumption

Social aspects of luxury food consumption

Japan is a high-income country in which the average disposable income per capita is US\$26,000 per year. Residents therefore have much higher levels of disposable income than most other Asian countries, and are better able to afford luxury food items. Unlike other Asian countries that consider luxury goods a symbol of the upper class, in Japan luxury foods can often be afforded by the middle class. Japan also has the largest number of very wealthy people in Asia, with 2.4 million high net worth individuals, about half of the total number in Asia Pacific. This means that Japan has a relatively large and well-established luxury food market compared to other Asian countries.

Japanese buy luxury food seasonally ("*kisetsukan*" or sense of seasons), as a treat for themselves ("*petit zeitaku*" or small luxury and gratification), or commonly as gifts for family, friends, or colleagues, therefore presentation is a very crucial aspect of food. They are also particular with the high-level craftsmanship (such as traditional method, handmade, and customised) and efforts involved in the production and preparation of the luxury product, the species (especially for luxury fruits), and the time period in which the food is bought and eaten. Price is also an indicator of premium standard. Some of the luxury foods discussed in this report are valued as such because of their representation of traditional Japanese culture.

Trends in luxury food consumption

The luxury food industry in Japan is an open market, controlled by supply and demand rather than government regulations. There is a trend for new and diverse varieties of food, both local and foreign. Japanese value the packaging of foods along with the taste, quality, and brand name. In addition, marketing and endorsement by celebrities are used as an indicator by the consumers of the luxury and premium status of the product.

Some challenges to luxury food are the ageing population in Japan and the impact of recent natural disasters such as the 2011 earthquakes and tsunami. The growing number of aged people and the decrease in the working population means that a larger portion of personal income will need to be allocated to paying taxes, debts, and other social obligations, decreasing the amount of money people can spend on luxury food. The 2011 earthquake and tsunami caused people to delay consuming luxury food and focus on helping people in need, consume what is essential, and reconnect personal relationships.

Regional or ethnic differences

Japan has various regional cuisines and food specialties, which are dependent on the local produce, such as fruits, vegetables, seafood, and beef. Most of these local produce are now available nationwide, however, products that still have specific requirements for site exclusivity, and limited production can retain a luxury and premium status. Aside from seafood being considered as more luxurious for inland communities than coastal areas, there are no other significant regional differences, as the Japanese have a generally unified set of values for seasonal food, traditional cuisine, and local ingredients. What is nationally considered a luxury food is generally synonymous with Japanese culture, and requires traditional art and expertise in its production, preparation, and presentation.

Luxury Foods Identified

- **Fugu (Puffer Fish)** is an expensive delicacy which requires rigorous preparation by specialised chefs in fine dining restaurants. Despite incidents of hospitalisation and deaths due to the high toxicity of the fish's internal organs, people still consume it due to the distinctive taste and texture, as well as the thrill of the knowledge of eating such a dangerous food. Per dish, the cost usually starts from US\$100 and over, depending on the Fugu species (Torafugu as the most reputable). It is a seasonal dish, usually eaten in winter. With the recent relaxation on Fugu preparation licensing, this will downgrade its price value and it is likely to be more widely available. However, this might cause a decline in the Fugu population, and thus making it rarer and perceived as more luxurious again.
- **Matsutake mushrooms** are prized for their rarity, distinct aroma and taste and nutrition. This type of mushroom grows on the forest floor under Japanese red pine trees, which makes organised cultivation impossible, and it therefore can only be harvested in the wild. It is a highly regarded seasonal food representing Japanese autumn and can cost around US\$1,000 to US\$2,000 per kilogram, depending on the freshness. Ideally, matsutake mushroom is best and most expensive when bought locally with fresh, plump stems and the mushroom cap is still closed. On the other hand, imported mushrooms are cheaper as some aroma and flavour are lost during travel. In addition, local mushrooms are valued more, as the Japanese have strong loyalty to local produce.
- The breeding and feeding of **wagyu** (Japanese cattle breed) cattle has involved strict methods such as massaging, and the addition of beer or sake in their diets. The resulting meat from these cattle has a more distinct tenderness, and usually costs up to US\$770 per kilogram, especially for the highest grade of A5, as it has high levels of fat marbling in comparison to Western beef, superior meat color and firmness, and better fat color and quality. Wagyu beef is also considered to be of higher quality and

healthier than its Western counterparts, as it has higher proportion of monosaturated fat and oleic acid.

- **Abalone** is considered by the Japanese as a luxury due to its flavour, medicinal properties (especially for the eyes), and strong cultural history. In coastal Japanese communities, abalone is sustainably harvested usually by women through “ama diving”, a traditional physically taxing method of diving without equipment, and collecting abalone by hand, yielding, on average of 2-3 abalone catch per dive. Factors such as the declining numbers of practitioners of traditional abalone harvesting and decreasing population of wild abalone contributes to the rarity of abalone which can lead up to its premium price reaching to US\$1,700 for a piece.
- **Truffles** are offered in the most prestigious restaurants in Japan. The prices can vary from over US\$1,000/kg. Large truffles discovered are often put up for auction. A sum of US\$330,000 was paid for a 1.5kg white truffle in 2007. Being a good indicator of wealth, truffles generally accompany dishes in expensive restaurants. Lower grade truffles are widely available, particularly from China.
- Grown exclusively in Hokkaido in small batches of 65 every season, **Densuke Black Watermelon** was once sold for more than US\$6,000 in an auction. The fruit’s monetary value can be attributed to its rarity, exclusivity, and high quality. It is a rare variety of watermelon, characterised by its black skin and unparalleled sweetness, juiciness, and crispness. In Japan, melons are commonly given as luxury gifts or used as a status symbol.
- **Yubari King Melon** is a specific cantaloupe cultivar only grown in Yubari, Hokkaido, sought for its juiciness, sweetness, and physical traits, such as perfect roundness, flesh colour, smooth evenly patterned rind, and its T-shaped stalk. With the Japanese placing high value on melons traditionally as seasonal gifts and status symbol, standard Yubari King melons cost about US\$50-100 per melon, while the top-grade can be sold up to US\$15,700 at auctions. The melon’s production requires specific balanced growth conditions found in Yubari, manual harvesting, and strict quality check on its sugar contents. The low number production, aesthetic presentation, period of harvesting, rarity, exclusivity, and the short prime consumption timeframe contribute to the value of Yubari King Melons.
- The **Spider Crab** is known for having the largest leg span for any arthropod found in the deep parts of southern Japan coasts. It is considered as a prized delicacy by the Japanese, and its price for a kilogram can fluctuate up to US\$1,300. Due to the decreasing crab population, it is prohibited to collect spider crabs during their mating season (spring) and can only be harvested occasionally using small trawling nets.
- Once thought as a cat food, **Bluefin tuna** has risen to an expensive delicacy for the highest grade, which can be sold for up to \$8,000/kg in auctions. In 2013, a sushi restaurant owner paid US\$1.76 million for a 222kg tuna at the first auction of the year in Tokyo’s Tsukiji fish market. Japan consumes 80% of the global Bluefin tuna catch,

although the market is facing conservation issues due to the decline in the Bluefin tuna population. There is current research and development in farming tuna, as an attempt to ease the fishing on current wild fish stocks. Bluefin tuna is well known served in *Ootoro sushi*, which best displays the Bluefin tuna belly's marbling of white colored fats and soft pink muscles. Aside from the strong demand for its rich and creamy texture and exceptional taste, Bluefin tuna could also portray wealth and status, especially for those who auction for the fish on New Year's.

- Grown in Ishikawa, Japan, the **Ruby Roman Grape** is a new grape variety that can cost up to US\$6,400 for a bunch of 26 grapes. Each grape is around the size of a ping-pong ball and is "cherry tomato" red in color. In addition to its physical characteristics, the grapes undergo strict quality control, with premium class requiring each fruit to be above 30 grams and have 18% sugar content. These meticulous growth and quality standards, the fruit's sweetness and low acidity, rarity, exclusive and limited production in Ishikawa, traditional fruit gift giving culture, and the superstition of first batch of the crop being symbolic of good luck adds to the fruit's value, but it also serves as a reflection on the immense effort and labour of the farmers to cultivate these produce.
- Japan is popular for its **chocolate** gift-giving culture, particularly for Valentine's Day and White Day (14th March). Even though chocolates are generally affordable, there is a window for luxury chocolates in the Japanese market. The industry is dynamic and evolving as chocolate makers are continuously innovating and developing their products using modern technology or diverse ingredients to appeal and suit the demand as customers are willing to pay more for new and artistic gift ideas. In addition to the quality and taste, manufacturers also have to focus on the packaging and marketing. Chocolates can be considered as luxurious if they are produced by a well-known brand, have high-quality ingredients and creative packaging, have gone through rigorous processing (such as handmade), are rare (or limited-editions), meet Japan's strict chocolate standards, and have successful marketing. An example of a luxury chocolate sold in Japan is Frantz Kobe Sweets, who market chocolates shaped as car keys and other gadgets in a toolbox set, costing about US\$110.
- **Wine** is seen as an object signifying status and wealth, mostly bought as gifts. French wine is highly valued among foreign wines. Japanese also prefer champagne brands from France such as Veuve Clicquot, which can cost up to US\$870 per bottle, and Krug to \$2,300 per bottle. Celebrity endorsement has contributed to the wine's luxury status in Japan.
- Another unique luxury good in Japan is **sake**, Japanese rice wine. As the national beverage, it is served in a special way, depending on the preference of the consumer, quality grade of the sake, and the season. For example in winter, low-grade or old sake is warmed in a porcelain bottle and sipped in a porcelain cup. The more expensive variations contain different flavours ranging from fruitful flavours to drinks

that provide a meat flavoured aroma. Artisan brands also brew sake only in winter, which is the traditional time. Sake is recommended to be paired with food but is also commonly consumed with savoury food. Sake can be consumed on ordinary days, used in religious rituals, and in special occasions. Jukushu sake is drunk only on a 'special occasion' and it is the most expensive type. It has the strongest aroma and taste and goes well with fatty and savoury food. The trend of sake seems to continually rise as a greater number of people direct their attention to sake. Luxury sake, such as the Jukushu sake, is sold in bottles that are well over US\$100 for 720 ml bottles.

- Japan is one of the largest importers of **caviar**, which is sold for around US\$120 for 25 grams. With the population of sturgeon and production of caviar decreasing and imports being limited, caviar is becoming rare and has even prompted Japan to produce its own brand, called Miyazaki Caviar 1983, to meet the country's demands. Customers can order caviar online from local or overseas suppliers and have it directly delivered to them. Aside from buying it in a dish, caviar, in 15 – 20 gram creatively packaged portions are also used as a gift on specific holidays such as Christmas and New Year.
- Japan is the largest consumer and importer of **sea urchin**. Prized for the delicious taste and texture, sea urchin roe ("*uni*") is used as an ingredient for Japanese cuisine, especially in sushi and sashimi. High grade sea urchin roe is the most luxurious and is distinguished by its quality, yellow-orange colour, and custard-like texture. Although Japan has domestic market of sea urchin, the country still imports roe from overseas during off-seasons.

Korea (South Korea)

Luxury Foods Consumption

Social characteristics of luxury food consumption

Korea has a developing luxury food market, driven by the relatively homogenous culture of the country which both encourages Koreans to distinguish themselves by consuming luxury items and pressurises them to keep up with people that do. The number of HNWIs in Korea is still relatively low (at 188,000 in 2014 it is less than in Australia), however growing interest in gourmet cuisine is driving consumption of luxury foods. As an insight into Korea's media influence on food, Korea's most famous food and media conglomerate, CJ Corporation, is now led by vice chairwoman, Mikyoung Lee, known for her influence in the corporate's media empire. This has resulted in CJ employing a media based strategy such as Korean entertainment shows based on food, with celebrity guests frequenting weekly episodes of fine dining, farm-to-fork, and social dining TV shows. These shows act as important educators of international and fine dining cuisine to the wider Korean populace, and are a key mode for CJ to launch its new products.

With regard to luxury food, presentation is a key aspect. Koreans are sensitive to the visual appeal of food, and recognise fine dining to be an integral status symbol, as well as an important part of their social functioning. Meals are planned using a colour scheme representing the five elements to achieve optimal attractiveness, with respect to the visual appeal of the dish, as well as health. Water, wood, fire, metal and earth are represented by food colours yellow, green, red, white and black, respectively. Furthermore, Koreans are highly attuned to the functional benefits in all of their food, and sensitive particularly to the cosmetic benefits of food. These intricacies further blend the boundaries between functional and luxury foods in Korea, and reveal that sometimes the two are interchangeable; i.e. the most functionally beneficial foods are the most highly regarded.

Trends in luxury food consumption

Korean consumers are driven by the need to obtain value for their money, especially in luxury food. This is highly influenced by foods that the west considers luxury, such as truffles and fine wine. With its ancestral roots of monarchy, Koreans were forbidden a whole range of foods that could only be consumed by the aristocracy. A large portion of today's luxury food consumption is derived from this tradition, with Koreans seeking foods that were once forbidden to their ancestors, as a means of proving their improved status in the world to their contemporaries. Traceability is considered another aspect of luxury, with transparency of imported ingredients and their sources being a value added factor for most manufacturers.

The major barrier to growth in luxury food consumption is a slowing economy which has made shoppers a lot more deal savvy. While this has not decreased consumer spending on luxury foods, it has increased the focus on value for money in Korea. Consumer purchases are hinged on the best deal available, even in the luxury food markets, and restaurants tend to focus on this trend in particular to draw new clientele. This has led to an increasing pressure on manufacturers to provide products that consumers will see value in aside from just its luxury tag.

Regional or ethnic differences

The population of Korea is homogenous with over 99% of people being of Korean ancestry and sharing a common culture, including speaking Korean. This means there is a limited level of regional or ethnic differences and differences are driven by demographics based on age and gender

Luxury Foods Identified

- **Abalone** is a traditional delicacy and noble food in Korean cuisine as it seen as having digestive, immunity enhancing, anti-tumour properties in addition to being a good source of protein, vitamin K, pantothenic acid (vitamin B5) and selenium. However, unlike other countries, abalone is no longer considered a luxury food in Korea but more a premium food. This is because Korea is now the world's second largest producer of abalone and supply is abundant, as a result of huge investments in increasing farming capacity. It is easily available in local markets and is particularly served in a soup to the elderly for its nutritive value. Current abalone production in Korea is estimated at 10,000 tonnes with a price range of US\$25 to US\$35 per kg, depending on the size of the abalone. However, Japanese abalone is highly sought after in Korea, and these prices can go upwards of US\$120 / kg retail price.
- **Hanwoo beef** is considered Korea's top beef, similar to wagyu but considered to be an older art and is a sought after delicacy. Hanwoo beef consumption has grown in Korea, and now accounts for 35% of total beef consumed, even though its price is twice that of imported beef from US or Canada. This is because local beef is considered to be fresher and have better flavour. Koreans have a preference for marbled beef, so the grading system in effect since 1992 gives a high priority to marbling. The top grade is QG 1++ for Korean beef marbling scores. In 2014, over 60% of Hanwoo beef was rated in the top three categories, thereby driving sales. Sales of Hanwoo are high during Lunar New Year, and typical prices of Hanwoo beef are up to US\$120- US\$130/ kg
- **Imported Chocolate:** South Korea has an established market for high quality chocolate, mainly from Belgium and Switzerland. Leonidas and Barry Callebaut are

the two most successful luxury chocolate brands in the country. Chocolates are typically given on special occasions such as weddings, as well as being gifted by women to men on Valentine's Day. There is a growing market for luxury chocolates low in fat and with antioxidant potential, one of the reasons why dark chocolate accounts for over 40% of total chocolate sales in Korea. Typical imported chocolate prices range from US\$40- US\$50 per kg.

- **Saw-edged Perch (Dageumbari):** Saw Edged Perch is a large fish that is native to Jeju Island in Korea and is typically served raw as sashimi. Considered a delicacy, Saw Edged Perch is priced at up to US\$2,000-3,000 / kg because it is only caught during certain times of the year from March, but mostly during the autumn when there is a northwest wind. It is typically considered a special treat and is mainly found on Jeju Island, attracting both tourists and locals to these specialty restaurants.
- **Matsutake mushrooms:** Matsutake or pine-mushrooms demand a high price because they are a rare species that grow only under specific site conditions. In Korea, matsutake grows only in symbiosis with the roots of pine trees (20 to 60 years old) in mountainous areas at temperatures between 18 to 24°C, and can be found in acidic soils, mainly in the Taebaek and Sobaek mountains on the east coast of Korea. They do not grow in the same spot twice. Korean pine mushrooms have low water content, giving them a richer flavour and a characteristic aroma, and are highly sought after in Japan and China. Pine mushrooms are priced up to US\$2,000-US\$2,200 / kg retail.
- **Truffles:** Truffles are imported into Korea, mainly from France, and are considered a highly prized product. Truffles are usually consumed in high end restaurants, mainly in Seoul. Typically not part of Korean cuisine, truffles are considered a statement of wealth in Korea and are typically consumed at business dinners and special occasions, mainly at European-style restaurants.
- **Fine wine:** Wine accounts for only 2% of total alcoholic beverage sales in Korea, though consumption is growing at over 100% year on year. Korea's main demand for fine wines is met by France with its Bordeaux blends. Fine wines are typically consumed by Koreans in restaurants, though in-home consumption is growing quickly. Koreans typically favour red wine because of its strong intense flavours, which complement Korean garlic based food. Typical prices of Bordeaux wines in Korea begin at US\$130 / per litre and can run into the thousands of dollars.
- **Distilled spirits:** Korea is a large distilled spirits market, with these spirits accounting for over 74% of total alcohol consumption by value. Soju, a local specialty liquor, is the main contributor to this category, and is a much sought after drink consumed with the meal. While soju is available in a variety of price brackets, the premium versions such as Jeonju Leegangju and Munbaeju are priced between US\$120-200/ litre and are served on special occasions. For instance, Jeonju Leegangju was the official drink during the Joseon-United States Trade Treaty, while Munbaeju was used in the

South-North Korea Summit Meeting in 2000. Other traditional liquors that enjoy similar popularity are Hansan Sogokju, believed to be a drink of nobles and a medicinal drink, and priced at up to US\$150 per litre. Among the imported distilled spirits, single malt whisky is a major growth area with highly brand conscious Korean consumers willing to pay very high prices for well-known Scotch and Japanese whiskies. Single malt whiskies are a niche market in Korea, but growing at double the rate of the whisky market overall, and have retail values beginning at US\$220 / litre in Korea.

- **Luwak/Civet Coffee:** The coffee is imported from Indonesia where the beans are collected from partially digested coffee cherries eaten and defecated by the Asian palm civet. Coffee culture in Korea is extremely strong, with coffee chains abounding across the cities where 88% of the population lives. In 2013 Korea was estimated to have over 14,000 coffee shops generating revenue of over US\$4 billion, making it the world's 11th largest coffee market. This is driving demand for premium blends such as Luwak Coffee as taste buds become more sophisticated. The coffee is priced at up to US\$800 per kilo, and as more countries begin to demand it prices are expected to rise.

Malaysia & Singapore

Malaysia versus Singapore

Malaysia and the island nation of Singapore share a very strong history and cultural identity, given that they were essentially the same country during their early history. And as such, their taste and demand for luxury foods are similar. However, given the significant gap in economic development between the countries, there are significant differences as well. Singapore has approximately 107,000 HNWI's compared to 67,000 in Malaysia, despite Malaysia having five times more people overall.

The Similarities

- The economic power in both countries is dominated by the Chinese population, and as such many of the products that make up the luxury food market appeal to their palate.
- Seafood products make up a large portion of the luxury food market in these countries. In fact, both Malaysia and Singapore are within the top of 5 countries globally by fish and shellfish consumption per capita.
- Both countries share a strong belief that for something to be considered luxurious, it needs to be imported.
- The majority of luxury food is consumed for the status it confers. Status symbolism is very important in these cultures.
- In these cultures, business dealings often involve the “entertaining” of customers and partners, which can often include luxury dining. Business partners often use dinner or lunches to impress customers by ordering expensive delicacies.

The Differences

- Due to its much higher average incomes, luxury food items are far more affordable for the average Singaporean relative to his or her Malaysian counterpart.
- Importation of luxury food items into Singapore is far easier compared to importation into Malaysia, due to lack of necessary supply chain infrastructure in the latter.
- Due to high living standards and a favorable business environment, Singapore has established itself as the “Switzerland” of the east, and is able to attract individuals of high net worth to relocate to its shores, thus increasing the market for luxury foods. This in turn has also attracted world renowned chefs to set up restaurants in Singapore.
- Malaysia's large Muslim population requires any food items to be “Halal” certified to be fit for their consumption.
- Malaysia has the land mass to cultivate its own produce, Singapore does not.

“Singapore is basically 10 years ahead of Malaysia when it comes to luxury food trends, but the gap is growing narrower”⁶

Luxury Foods Consumption

Prada and Pride – The two types of luxury consumers

Essentially there are two types of luxury food consumers in these markets, which can be categorised as “Prada” and “Pride” consumers.

Prada: The first, and likely larger segment, values luxury foods for the status symbolism that comes from their consumption. For this market, brand names, or perceived exclusivity, remain the ultimate purchasing criteria.

This segment consumes luxury foods largely for the status that their consumption confers. And thanks to the ubiquitous nature of social media, these consumers are now able to easily share their experience of consuming these luxuries food items with friends and family, thus increasing their appeal.

Social media plays such an important role in the consumption of luxury food that the appearance of a dish is as important as its taste. For instance, chefs have supposedly moved away from plating on long rectangular plates, as they do not fit in the “square” frame of Instagram photos.

Pride: The second segment of luxury food consumers perceive themselves as more sophisticated. They pride themselves on having a more refined palate than most, and do not judge a product purely based on perceived quality. For instance, in the past lobsters were considered a luxury in these countries; however they are now available in mid-market restaurants such as Red Lobster and Manhattan Fish Market. As such, this market would only consider premium quality lobsters, such as Southern Rock Lobsters, to be luxurious.

For this segment, the preparation and production methods of foods are also taken into consideration for a food to be considered “luxurious”. The “narrative” behind the product is just as, if not more important, than the product itself. Consumers want to know that special effort has gone in the cultivation and preparation of the foods they consume. For instance, this market appreciates the difference between grass fed beef and grain fed beef.

Local Produce

While luxury food items are synonymous with imported foods items, high end restaurants in Singapore are beginning to celebrate locally grown (in Malaysia) produce. It is expected that this trend will catch on and spread across the border into Malaysia as well.

Challenges

⁶ Quote from a food journalist interviewed for this report

The market for luxury foods in Singapore is far more mature than its counterpart in Malaysia. Besides the obvious gap in disposable incomes between the nations, there are other fundamental differences between these markets that limit the growth of the luxury food market in Malaysia, primarily with regards to the supply chain.

While Singapore has world class infrastructure to handle the delicate imported produce, Malaysian infrastructure and workforce capabilities lag significantly behind. Consequently, this makes the importation of fine food items difficult, particularly those that depend on stringent handling procedures, such as fine wines, fresh seafood and luxury chocolates.

Furthermore, the recent weakening Malaysian currency makes access to imported luxury foods more expensive and in some ways more exclusive.

Luxury Foods Identified

Luxury foods in these countries in general can be categorised into two segments; **Chinese delicacies** and **Western delicacies**.

Chinese Delicacies

The Chinese population in both Malaysia and Singapore typically make up the wealthiest segment in both nations. As such, delicacies that appeal to their tastes often make up key products in the luxury food segments in these markets.

While the most prized foods may come from endangered animals, there is a range of more sustainable delicacies as well. Most of these food products are often associated with some form of medicinal benefits.

The following are some of the most popular “Chinese delicacies”.

- **Birds Nest:** Yan Wo, or bird's nest, is sometimes referred to as 'the Caviar of the East' for two reasons; its high cost and its value as a delicacy. Along with shark's fin, dried abalone and premium sea cucumber (Beche-de-mer), bird's nests are frequently on the menu at exclusive banquets, and are meant to reflect the status of the host. Malaysia is the second-largest producer of bird's nest behind Indonesia, accounting for approximately 10% of the world market. The local industry in Malaysia is estimated to be valued at RM1.5bil (about US\$400 million) with total production of 375 tonnes of edible bird's nest a year. Prices of raw bird's nest have plunged from RM4,000 per kg (about US\$1,000 / kg) in 2010 to below RM2,000 (about US\$500/kg) following China's ban on imports of raw bird's nests from Malaysia.⁷
- **Abalone:** Abalone is a status symbol in East Asia and a reputed aphrodisiac. It is considered to be a delicacy traditionally reserved for special occasions, such as

⁷ <http://www.thestar.com.my/News/Community/2014/01/04/Let-the-good-times-roll-Local-raw-birds-nest-prices-expected-to-recover-following-lifting-of-ban/>

weddings and other celebrations. It is deemed to symbolise wealth and prosperity and is most frequently consumed during the Lunar New Year holiday. The availability of commercially farmed abalone has allowed more common consumption of this once rare delicacy. Canned abalone is often used for home preparation primarily, due to it being cheaper and easier to prepare. Abalone from Mexico, Japan and USA is the most expensive varieties, while products from South Africa, Australia & New Zealand are mid-priced. Chinese abalone is the cheapest.

- **Fish Maw:** Fish maw, or air-bladder, is a delicacy in Chinese cuisine. The fish air-bladder is extracted from fishes that are commonly found in the seas of Asia, New Zealand and United States. When cooked, it has a gelatinous texture and tastes bland. To make it more palatable, it is often braised or double boiled in soups. The quality of fish maw depends on the type of fish. Fish such as sturgeon, hake, conger-pike, croaker and carp command high prices for their fish maw due to these fish having large and well developed air bladders. The most prized fish maw is said to be extracted from the croaker fish due to its large size and thick stomach walls. There are also other factors that may affect the price of fish maw. For instance, the male fish's air bladder is thicker and thus commands a higher price. Good fish maw has to be yellow in color and the richer the color, the better it is able to maintain texture through an extended period of cooking. Age is also a factor in fish maw quality as older the fish maw, the better. Premium quality aged fish maw can fetch approximately US\$1,000 / kg in Malaysia and Singapore.
- **Geoduck Clams:** Geoduck is a bivalve clam with an elephant trunk-like siphon protruding out of its shell, usually found in the waters of the Pacific Northwest. They are particularly prevalent off the shores of the US state of Washington and in neighbouring British Columbia. The "elephant trunk clam", as it is known in China, is considered to be an aphrodisiac and is often served in hot pot, though sometimes fried or used to add flavor and texture to congee and may even be consumed as sashimi. A kilogram of geoduck can go for as much as US\$180 at top Chinese restaurants.
- **Empurau Fish:** Empurau, also known as Malayan Mahseer, a freshwater fish indigenous to Sarawak in Malaysian Borneo, can cost upwards of \$500/kg at any fine-dining Chinese restaurant. The Empurau, also called "Wang Bbu Liao" in Chinese which means 'unforgettable', is extremely rare as and is considered to be endangered due to both overfishing and habitat loss. It is believed that Empurau gets its unique sweet, tender flesh and smooth texture due to a diet of "Engkabang" fruits and flowers that fall into the rivers it habitats.

Western Delicacies

The colonial history in these nations has left a deep rooted belief that products from Europe or those that appeal to a Western palate are luxurious. Coupled with a strong tradition of

pursuing tertiary education in Europe (particularly the UK) amongst the more affluent population in these countries, the taste for Western delicacies has been imported by returning students.

Singapore, in particular, has a relatively large expatriate population from Western countries, thus increasing the demand for luxury food items that appeal to their palate.

- **Luxury Chocolates:** While the consumption of chocolate in Malaysia and Singapore is significantly lower than most developed countries, it is growing. The luxury segment is dominated by European imports, with Belgian chocolates held in high esteem. In 2014, Singapore imported over U\$12.2 million of chocolates from Belgium compared to U\$10.4 million in 2011 at CAGR 5.7%. Belgium also exported more than U\$13.2 million of chocolates to Malaysia, which increased from \$12.3 million in 2011 at a CAGR 2.6%.⁸ Given the significantly smaller population of Singapore, they are clearly bigger consumers per capita of luxury chocolate compared to Malaysia. This can be attributed to a higher disposable income rate and a higher proportion of expatriates from Western cultures. Luxury chocolates in these countries are generally bought as gifts rather than for self-consumption. It is a particularly popular gift among the more affluent Muslim population in Malaysia, who are prohibited from consuming alcohol, a popular gift amongst non-Muslims.
- **Luxury Alcoholic Beverages:** Consumption of wine in both countries is on an upward trajectory. The typical consumer still assumes that Europe (more specifically France) is the only origin for high-end luxury wines. Of late, high end Chinese restaurants are beginning to offer a wider range of wines to complement their cuisine. Whisky is by far the most popular liquor in both Malaysia and Singapore. Luxury versions of this drink are assumed to originate either from Scotland or Japan only. Scotch is clearly the market leader, with typically anything aged 18 years or more considered to be in the luxury segment. Japanese whisky consumption, while limited at present, is growing in popularity. Another growing trend in alcohol consumption in these markets is cocktails. Mixology is increasingly becoming popular, with bars often bringing down world class mixologists on a regular basis to attract customers. This trend has in turn grown the popularity of beverages frequently used in cocktail, such as sherry. A unique trend in both Malaysia and Singapore is that alcoholic beverages, such as scotch, brandy and vodka, are often bought by the bottle at pubs and nightclubs. Priority access into popular night clubs can often be gained through the purchase of a bottle which often retail at a 100% to 200% mark up price at these venues. Weddings are large affairs in these countries with guests numbering from the low hundreds to the thousands. A large amount of alcohol is consumed at these celebrations (except in Muslim weddings), at which the quality of the alcohol served is often a yard stick on which a wedding's prestige is measured.

⁸ UN-comtrade database

- **Truffles:** Whilst truffles are consumed in their natural form at high end restaurants, by and large, truffle is largely consumed in the form of truffle oil. The real issue with truffle oil is that a large proportion of what is sold in the market is not genuine truffle oil but merely oil flavoured with synthetic thioether (2,4-dithiapentane), an aroma found in truffles. Given the lack of exposure to fine western cuisines, it is unlikely that consumers in these markets are able to discern the difference in these products.
- **Caviar:** Caviar is almost exclusively only consumed at high end restaurants in these markets. Caviar is supposedly largely losing its appeal in these countries largely due to a lack of reliable suppliers.
- **Luxury Meats:** Quality of meats in these South East Asian countries is often judged by the texture rather than the taste. Hence, highly marbled meat such as wagyu beef is popular. Steaks are rarely cooked at home in Malaysia, and largely consumed at western themed restaurants. The luxury beef available in Malaysia and Singapore is largely from either Australia or Japan, with dry aged beef growing in popularity. An interesting trend in the consumption of luxury meat is in the form of burgers. While in the past, burgers were largely consumed either at fast food restaurants or road-side stalls, there are a growing number of specialty burger restaurants that make burgers from luxury produce such as wagyu beef or even foie gras. Beef, however, is not the only luxury red meat to be consumed in these markets. Despite being a largely Muslim nation, pork is growing in popularity in Malaysia with bistros serving luxury imported hams from Spain.

Stage 2: Analysis by Luxury Food

Abalone

Overview

Although there are over 100 abalone species, about 10 species are considered of commercial value, and mainly occur in Korea, Japan, Mexico, South Africa, Southern Australia, New Zealand, United States of America, and China. Each country typically has its own local species, but the most valuable species is generally the Japanese *Haliotis discushanni*. This species commands the highest price, particularly if it is produced in Japan. Although other countries have commenced farming of *H. discushanni* (e.g. Spain, China), this is not feasible in Australia for quarantine reasons.

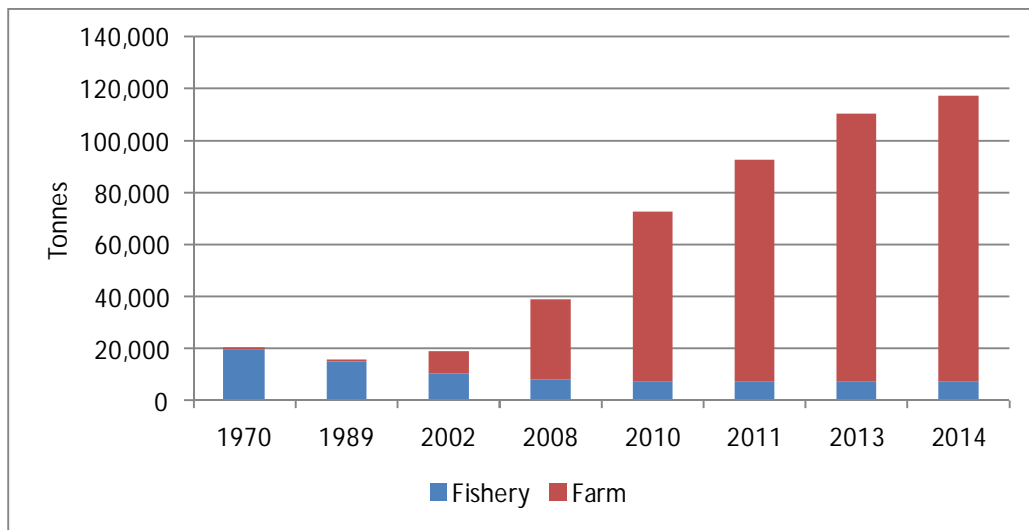
Abalone is produced both from natural fisheries and from farming, with farmed production growing extensively over recent years, especially in China and Korea. In Australia, three types of abalone are produced – greenlip abalone (mainly in Western Australia and South Australia), blacklip abalone (mainly in Victoria) and a hybrid farmed abalone, tiger abalone, which generally commands the highest price because of its attractive shell. Abalone is one of the most valued seafood products globally, and especially in Asia.

Market Size and Growth

In 2013, global legal abalone production was approximately 117,000 tonnes, with the majority (over 90%) from farmed production. Since 1970, global abalone production has increased at a compound annual growth rate (CAGR) of 4.09 %. Additionally, illegal trade in abalone is estimated at approximately 5,000 tonnes, giving total global production of 122,000 tonnes per annum.⁹

⁹ Peter A Cook, the Worldwide Abalone Industry, Modern Economy, 2014, 5, 1181-1186

Figure 1: Global Abalone Production

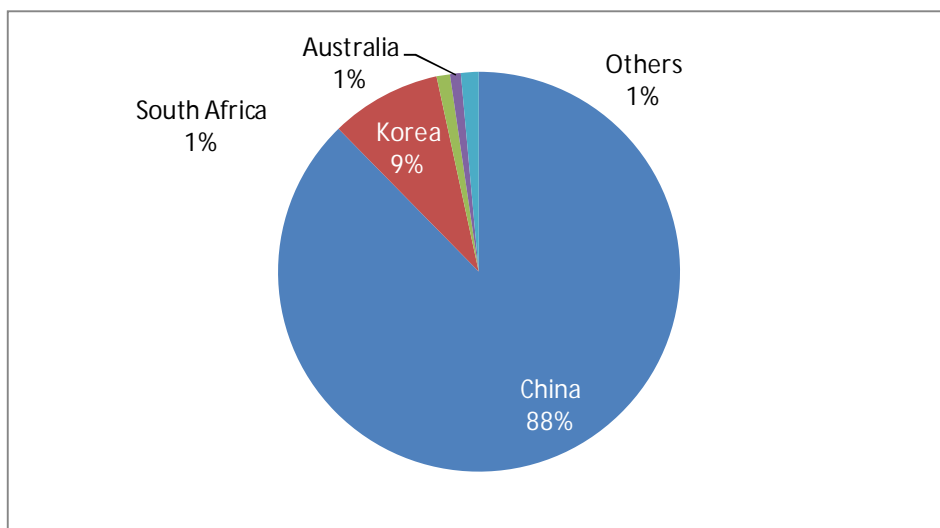


Source: Frost & Sullivan

The major development in abalone supply over recent years has been the significant increase in farm production, especially in China and Korea. These countries account for approximately 97% of global farm production. In 2013, production in China was estimated at 90,000 tonnes, and 9,300 tonnes in Korea.

However, growth in abalone production in China is likely to stall and even decline from 2015, mainly as a result of poor husbandry practices and falling prices caused by the significant increase in production and lower demand, partly caused by the anti-corruption drive in China. Overall, production is estimated to remain stable at around 90,000 tonnes in 2015.

Figure 2: Abalone Production by Country, 2014

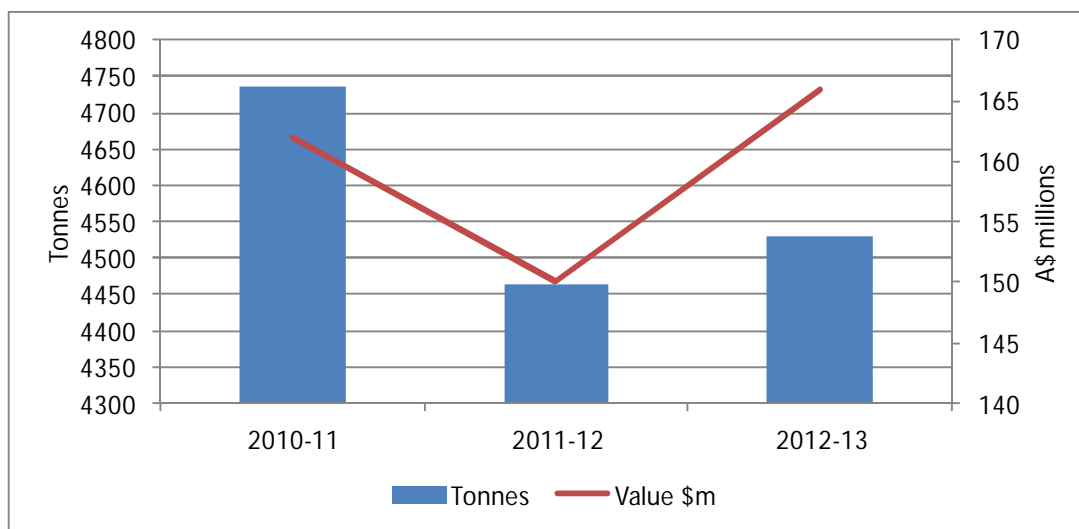


Source: Frost & Sullivan

Over recent years, the significant growth in farmed production in China and Korea has not significantly impacted global abalone markets. This is because domestic production in China and Korea has largely satisfied domestic markets, and there is generally a clear differentiation between domestic farmed production and imported products, which are viewed as much more valuable.

Global production from wild fisheries is estimated at about 7,500 tonnes. Australia is the largest producer of wild abalone, with approximately 4,500 tonnes produced from wild fisheries, over 50% of global fishery production. SA is the second largest producer of wild abalone in Australia, with production value of 876 tonnes in 2012-13.

Figure 3: Australian Abalone Fishery Production



Source: ABARES

Australia also has approximately 720 tonnes of farm production from about 20 farms, including eight in South Australia. Other farms are in Victoria, Tasmania and Western Australia. In 2012-13, the value of farmed abalone production in Australia was approximately \$23 million, with \$8.6 million from SA. SA produced 236 tonnes of farmed abalone. This indicates that at export prices the typical price obtained by South Australian producers was about US\$26/kg in 2012-13.

China is the largest export market for abalone globally, with imports of just under 6,000 tonnes in 2011. Other significant markets for abalone are Japan, Korea and Singapore. Most consumption in China and Korea, however, is supplied from domestic consumption.

Distribution Channels

Abalone is exported in live, canned, dried or frozen form. Distribution generally involves use of importers or distributors. This is especially the case for live abalone, where specialist facilities are needed by the importer. However, increasingly distributors (e.g. Oceanus Group in Singapore) are vertically integrating into their own production. Farmers have often formed co-operative or marketing groups such as AUSAB which assist farms to market and distribute products.

Canned abalone can retail in Asia at premium prices, especially when supported by a brand narrative. For example, the Calmex brand of abalone retails in Singapore for over double the retail price of other canned abalone.

Demand Trends

China

Abalone is a delicacy in Chinese cuisine as it is highly valued for its medicinal and nutritional properties. Not only is the meat consumed but the shell of abalone is also used as a treatment for various health ailments in Traditional Chinese Medicine (TCM). Abalone is customarily reserved for occasions such as weddings and formal banquets, as it is regarded as a symbol for status and wealth. However, due to its medicinal purposes, bottled abalone meat is commonly gifted to friends, colleagues and family members who are hospitalised or recovering from an illness. Over recent years, the significant growth in domestic production of abalone in China has broadened the consumer base for abalone in China.

Japan

Abalone is considered by the Japanese as a luxury due to its flavour, medicinal properties (especially for the eyes), and strong cultural history. The native Japanese abalone *H. discushanni* is particularly favoured in Japan. Factors such as the declining numbers of practitioners of traditional abalone harvesting and decreasing population of wild abalone contributes to the rarity of wild abalone, which can lead up to its premium price reaching to US\$1,700 for a piece of wild caught Japanese abalone. *H. discushanni* is now produced by farming in a number of other countries, such as China and South Africa intended for export to Japan, but domestically produced abalone still commands the highest prices.

Korea

In Korea, abalone is a traditional delicacy in Korean cuisine as it seen as having digestive, immunity enhancing, anti-tumour properties in addition to being a good source of protein, vitamin K, pantothenic acid (vitamin B5) and selenium. However, unlike other countries, abalone is no longer considered a luxury food in Korea, but more a premium food. This is

because Korea is now the world's second largest producer of abalone and supply is abundant, as a result of huge investment in increasing farm capacity. Current abalone production in Korea is estimated at ~9,000 tonnes.

Consumer Purchase Drivers

Abalone demand in Asia can be broadly segmented into two main segments;

- Smaller abalone mainly produced in farms in China and Korea and typically priced at ~\$15/kg ex-farm
- Larger abalone, mainly imported, and typically costing over \$50/kg at wholesale prices in Asia

At retail prices, abalone can typically retail at US\$150-175/kg for canned abalone in Asia. However, premium brands such as Calmex¹⁰ can retail at more than this.¹¹

The recent decline in price of abalone particularly in Korea and China has resulted from the significant increase in production capacity in China and Korea. This has resulted in abalone being more widely available and has increased the consumer base.

Imported abalone, especially wild catch, is perceived as a premium product particularly in China. Consumer purchasing is largely driven by the facts that abalone is;

- Seen as a luxury product, and hence is widely consumed at weddings or formal events. On these occasions, high quality abalone is often seen as symbolic of the status and wealth of the host
- Seen as providing health benefits.

Whilst the declining price of abalone and increased farm production in China and Korea may be seen as a threat to Australian production, it may offer an opportunity especially if farmed production in China declines. This is because a broader number of people have started to consume abalone as a result of its wider availability, and this market may gradually be converted to imported wild abalone, with Australian products likely to be differentiated through the aspects of wild catch, large size and sustainability.

Product Preferences

Abalone has typically been sold mainly through the food service segment, i.e. mainly into restaurants. However, it is now becoming more widely available in retail, particularly through

¹⁰ Calmex is a brand of abalone from Mexico provided by US-based Ocean Garden Products

¹¹ As at November 2015, canned abalone from Taiwan, NZ, South Africa was retailing at S\$40-50 per 425gm can in Singapore (assuming that the weight of abalone per can is 200gm, this is equivalent to about US\$150-175 per kg). However, the Calmex brand was selling at S\$149 per can, equivalent to US\$500 per kg

seafood markets and even retail outlets in canned or vacuum packed form. Abalone is sold in four formats – canned, live, frozen and dried. Selling live abalone typically commands the highest price, but is the highest risk for the producer due to mortality issues with abalone. Additionally, access to airfreight capacity can at times be problematic

Opportunities for South Australia

South Australia has an opportunity to increase abalone production, given that in 2012-13 it represented only 0.2% of global farmed abalone production, and only 32% of Australian production. Due to the huge increase in production of farmed abalone in China and Korea, South Australian producers cannot compete in the commodity market for abalone. Value chain opportunities are likely to lie in product differentiation and marketing;

- Larger abalone commands the highest prices on a per kg basis. However, there is a tendency for abalone to be harvested by farmers too early in the growing cycle, for cash flow reasons. Allowing further growth in abalone to an optimum size will allow the highest value per kg to be obtained.
- For supply of frozen abalone, nitrogen freezing is the preferred method of providing frozen abalone as this is best for maintaining the features of live abalone. One South Australian farm, KIAB, has invested in nitrogen freezing technology. Use of this technology by other producers (where not already in place) is likely to make their products more marketable.
- In common with other products, use of e-commerce channels by abalone producers to sell, especially into China, is likely to yield market benefits, especially for canned products which are not subject to distribution challenges.
- Marketing of abalone in Asia needs to focus on attributes of Australian production that are different to farmed abalone in Asia, especially the larger size of the animals and the fact that they are produced in much cleaner and more sustainable environments. Currently, there is an industry split in Australia between the wild caught and farmed abalone industries, which is not allowing a holistic industry-wide promotional campaign to be undertaken for Australian (or South Australian) abalone, regardless of production method.
- Certification of production is likely to be an increasingly important point of differentiation for abalone and other aquaculture products. For example, the Aquaculture Stewardship Council (ASC) is the leading certification and labeling programme for responsibly farmed seafood. The ASC's primary role is to manage the global standards for responsible aquaculture, which were developed by the WWF Aquaculture Dialogues. Demonstrating sustainability in production is likely to become more important for abalone buyers, even in Asia, and certification through this programme provides Australian producers with a competitive edge. Currently, only one Australian abalone farm (in Victoria) has been certified by the ASC. SA

Government support for certification (e.g. by providing cash support for the certification process, or for process changes to ensure certification can be obtained) would help to promote certification by SA abalone farms.

- Providing a fast-track approval process for new abalone farms by the SA Government could encourage new farm operations. For example, the WA Government has created Aquaculture Developments Zones which provide 'investment ready' platforms with strategic environmental approvals and management policies already in place, allowing commercial aquaculture operations to be set up without the need for lengthy, complex and expensive approval processes.

Bluefin Tuna

Overview

Bluefin tuna - the largest of all tunas - is a temperate fish, found as three species (North Atlantic Bluefin, Pacific Bluefin and Southern Bluefin tuna). In 2013, Bluefin tuna accounted for only around 1% by weight of the global catch of major commercial tunas.

The commercial market for Bluefin tuna emerged only in the second half of the 20th century. Prior to that, Bluefin tuna was mainly caught for sport fishing or ground to make pet food. The subsequent rise of the sushi and sashimi market in Japan and later in other parts of the world (driven by changing consumer taste preferences and the availability of cold chain distribution technology) created a strong and growing demand for the fish.

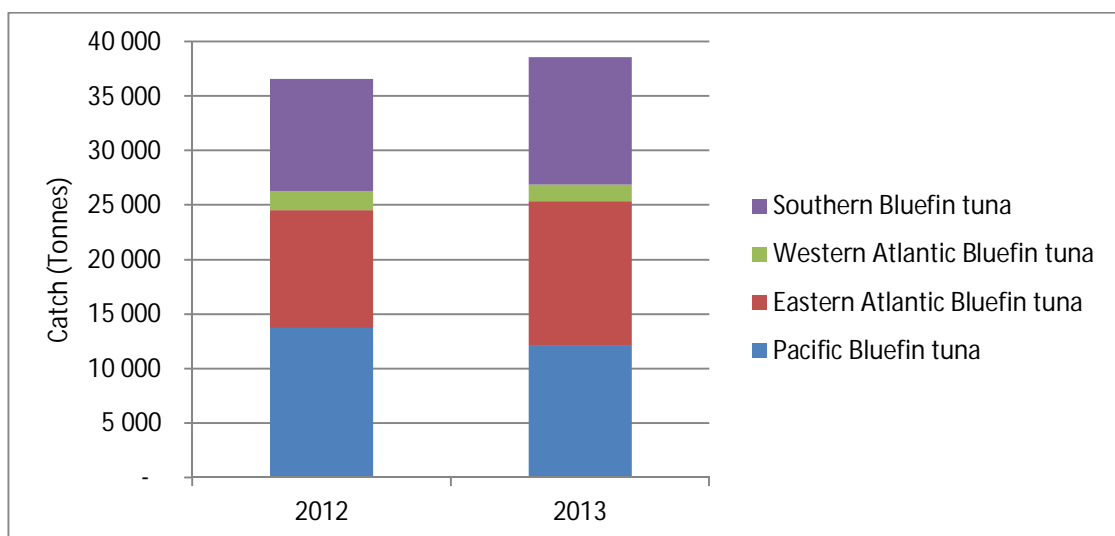
Amongst tuna species, Bluefin tuna commands extremely high prices, driven by demand from sushi / sashimi markets globally. This has led to significant overfishing and a decline in wild stocks of Bluefin tuna. Apart from illegal fishing, exceeding quotas and considerable underreporting of catches have been significant industry challenges. As a result, efforts to supplement supply via aquaculture have begun gathering momentum.

Key barriers to farming Bluefin tuna have been the large size of the fish, the speed it swims at (increasing the risk of fatal collisions when bred in captivity), the distance it typically covers in migration, and its sensitivity to light, noise and water temperature changes.

Market Size and Growth

In 2013, the global catch of Bluefin tuna was approximately 38,600 tonnes, around 2,000 tonnes up over the previous year.

Figure 4: Global Catch of Bluefin Tuna by Stock, 2012 and 2013

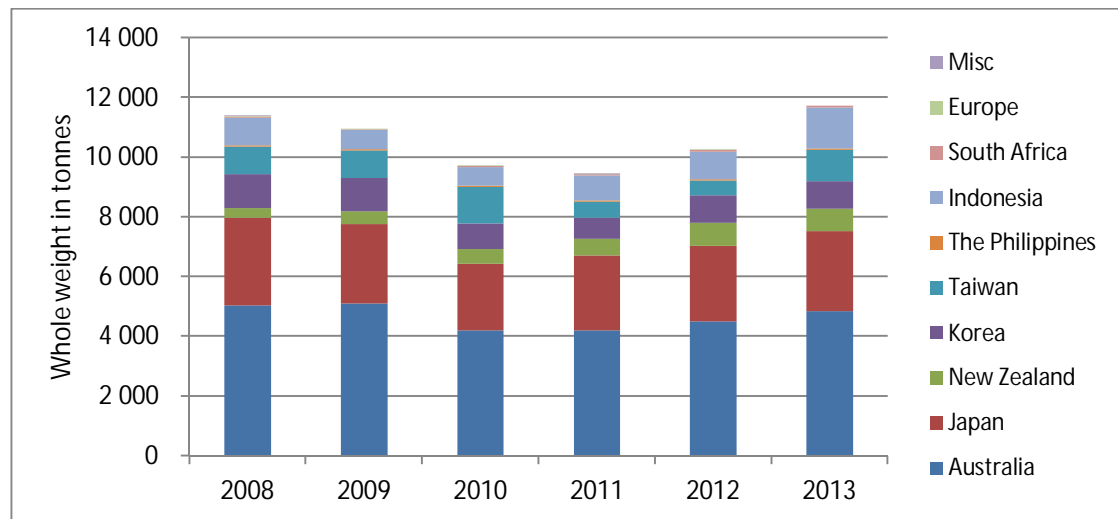


Source: International Seafood Sustainability Foundation, *Tuna Stock Status Update, 2015*

Globally, the fisheries for Bluefin tuna are highly regulated, with a significant level of reporting and trade tracking of catch. Increase in catch quotas are a significant driver of global supply. For example, in November 2014, as a result of Bluefin stock recovery in the Atlantic, the International Commission for the Conservation of Atlantic Tunas (ICCAT) permitted a 14% increase in the catch quotas for West Atlantic Bluefin tuna for the next two years. On the other hand, quota reductions have an adverse impact on supply. For example, in 2015, the Inter-American Tropical Tuna Commission (IATTC) cut the Pacific Bluefin tuna quota for the region by 34%.

Southern Bluefin tuna catch comes primarily from Australia, Japan, Indonesia, Taiwan, Korea and New Zealand in that order.

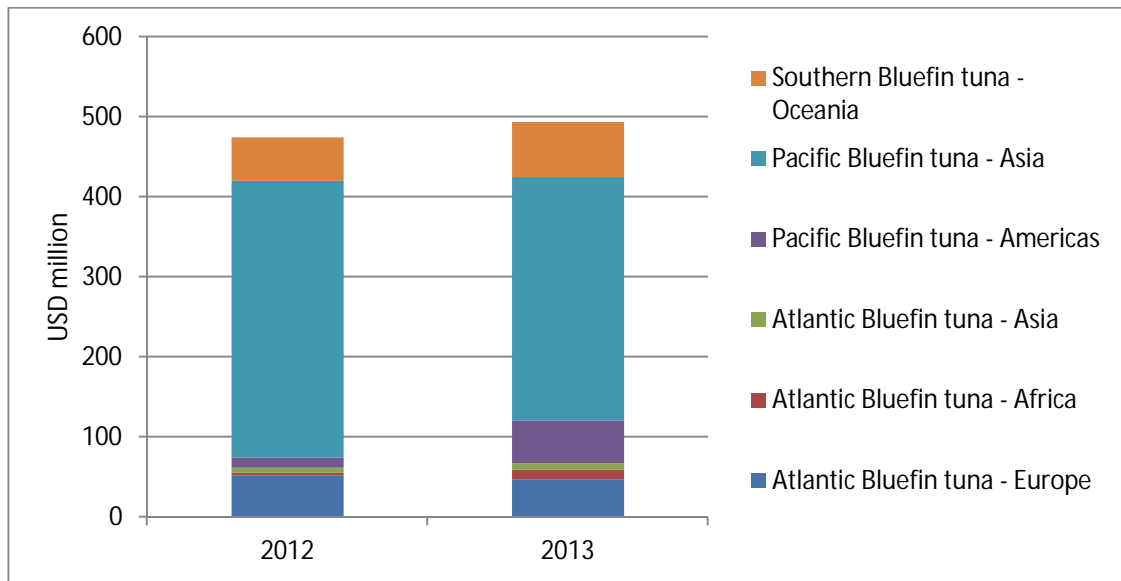
Figure 5: Global Southern Bluefin Tuna Catch by Flag, whole weight in tonnes, 2008-13



Source: Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

In 2013, Southern Bluefin tuna aquaculture in Australia generated revenues totaling US\$69.1 million (or 14% of global revenues from aquaculture of all Bluefin tuna species).

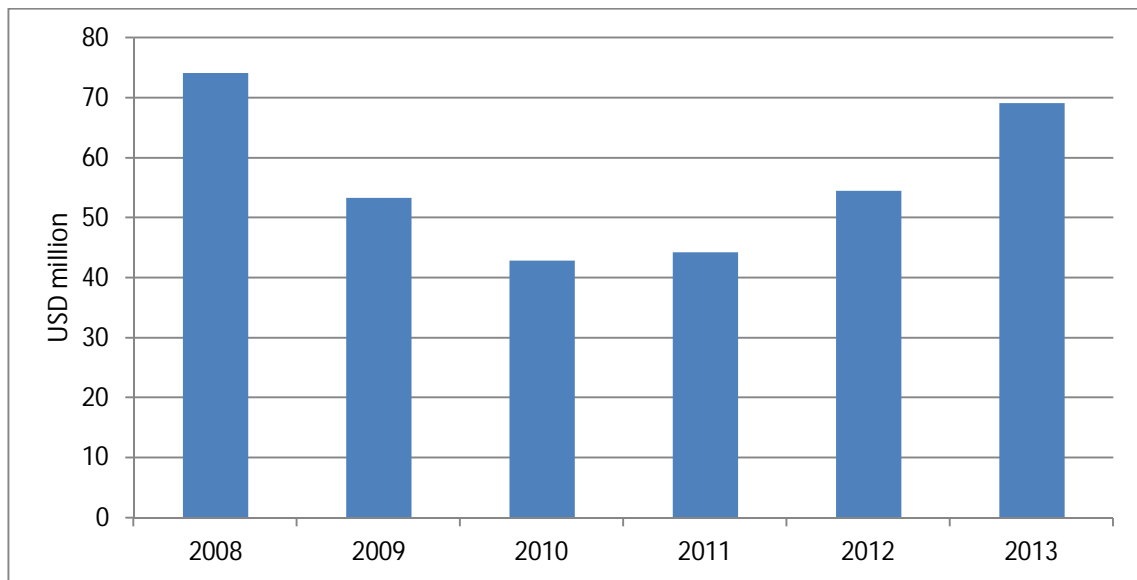
Figure 6: Global Bluefin Tuna Aquaculture Value by Species and Region, 2012-13



Source: FAO - Fisheries and Aquaculture Information and Statistics Branch

This 2013 revenue figure for Australia marks a steady recovery from the 2010 drop (which was the result of the reduction in catch quota in 2009).

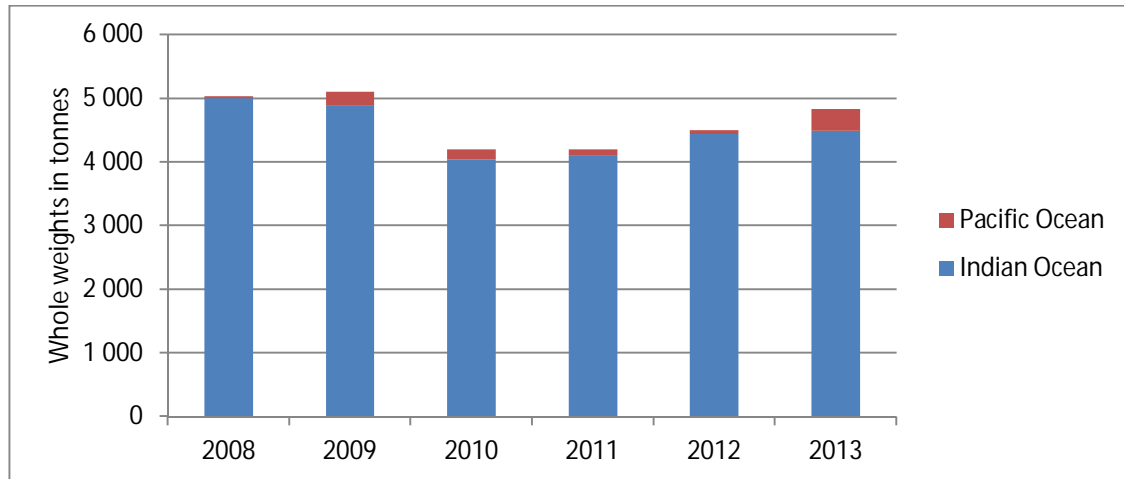
Figure 7: Australian Aquaculture Value of Southern Bluefin Tuna, 2008-13



Source: FAO - Fisheries and Aquaculture Information and Statistics Branch

In Australia, the main production hub for Southern Bluefin tuna is at Port Lincoln in South Australia. In 2012-13, South Australia's farmed Southern Bluefin tuna accounted for 15% of the total Australian aquaculture production by value across all products.

Figure 8: Australian Catch of Southern Bluefin Tuna by Ocean, 2008-13

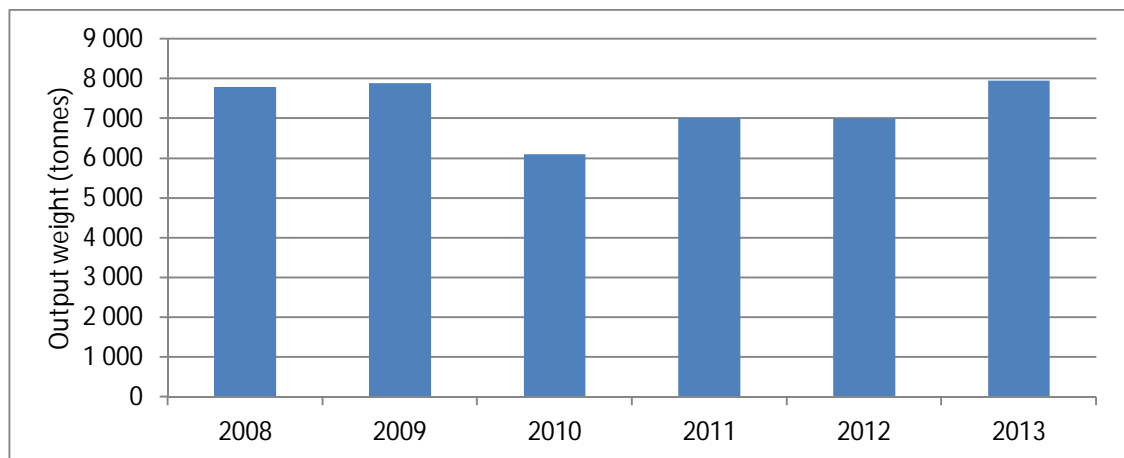


Source: Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

Approximately 96% of the Australian Bluefin tuna catch quota is caught as juvenile fish by five purse seine vessels operating in the Great Australian Bight, is grown in marine farms at Port Lincoln (operated by 9 companies), harvested between May and August every year and then exported primarily to Japan.

Output weight of harvested Bluefin tuna from South Australia saw a decline in 2010 on account of the reduction in catch quota in 2009, but has grown from 6,100 tonnes in 2010 to 7,965 tonnes in 2013.

Figure 9: Output Weight of Harvested South Australian Southern Bluefin Tuna, 2008-13



Source: Australian Southern Bluefin Tuna Industry Association LTD (ASBTIA)

Table 3: Australian Southern Bluefin Tuna by Destination Market, 2013

Destination	Percentage of Total
Australia (Domestic)	1.1%
Japan	97.2%
Korea	1.3%
China	0.4%

Note: (1) Other destination markets with negligible volumes include Singapore and Hong Kong. (2) Some of domestic landings may be re-exported (re-exported numbers not shown).

Source: Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

Table 4: Australian Southern Bluefin Tuna Catch by Type of Fishing, 2013

Type of Fishing	Percentage of Total
Farmed	96.4%
Longline	3.5%
Purse Seine (adult fish only)	0.1%

Source: Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

Distribution Channels

Vessel operators or farms sell their catch of Bluefin tuna to trading firms, who ship the fish to their export destination markets (primarily Japan) by air or sea. Fish arriving at landing ports in Japan may be sent to central markets or sold locally. The main wholesale market in Tokyo is the auction at Tsukiji fish market (the largest and busiest fish and seafood market in the world). In these central markets, the fish are available gilled and gutted for bidder inspection. Only authorised and licensed auctioneers can participate in the highly-publicised daily auctions. Prices at these auctions can be up to US\$8,000 per kilo (as in 2013), although this tends to occur at the prestigious first auction of the year.

Once purchased, the fish is cut into loins and then into smaller slices and sold to restaurants, supermarkets and retailers. Large restaurant chains or sushi bar chains tend to source their Bluefin tuna directly from wholesalers; bypassing any retailers.

A more recent trend has been the increased supply of vacuum-packed portions to meet the needs of supermarket shoppers.

Demand Trends

Japan

Japan is the single largest market for Bluefin tuna globally (accounting for around 80% of global consumption). In 2014, Japan imported 227,702 tonnes of raw tuna of all types (3.4% more than in 2013).

In Japan, demand for sashimi tuna - which is seasonal - peaks in April-May (coinciding with the spring festivals), resulting in much higher prices for Bluefin tuna during this period. Another period of strong demand is the summer holiday months of July-August.

Average wholesale price is, however, significantly lower than the well-publicised price paid at the first auction of the year. For example, in 2013, a Japanese sushi restaurant chain paid \$1.76 million for the first Bluefin tuna on auction at Tsukiji fish market in Tokyo, which weighed 222kg. These first day auction price levels are driven more by the need to underline competitive positioning in the marketplace than any ability to recover that value when on-selling. The wholesale price at Tsukiji market for fresh Southern Bluefin tuna was 2,160 yen/kg (US\$17.57/kg) and for frozen product ranged from 972-1,666 yen/kg (US\$8.1-13.9/kg) (Oct 14th, 2015).

In preparation for the 2020 Olympic Games in Tokyo, the Tsukiji fish market is being relocated to a new larger site with more modern facilities (with the move planned for November 2016).

Given the central role that Japan plays in the global Bluefin tuna trade, the Japanese currency has a major impact on average prices globally.

Other Markets

The United States is currently the second-largest market globally for sashimi tuna, with annual imports of fresh/chilled and frozen tuna (including loins) of all types over 40,000 tonnes in 2014 (it is already the largest market for canned tuna globally).

Consumer Purchase Drivers

While sashimi / sushi consumption is highest in Japan, the increasing consumption in other parts of the world can be attributed to (1) an increased consumer preference for healthier food choices (2) a more open mindset that encourages exploring different cuisines (3) the positive impact of increased international travel that has led to the globalisation of food culture.

Whilst negative media coverage focused on dwindling Bluefin tuna stocks and the work of environmental groups has resulted in some end-consumers opting to buy other types of tuna or fish instead of Bluefin tuna (particularly in some of the developed markets such as the

United States and Europe), it still remains a prized delicacy for most segments of the market in Japan and in emerging Asian markets.

For South Australia, the emerging Asia opportunity means that a larger addressable market is likely to develop outside Japan as consumers in countries like China buy more value-added products. This will also translate into (1) increased demand for loins, as opposed to whole carcasses, and (2) more consumers willing to pay a higher price per kilogram for fresh tuna. Research from a 2015 DDMA study suggests that Chinese consumers will pay 64% more for imported seafood than the domestic equivalent. However, a key success factor for South Australia will be marketing that supports the premium positioning of South Australian Bluefin tuna in China.

Another overall risk to demand growth comes from consumers opting to order/buy cooked foods in response to salmonella outbreaks from consumption of raw tuna. However, this is an issue that the industry is working to address across the supply chain.

Product Preferences

The quality of Bluefin tuna is based on fat content, flesh colour and the absence of visual defects (arising from poor handling or parasites).

Bluefin tuna's fatty meat from the belly, known as 'toro', is an especially prized delicacy in Japan. Fat content is directly linked to the size of the fish and the timing of the catch. Eastern Japan consumers have traditionally preferred fatty, dark red meat and this is therefore the main market for Bluefin tuna (pink-coloured meat is preferred in Western Japan).

In 2014, Japan imported more frozen tuna than fresh (a trend that works in Australia's favour given the distance to be covered by Australian export).

Opportunities for South Australia

The CCSBT's management procedure (MP) (a set of rules that specify changes to the total allowable catch (TAC) of southern Bluefin tuna) is for a 70% probability of rebuilding the stock to the interim rebuilding target reference point of 20% of the original spawning stock biomass by 2035. With the catch limit in Australia increased by almost 10% for the 2014-15 season (to 5,665 tonnes), the supply of Bluefin tuna is expected to be strong for the year 2015. The quota is expected to remain stable until 2018, after which an increase to around 6,000 tonnes is anticipated.

While negative consumer associations of Bluefin tuna with endangered species may be viewed as a threat to Australian production, it may offer an opportunity especially if captured and farmed production is a key differentiator. In addition, the South Australian model i.e. wild capture plus grow-out has the advantage of (1) reducing mortalities since captured Bluefin (2-

4 years old) are strong fish and (2) these fish have the combined qualities of wild tuna and farmed tuna.

The fact that South Australian Bluefin tuna is from farms also guarantees the sector's ability to supply year-round (as opposed to seasonal availability changes with wild catch). Other competitive advantages include the 'clean' / 'green' image that Australia has in global markets as an exporter of food. Finally, the robust catch management systems implemented in South Australia have ensured improved sustainability of stock, which some of the other producing regions do not enjoy at this point.

To reinforce premium positioning, it is imperative that an industry-wide comprehensive marketing programme is designed. This is likely to be of most impact in diversification of export destination markets beyond Japan (most importantly, in China). The benchmark, in this context, is the remarkable success of Norwegian salmon in China that has been the result of around two decades of consistent marketing campaigns through the Norwegian Seafood Council's joint marketing efforts with Norwegian salmon exporters, public relations (including events such as restaurant campaigns) and point-of-sale marketing (including posters, brochures, chefs on site and training of retail staff).

South Australia can take advantage of the growing Bluefin tuna market opportunity by addressing industry issues across several fronts:

- The current practice is for the two Japanese freezer boats (that take up 80% of the South Australian output) to stay at Port Lincoln for two months. This scenario of all Port Lincoln Bluefin tuna farms harvesting at the same time can be restrictive.
- In addition, the over-reliance on the Japanese freezer boats for the majority of offtake reduces South Australia's ability to negotiate on price. While the wholesale price at Tsukiji market for fresh Southern Bluefin tuna was A\$24.40 / kg in Oct 2015, the FOB price (South Australian farmgate price) realised by the South Australian aquaculture industry in 2015 has been A\$16.71 / kg (suggesting that there is potential to increase returns). Diversification of export destination markets is therefore not only a risk-mitigation strategy, but also a long-term avenue to realizing more flexibility on pricing.
- The free trade agreements (FTAs) signed with Japan and other Asian countries have not delivered significant benefit in terms of decrease in frozen tariff as expected by the industry. Under the Japan-Australia FTA, the current 3.5% tariff on Southern Bluefin tuna will be abolished in stages over a decade. Under the China-Australia FTA, Southern Bluefin tuna tariffs remain, but will be abolished within four years. However, the Trans-Pacific Partnership deal will result in increased competition from Mexico in the Japanese market, effectively nullifying the Australia-Japan FTA advantage that the South Australian Bluefin tuna industry had. However, with China not being part of the TPP, South Australia retains some advantage over Mexico with respect to that market.

- The stability of the Australian dollar impacts the viability of South Australian Bluefin tuna companies who rely on hedging for insurance against fluctuations.
- Operating cost challenges in South Australia (for example, the high cost of electricity to run freezers has forced some firms to close freezer warehouses) make it more difficult to compete with other ranged product locations (such as Japan, the Mediterranean and the Gulf of Mexico). In the current cost-cutting environment, the task of securing feed sources (bait fish such as sardines) is also seeing resource cuts in terms of workforce.
- Efficient and sustainable management of bait fish stocks is also critical to ensure the viability of the industry.
- Finally, the industry can be more competitive when compliance / regulatory agencies have more realistic expectations overall (this impacts, for example, the cost of waste water discharge for onshore processing).

Brandy

Overview

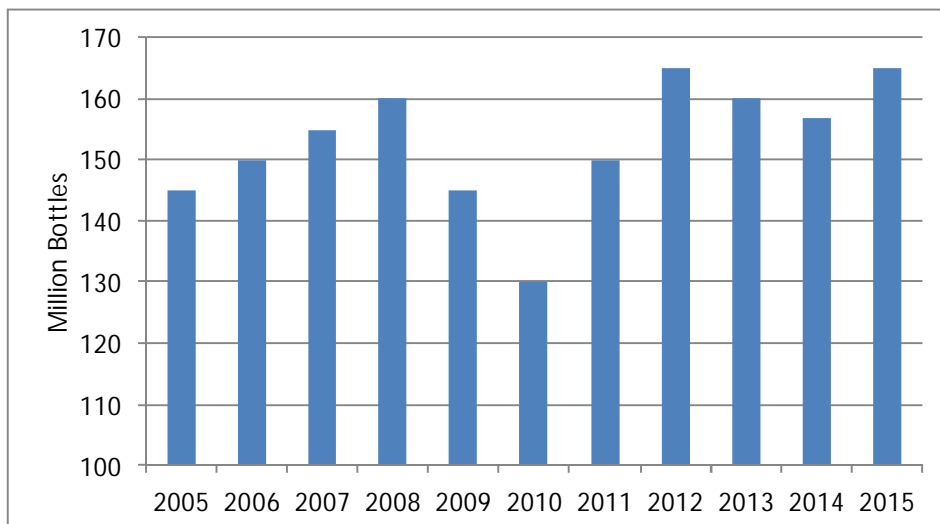
Brandy is a spirit manufactured by distilling wine, and is generally aged in oak casks. Varieties of brandy are made in most wine-producing regions, but the most famous brandies that are widely regarded as luxury products in Asia are from Cognac and Armangac in France. Cognac in particular is widely consumed in Asia, and is widely perceived as a luxury product. Sales are dominated by the four big French Cognac houses – Hennessy, Martell, Remy Martin and Courvoisier. Australia has manufactured brandy since the 1830's, but over recent years domestic brandy production has declined significantly and is now only practised by a small number of producers, including at the St Agnes distillery in SA, McWilliam's in NSW and Hardy's (Accolade Wines) in SA.

Cognac is typically designated by age, with designations ranging from V.O. (minimum of four years old), through V.S., V.S.O.P. and X.O. (minimum of eight years).

Market Size and Growth

Globally, Cognac production reached approximately 165 million bottles in 2015. Cognac sales returned to growth in 2011 following a significant downturn caused by the GFC. Globally, Cognac sales exceed US\$2.5 billion in value.

Figure 10: Cognac Production

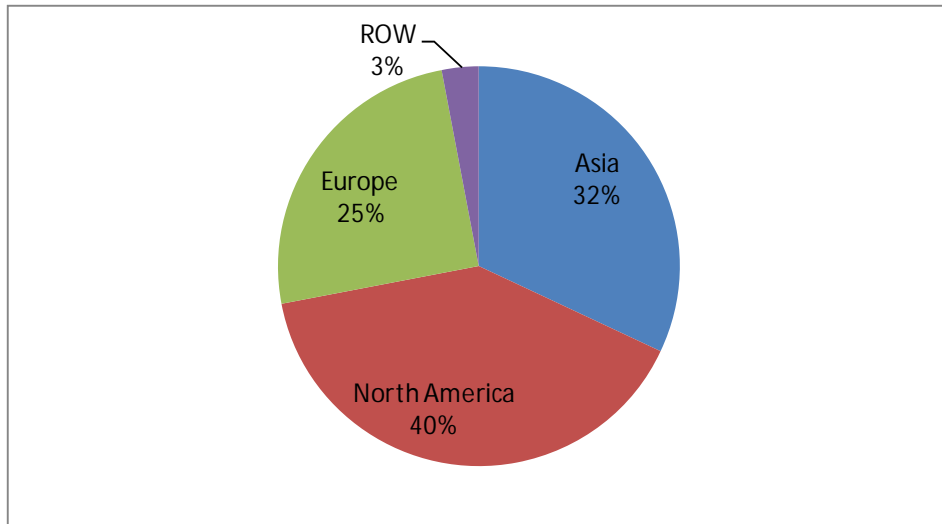


Source: BNIC

Asia accounts for just under one-third of Cognac sales, and is the fastest growing region for Cognac consumption. Whilst Cognac sales in Europe are declining, and North America is flat, sales in Asia have more than doubled over the past 12 years, from 20 million bottles in 2004

to 50 million by 2015. At current growth rates, Asia is likely to overtake North America as the largest Cognac market by 2020.

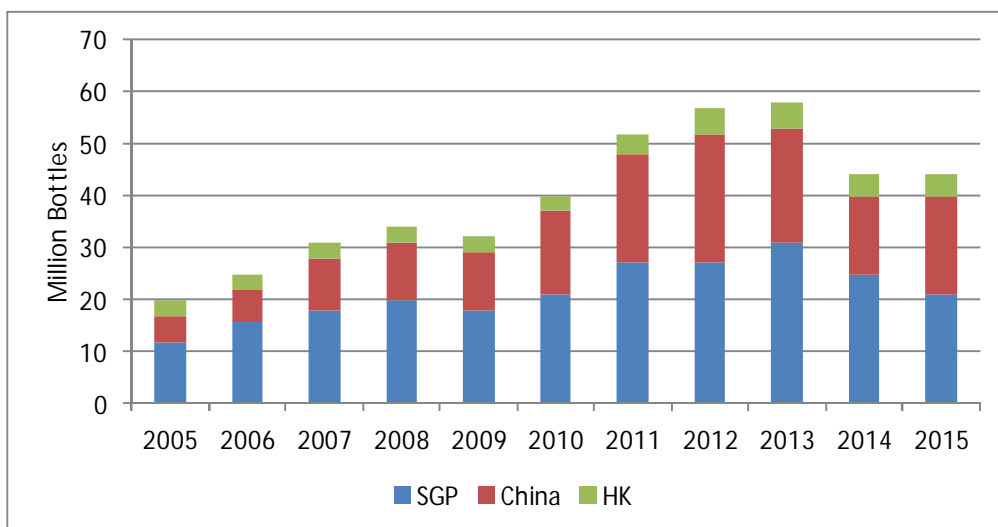
Figure 11: Cognac Sales by Region, 2015



Source: BNIC

Three Asian markets (Singapore, China and Hong Kong) are amongst the top six global Cognac markets (the others being USA, UK and Germany), Malaysia is the 13th largest and Taiwan the 16th largest. Over the past decade, Cognac sales in Asia have doubled, from about 24 million bottles in 2005 to 49 million bottles in 2015. Since 2012, sales in China have declined, largely as a result of the anti-corruption policy, although sales did pick up in 2015 compared to the previous year.

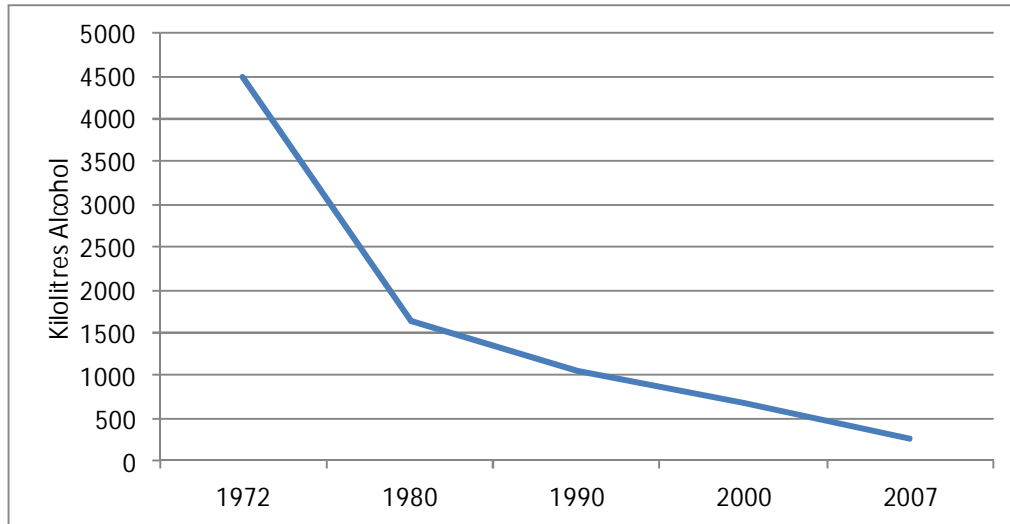
Figure 12: Cognac Sales in Asia



Source: BNIC

Australia has a very small brandy market (only around 600-700,000 bottles a year), and brandy consumption in Australia has declined significantly in recent years. This has been mirrored by a decline in production, which has been dramatic since the early 1970's.

Figure 13: Australian Brandy Production



Source: *Growth and Cycles in Australia's Wine Industry*

Demand Trends

The largest markets for brandy in Asia are China, Hong Kong and Singapore, which cumulatively account for 44 million of the 49 million bottles of Cognac sold in Asia in 2015. In China, Cognac is mainly consumed in the south and Guangdong province in particular, while the north and Beijing, beyond small pockets of growth, remain more focused on white spirits – baijiu and, to a lesser extent, vodka. Cognac is a luxury gift that is given largely around the Chinese New Year, and Chinese consumers pay great attention to the packaging and the ornamental value of the Cognac bottle, as the bottle is considered a sign of wealth. Cognac is widely consumed at social events in China, such as at banquets or karaoke lounges, although the recent clampdown on corruption has resulted in a significant decline in Cognac sales. However, in 2015 there have been signs of a recovery in Cognac sales in China.

A notable trend in brandy consumption has been a gradual switch from consumption at social events to at-home consumption, although the ability of many Chinese to entertain at home is limited by the often small size of their apartments or houses. However, consumption outside the home still accounts for the largest share of the market, and the switch to in-home consumption will be only gradual.

Cognac also has a strong tradition in Hong Kong, which has amongst the highest per capita Cognac consumptions globally along with Singapore. As with China, Cognac is typically consumed at social and business events.

In China, HK and Singapore, the highest quality and priced Cognacs dominate sales (V.S.O.P, X.O), unlike other markets where consumption is dominated by V.O. and V.S. designations. However, the recent corruption crackdown in China has seen a switch away from the most expensive Cognacs (which were often given as business gifts) to less expensive varieties often consumed by the buyer.

Though Cognac has been available in India since 1818, the market is significantly underpenetrated. Cognac is very highly priced and is sold at high end hotels only. Hennessy, a major cognac company that sells only to high end hotels, claims to have sustained a 28-30% growth in sales over the last year in India. The price of a cognac bottle is typically upwards of US\$ 280.

Opportunities for South Australia

Australia's brandy industry has been in decline over recent years, and has a reputation for producing cheaper, lower quality brandies that compete in a different segment of the market to imported Cognacs. Exports of brandy from Australia are negligible, and the Asia Pacific luxury brandy market is dominated by products from the major French Cognac houses.

However, there are opportunities for South Australian producers to reposition their brandies at the premium end for Asia Pacific markets, and to focus on emerging brandy markets in Asia where the position of Cognac is less-entrenched (for example, Thailand, Vietnam, Philippines). SA's St Agnes distillery has recently launched some luxury products - the XO Imperial 20 Year Old and XO Grand Reserve 40 Year Old.

South Australian producers could potentially target new / developing brandy markets in Asia where the awareness of Cognac is still relatively low. Australian brandy could be positioned as a luxury product, whilst below the price charged for the highest end French Cognacs.

Caviar

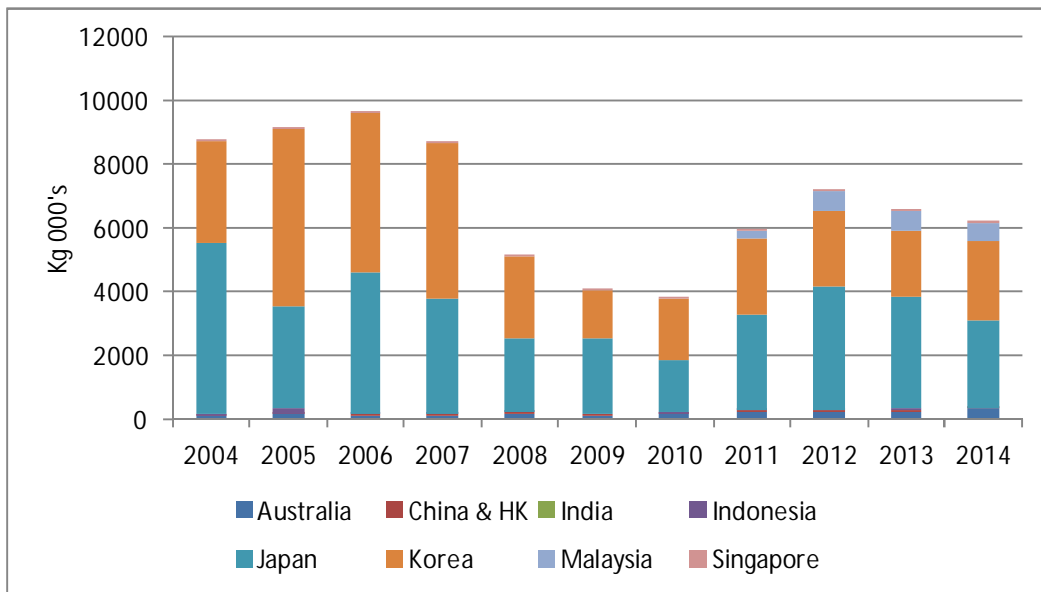
Overview

Caviar is salt-cured fish-eggs of the Acipenseridae family. The roe can be "fresh" (non-pasteurised) or pasteurised, with pasteurisation reducing its culinary and economic value. Although caviar may also be used to describe the roe of other fish such as salmon, steelhead, trout, lumpfish, whitefish, etc., roe from sturgeon is by far the most valuable form of caviar, and is included in this report. The four main types of sturgeon caviar are Beluga, Sterlet, Ossetra, and Sevruga. The rarest and costliest is from Beluga sturgeon that is naturally found in the Caspian Sea. Over recent years, production of caviar from wild sturgeon has declined significantly, largely due to over-fishing, and fishing bans have been in place in various jurisdictions, such as in Russia. However, production from wild sturgeon has now largely been surpassed by production from aquaculture, with over 30 countries estimated to produce caviar from sturgeon farms. Russia, Iran, members of the European Union, China and the USA were among the first countries to establish aquaculture operations, however, other countries outside the natural range of sturgeons have also established farms (e.g. Uruguay, Arabian countries, Israel, and more recently Vietnam).

Currently, there is no sturgeon farming in Australia, and establishment of aquaculture operations would require licensing, as sturgeon is not a native fish. South Australia and Victoria have listed the species as noxious, although the species could potentially be kept in some circumstances with the appropriate risk assessment and permit. Section 78 of the South Australian Fisheries Management Act 2007 declares sturgeon as a prohibited (noxious) species in South Australia and they are currently not a permitted species for aquaculture. However, exemption permits, considered on a case-by-case basis, can be issued by PIRSA Fisheries and Aquaculture for the possession of noxious species. Hence, sturgeon farming is potentially feasible in South Australia, subject to environmental assessment and evaluation.

Market Size and Growth

The total global caviar output from aquaculture is estimated at 260 - 300 tonnes. However, based on the growing number of aquaculture operations this is forecast to increase to 500 to 750 tonnes over the next few years. In the Asia Pacific region, Japan and Korea are the largest importers of caviar. Imports of caviar and caviar substitutes prepared from fish eggs totalled around 6,000 tonnes in 2014 (data for caviar alone is not available). Since the drastic decline in the GFC, caviar consumption has increased, although not apparently to the pre-GFC levels. However, it is considered that consumption is production-constrained, and that global demand is well ahead of current production.

Figure 14: Imports of Caviar and Caviar Substitutes Prepared from Fish Eggs

Source: Comtrade statistics

Demand Trends

In China, caviar is a preferred delicacy largely popular and associated with young and wealthy millennials, as they are more willing to try new exotic western delicacies. The market for Caviar infused cosmetic and nutraceutical products is gaining popularity among young Chinese consumers, due to their alleged anti-ageing and nutritional benefits.

Caviar is a prominent imported delicacy in India. It is selectively available, found at fine dining or five star luxury hotels only. Its availability is limited outside Tier-I cities. Beluga Caviar is the most expensive form of caviar priced at as much as US\$7,000 – US\$10,000 per kg. Caviar is typically consumed as a way of indicating sophistication and western exposure, as opposed to any real dietary preference.

Japan is one of the largest importers of caviar, which is typically sold for around US\$120 for 25 grams. With the population of sturgeon and production of caviar decreasing and import amount being limited, caviar is becoming rare and has even prompted Japan producing their own brand, called Miyazaki Caviar 1983, to meet the country's demands. Customers can order caviar online from local or overseas suppliers and have it directly delivered to them. Aside from buying it in a dish, caviars, in 15 – 20 gram creatively packaged portions, are also used as a gift on specific holidays such as Christmas and New Year's.

Opportunities for South Australia

The opportunity for South Australia lies in the introduction of sturgeon farming for caviar production. An application to establish a caviar and sturgeon fish production facility in the territory of South Australia was made in 2013. In the application, it was stated that a sturgeon aquaculture facility will offers good employment opportunities and employ up to 10 people. The application states that creation of large industrial sturgeon aquaculture facility in Australia is very opportune and will allow high profitability. However, there are a number of regulatory issues that would need to be addressed for sturgeon species to be introduced into SA.

Chocolates

Overview

Historically, luxury chocolate has been served as gifts, consumed for extravagance. Europe and America are the largest markets for luxury chocolate, though it is also growing in Asia. Luxury chocolates play a role as a healthy food indulgence and in Asian traditions such as gift-giving.

It is feasible for South Australian producers to produce, export, and enter the luxury chocolate Asian market, as demonstrated by Daintree Estates from Western Australia. Australia is perceived as a reputable exporter, and Australian products are regarded as of high-quality in Asia.

Market Size and Growth

Chocolate is one of the most popular foods worldwide, with global revenue of US\$117 billion in 2014. In Asia, the growing demand for chocolates is due to the development of taste for Western food. In comparison to America and Europe, Asian demand for chocolates is still small but growing. Asian countries, such as China and Japan, have a strong tradition of gift-giving, and chocolates are ideal items. For example, during occasions such as Valentine's Day in Japan, sales increase up to 25%.

In Asia, generally, there is a growing number of middle class consumers. In addition to the increasing exposure to Western culture and food, consumers now have greater disposable income to afford luxury chocolates. Consequently the luxury chocolate market will grow, and there are opportunities for a wider range of players to enter the market.

Distribution Channels

Luxury chocolates are generally packaged into decorative gift boxes, usually through manual procedures. Distribution majorly takes place in non-grocery specialists, independent small grocers, food specialists, mainstream retailers, and online shopping. But with the increasing demand for luxury chocolates, there are new emerging distribution channels for expensive chocolates. Some companies, such as Lindt and Guylian, have made their range available in grocery retailers and health food stores for convenience. Luxury chocolate manufacturers have also established flagship boutique stores that enable them to provide a more premium product experience through formulating unique flavours, using a certain technique in producing chocolate, in-house production, personalisation of product and gift packaging, seasonal or event specialty range, and delivery services.

Demand Trends

China and Hong Kong

There is an increasing market for chocolates in China. Foreign producers, such as Mars, Ferrero Rocher, and Nestle, hold the majority of the market share in China. With 70 grams as their annual per capita chocolate consumption, the Chinese middle class is driving the market. Expensive European chocolates, such as Lindt & Sprungli and Ferrero Rocher, are sought after for their high-quality and taste. Chocolates have an image of being an exotic luxury food, generally based on brand and packaging. Chinese consumers opt for foreign products more than local ones, as taste and brand are the top two qualities consumers are interested in. Price is an indicator of value, which means that the more expensive the chocolate is, the higher the quality. Chocolate is mainly purchased as gifts or used as wedding favours. There is a large opportunity for foreign luxury chocolates if manufacturers offer a wide range of products, especially as a gift set or boxes.

India

Global chocolate manufacturers today offer small serving packages that are easily affordable to not only the Tier-II or Tier-III cities, but also for the rural areas. Lindt was one of the only brands that targeted the Tier-I and possibly Tier-II cities in India. However, it has now withdrawn from the Indian market, due to the stringent food labelling requirements in India. There has been a growth in gifting chocolates in big basket sizes (0.5 / 1.0 / 1.5 kg), over the traditional Indian sweets for festive occasions across the country. A small serving pack of Lindt cost around US\$ 10 per 100 grams, while in bigger serves a 475 grams basket of Whitakers would cost around US\$100. Also, Japan's luxury chocolate maker Royce recently introduced their special range of chocolates; Royce Nama chocolate & Royce potato chip chocolate that cost up to US\$20 per 100 grams. Meanwhile, imported specialty cookies are another emerging luxury product in the Indian market, typically priced at US\$ 40 – US\$60 per 500 gram box.

Indonesia

Although Indonesia is the third largest cocoa producer in the world, 90% of the chocolate produced in Indonesia is of low quality (compound chocolate). Chocolate demand in Indonesia is witnessing growth driven by the expanding middle class, and increased disposable income, which has already spurred expansion of cocoa grinding capacity in Indonesia. Chocolate from Belgium, Switzerland and the U.S is deemed premium. Nama chocolate with a hint of champagne by Royce from Japan is by far the most popular imported chocolate in Indonesia, while Monggo chocolate produced from the best cocoa beans is the most highly regarded domestic chocolate. The chocolates are largely purchased for gift giving

within Indonesia, and Halal chocolates are a growing trend. Gifting opportunities benefit from the dual nature of the market in Indonesia, where Muslim and Chinese holidays both are of major significance. These gift boxes can be priced at as much as US\$170 per box.

Japan

Japan is popular for its chocolate gift-giving culture, particularly for Valentine's Day and White Day (14th March). Due to their social and cultural construct (e.g. very specific gender-based schemes on the said holidays), there is a window for luxury chocolates in the Japanese market. The industry is dynamic and evolving as chocolate makers are continuously innovating and developing their products using modern technology or diverse ingredients to appeal and suit the demand as customers are willing to pay more for new and artistic gift ideas. In addition to the quality and taste, manufacturers also have to focus on the packaging and marketing. Chocolates can be considered as luxurious if they are produced by a well-known brand, have high-quality ingredients and creative packaging, went through rigorous processing (such as handmade), rare (or limited-editions), meet Japan's strict chocolate standards, and are well-marketed. An example of a luxury chocolate sold in Japan is Frantz Kobe Sweets, who market chocolates shaped as car keys and other gadgets in a toolbox set, costing about US\$110.

Korea

Korea has an established market for high quality chocolate, mainly from Belgium and Switzerland. Leonidas and Barry Callebaut are the two most successful luxury chocolate brands in the country. Chocolates are typically given on special occasions such as weddings, as well as being gifted by women to men on Valentine's Day. There is a growing market for luxury chocolates low in fat and with antioxidant potential, one of the reasons why dark chocolate accounts for over 40 per cent of total chocolate sales in Korea. Typical imported chocolate prices range from US\$40- US\$50 per kg.

Malaysia and Singapore

While the consumption of chocolate in Malaysia and Singapore is significantly lower than most developed countries, it is growing. The luxury segment is dominated by European imports, with Belgian chocolates held in high esteem.

In 2014, Singapore imported over U\$12.2 million chocolates from Belgium compared to U\$10.4 million in 2011 at CAGR 5.7%. Belgium also exported more than U\$13.2 million chocolates to Malaysia which increased from \$12.3 million in 2011 at a CAGR of 2.6%¹².

Despite the significantly smaller population of Singapore, they are clearly bigger consumers per capita of luxury chocolate compared to Malaysia. This can be attributed to a higher disposable income rate and proportion of expatriates from Western cultures.

¹² UN-comtrade database

Luxury chocolate in these countries are more often than not, bought as gifts rather than for self-consumption. It is a particularly popular gift among the more affluent Muslim population in Malaysia, who are prohibited from consuming alcohol.

Consumer Purchase Drivers

Luxury chocolate demand in Asia is driven by the growing purchasing power of the middle class, increasing interest in Western chocolate brands, and the diversification of the taste palate. Seasonal events and traditions, such as Easter and Valentine's Day, are also a major driver for luxury chocolates as these are bought mainly as gifts for their family and friends. Consumers are also encouraged to purchase luxury chocolates due to its taste and health benefits, especially of dark chocolate, considering these as affordable indulgences. Luxury buyers pay attention to the packaging, presentation, brand, quality ingredients, processing procedures, and fair-trading of the chocolates, which overall determines product value and image.

Product Preferences

In Asia, luxury chocolates are typically sold in intricate customised and reliable gift packages, with each piece moulded in creative shapes and sizes. For flavour and ingredients, luxury chocolates tend to be diverse, localised, genuine, all-natural, and high-quality. For health conscious consumers, there are healthier options such as dark chocolates which have less sugar and more cocoa therefore providing more evident benefits. The small individual sizes of luxury chocolates also allow consumers to have better control when eating these indulgences in small proportions as well as preserving the quality of the remaining chocolates. In comparison to the mass-produced chocolates, consumers choose luxury chocolates as it allows them to personalise their purchase and quality. Luxury chocolates are usually from artisan hand-made ranges, sourced from well-known locations, and sold in specific stores.

Opportunities for South Australia

South Australia has an opportunity to export luxury chocolate into the APAC region.

- Cocoa production is beginning in Queensland, with producers located along the wet tropical coast from the Daintree region to south of Tully and focused around the towns of Mossman and Innisfail. The embryonic industry is currently producing cocoa for boutique chocolate manufacture through on-farm processing or by selling to aligned chocolatiers. Australia's first single-origin chocolate manufacturer, Daintree Estates, is successful in establishing and producing expensive and high-quality cocoa beans that are rich in antioxidants. The company sells chocolates at high price points, generally over \$1 per 10gm, equivalent to \$100/kg. Cocoa production is unlikely to be

feasible in South Australia (production is generally within 15° of the Equator), however South Australian producers could source beans from Queensland which could be advantageous as they would not need to compete in the volatile global cocoa supply. It may also give South Australian producers an edge as single-origin chocolates are considered as premium, and Australia has an international reputation for high-quality products.

- With the Margaret River Chocolate Company as an example, Australia has the potential to develop luxury chocolate brands. Margaret River Chocolate Company produces a range of luxury chocolate products in Western Australia.
- In promoting SA's chocolate brand, initially it would be ideal to cater affluent local and international tourists and to sell the chocolates in boutiques located in airports, high-end department stores, luxury hotels and malls, and flagship stores.

Distilled Spirits

Overview

Distilled spirits, also called spirits or hard liquors, are alcoholic beverages produced by distillation after fermenting grain, fruit, or vegetables, and can be distinguished from beers or wines by this extra distillation procedure. Spirits can have a wide range of alcohol content concentration (alcohol by volume, ABV) varying between 20% and 80%. Common spirits like rum, brandy, whiskey and vodka have ABVs around 40%, whilst special spirits (e.g. Cocoroco) can be as high as 96%.

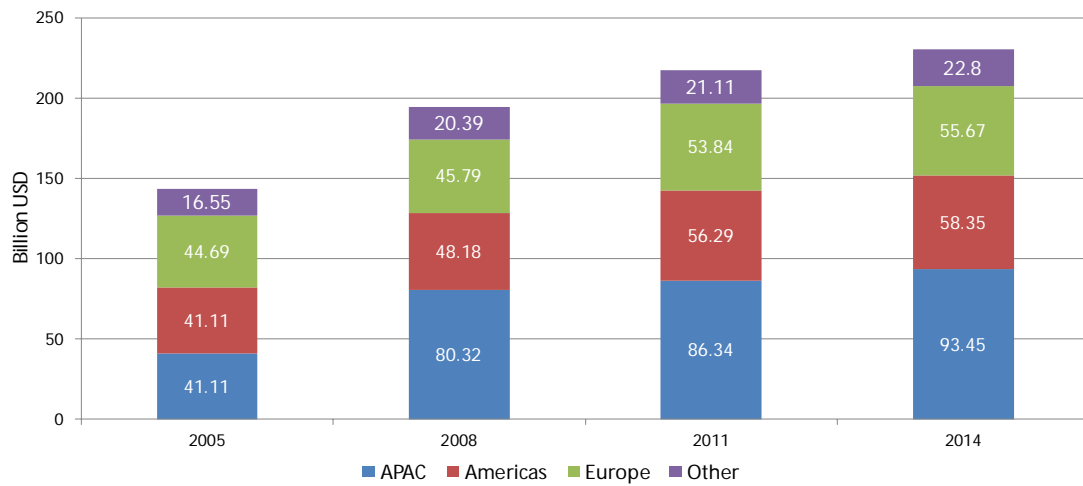
There are two main raw ingredient types for distilled spirits: ingredients with an abundance of natural sugars, or ingredients with a high concentration of other carbohydrates that can easily be converted to sugars by enzymes. Fruits and sugary vegetables, like apple and sugar cane, can be grouped as natural sugar sources; grains, like corn and rye grain, fall under the other carbohydrates materials that can be used to make distilled spirits.

Distilled spirits have long been enjoyed in the European markets, and have been widely accepted by Asians in recent years, especially in South East Asia, China and Japan. South Australia produces some gin, brandy and whiskey, and has the potential to enter into this emerging sector in Asia, once supply chains can be established and legal barriers can be removed.

Market Size and Growth

In 2014, global distilled spirits consumption was at approximately US\$230.3 billion. More than 40% of the consumption was based in the Asia-Pacific region, followed by the Americas at 25%. Since 2005, global distilled spirits consumption has increased at a CAGR of 7.08%, mainly driven by the Asia-Pacific region with a leading CAGR of 8.56% (the CAGR of Americas, Europe and Other regions are 3.56%, 2.22%, and 3.26%, respectively). Additionally, the Asia-Pacific consumption in 2014 has more than doubled compared to 2005, indicating a significant rise in spirits consumption amongst Asian consumers.

Figure 15: Global Distilled Spirits Consumption by Value

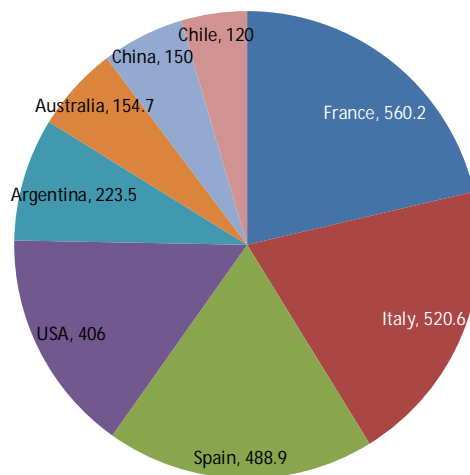


Source: Frost & Sullivan

The production increase in distilled spirits over recent years has been particularly pronounced in the Asia-Pacific region, and especially in China, which produces 78% more than it did in 2008. In 2014, production in China was estimated at approximately 1.35 billion litres. At current, however, traditional major producers, such as France, Italy, and Spain, are still leading production by collectively contributing more than half of the global supply.

In spite of the growing activity in this sector, market demand for distilled spirits in China has been declining since 2014, mainly attributable to President Xi’s Anti-corruption campaign, which aims to restrict banquets at public expenses and conspicuous government consumptions. These austerity measures suggest a weakened and declining demand for distilled spirits in China’s immediate future.

Figure 16: Major Distilled Spirits Production by Country, 2014, (million 9-litre cases)



Source: Frost & Sullivan

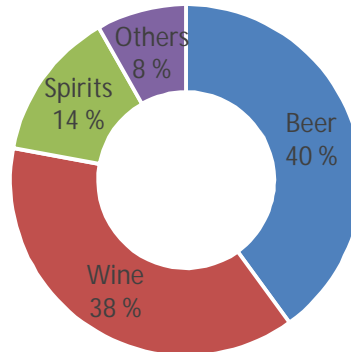
Whilst the overall demand in China is weak, the local production of distilled spirits, as well as the import volume of spirits, has experienced a high growth in the last few years. Purchases made by the growing middle-class Chinese, and their appetite for spirits continues to sustain the domestic spirit market.

The Japanese have traditionally been spirits consumers, and their love for cocktails (especially those that are aesthetically appealing to the young, employed women) continues to promote spirit consumption. Japanese men, however, have a reported preference for domestically produced spirits over imported products.

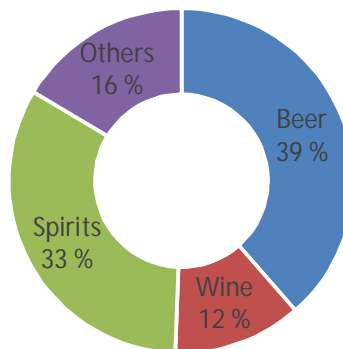
Australia has a long history in producing various distilled spirits. There are famous local brands like Four Pillars, Archie Rose, West Winds, and Starward, although foreign brands dominate the Australian market. In 2013-14, domestic consumption of alcoholic beverages was at 1.469 billion liters, of which spirits contributed 14%. On market share by revenue, spirits contributed 33%.

Figure 17: Australian Alcoholic Beverages Market Share by Revenue and Sales Volume, 2013-14

Market Share by Sales Volume



Market Share by Revenue



Source: DSICA, Others including RTDs and Cider

Between 2013 and 2014, 9.7 litres of pure alcohol was consumed per capita in Australia (1.7% less than the amount in 2012-13, at 9.9 litres) [Note that these figures will overestimate the true level of alcohol consumed as beverages, as adjustments do not take wastage and other applications into consideration - such as for alcohol used in cooking].

Distribution Channels

There are no significant differences in distribution channels between general alcohols and distilled spirits. Two main channels exist: selling the spirits through retailer channels, or through hotels, restaurants, cafés and catered venues (i.e. food service).

Demand Trends

Korea

Korea is a large distilled spirit market, with these spirits accounting for over 74% of total alcohol consumption by value. Soju, a local specialty liquor, is the main contributor to this category and is a much sought after drink consumed with a meal. While soju is available in a variety of price brackets, the premium versions such as Jeonju Leegangju and Munbaeju are priced between US\$120-200/ litre and are served on special occasions. For instance, Jeonju Leegangju was the official drink during the Joseon-United States Trade Treaty, while Munbaeju was used in the South-North Korea Summit Meeting in 2000. Other traditional liquors that enjoy similar popularity are Hansan Sogokju, believed to be a drink of nobles and a medicinal drink, and priced at US\$150 per litre. Among the imported distilled spirits, single malt whiskey is a major growth area with highly brand conscious Korean consumers willing to pay very high prices for well-known Scotch and Japanese whiskies. Single malt whiskies are a niche market in Korea, but are growing at double the rate of the whisky market overall, and have retail values beginning at US\$220 / litre in Korea.

Malaysia & Singapore

Whisky is by far the most popular liquor in both Malaysia and Singapore. Luxury versions of this drink are assumed to originate either from Scotland or Japan only. Scotch is clearly the market leader, with typically anything aged 18 years or more considered to be in the luxury segment. Japanese whisky consumption, while limited at present, is growing in popularity.

Another growing trend in alcohol consumption in these markets is cocktails. Mixology is increasingly becoming popular, with bars often bringing down world class mixologists on a regular basis to attract customers. This trend has in turn grown the popularity of beverages frequently used in cocktail, such as sherry.

A unique trend in both Malaysia and Singapore is in that alcoholic beverages such as scotch, brandy and vodka, are often bought by the bottle at pubs and nightclubs. Priority access into popular night clubs can often be gained through the purchase of a bottle which often retail with a 100% to 200% mark up price at these venues.

Weddings are large affairs in these countries with guests numbering from the low hundreds to the thousands. A large amount of alcohol is consumed at these celebrations (except in Muslim weddings), at which the quality of the alcohol served is often a yard stick on which a wedding's prestige is measured.

China

International brands such as Absolut Vodka and Bacardi are beginning to localise and market their brands specifically for Chinese consumers. Bacardi have released “Tang” green-tea distilled liquor sold at upscale restaurants for US\$250/500ml bottle. Bars all around Hong Kong and China have also started to create cocktails using gin and vodka that make the western liquors more palatable for Chinese consumers. Distilled liquors are not as widely accepted among the older generation as with the young affluent, but are still considered a luxury expense largely given as gifts. Distilled liquor gift sets can range from US\$250 - US\$450 depending on the age of the liquor, the brand and its packaging.

India

India has traditionally been a whisky consuming nation and, in fact, India drinks more whisky each year than Scotland produces. There is a huge market for imported whisky in India, which is the world’s largest whisky consumer as it consumes about half of the world’s whisky at almost 1,600 million litres annually. The price of single malt whisky in India depends upon its age and brand. The price generally ranges from US\$270 per bottle to US\$680 per bottle for a really old imported premium brand of whisky.

Consumer Purchase Drivers

One of the major drivers for distilled spirits is its symbolism of wealth and status. In Asia distilled spirits are commonly gifted to business clients, friends or family members. In China, the distilled market is driven by the middle-class and young affluent consumers who are less reluctant to try western spirits such as whisky and tequila. Growing demand for whisky and tequila, innovative products across liquor categories, and the change of taste are some of the key drivers for the distilled spirit market.

Sales of distilled spirits are declining heavily in China as a result of President Xi’s Anti-corruption campaign. Diageo published its 2014 annual report on 1st August 2015, announcing a 14% sales decline in APAC region, leading by a 33% decrease in China.

Product Preferences

Preferences around distilled spirits vary widely by country and region. Baijiu (white spirit) is by far the most popular distilled spirit in China, especially in northern and eastern China, whilst imported spirits contribute only a small fraction of the market share. In India, 88% of alcohol consumption is accounted for by spirits, led by whisky, whilst the rest of the market is divided into beers and wines.

Opportunities for South Australia

The opportunities for South Australia in the growth of its distilled spirits sector can be outlined as follows:

- Social media provides an excellent opportunity for alcohol retailers to connect with consumers, particularly in the highly integrated and connected social environments of leading Asian markets. Innovative social media campaigns are at the forefront of marketing to these consumers.
- Though government expenses have been limited by President Xi's anti-corruption campaign, China is still a promising market due to its rising middle-class Chinese. Middle-class Chinese are well educated, and many have overseas education backgrounds and/or work experience. They are more open to western spirit products and enjoy a relatively more progressive lifestyle that includes indulgences, than their preceding generation, who prefer local white spirits.
- Indian and Japanese markets can also contribute to a steady (but slight) growth of the Australian distilled spirit export market. However, supply chains must be established, and legal barriers need to be removed.

SA distillers, and their products, are being noticed by a wider audience of consumers who want to try 'craft' spirits, as a progressive alternative to traditional brands like Johnnie Walker. Given the dominance of traditional producers, South Australian producers cannot compete in the commodity market for distilled spirits by volume. Value chain opportunities are likely to lie in product differentiation, marketing and niche developments in the value-added craft sector. However, South Australia has to date not created an "origin" story for its niche distilled spirits to the same extent as Tasmania has with its whisky industry.

Matsutake Mushrooms

Overview

Tricholoma matsutake is considered to be one of the most expensive species of mushrooms in the world. Commonly called matsutake mushroom, it is a revered mushroom in Asia and is known for its powerful flavour and earthy aroma. The aroma is what differentiates it from other *Tricholoma* species, which include *Tricholoma mangnivelare* (found in North America) and *Tricholoma caligatum* (found in Europe and North Africa). Matsutake mushrooms have a strong correlation to Japanese culture, which is why Japan is the largest consumer of matsutake mushrooms in world. The matsutake species is a mycorrhizal mushroom that requires a specific symbiotic relationship with host trees, commonly pine trees. Pine trees in Japan have been decimated by nematodes which attack the roots of the pine trees, which threatens the matsutake mushrooms. It is common for matsutake to not grow in the same place twice, this adds to the rarity of the species as they cannot be artificially cultivated.

The harvest of matsutake in Japan has declined dramatically over the years, and today 90% of matsutake is imported from China, South Korea, North America and Canada.

Market Size and Growth

Over recent years, matsutake mushroom yields have dramatically declined, this is in part due to urban development, adoption of modern forestry practices, and ageing of natural forests. The accumulation of humus; which is organic material that forms soil from animal and plant matter, creates less favourable conditions for matsutake proliferation, as it confines the mushroom from emerging. In 1941, the Japan harvest of matsutake mushrooms peaked at 12,000 metric tons but by 2005 it declined to 34 metric tons. The reason for this was the insect infestation in Japanese pine forests in the early 1980's which led to a dramatic decrease in matsutake yields, which prompted Japanese consumers to actively sought alternate suppliers of matsutake. Since then, domestic production has recovered somewhat, but not enough to meet demand in Japan.

Japan consumes 3,500 tons of matsutake mushrooms a year, and only one-third of the demand is met through domestic production. Japanese matsutake mushrooms are highly valued over imported matsutake, but domestic production has not been able to meet the demand of local consumption, as such Japan imports matsutake mainly from China, Korea, Canada and North America. The matsutake mushrooms from North America and Canada do not have the same distinct aroma, but are similar in taste and have provided new income opportunities for these countries. The Yunnan province of China produces about 1,200 tonnes of matsutake for export annually, accounting for 48% of all matsutakes traded world-wide. Matsutake has earned a protected status in China for future sustainability. Chinese-produced

matsutake mushrooms are about five to ten times cheaper than Japanese-produced ones, and there are concerns over safety of Chinese matsutake mushrooms.

Distribution Channels

Matsutake mushrooms are classified into fresh and dried products. As fresh matsutake can only be stored for a short amount of time air freight is used to import and export the commodity to their targeted markets. The fresh matsutake are exported to their destination within 48 hours from being picked, as the value of the mushroom declines after the 48 hour mark. As Japan is one of the largest importers of matsutake mushrooms, there are strict regulations and stringent requirements of product quality and standards compliance. The freshness, size and taxonomic classification must be identified.

There are two primary distribution channels for mushrooms. Fresh matsutake are usually distributed through the same channels as fruits and vegetables, while dried matsutake are generally sold on consignment through farmers' cooperatives and forestry cooperatives to mushroom wholesalers. Imported fresh mushrooms go from the importer to the produce markets, after which they are distributed through the same channels as other mushrooms. Imported dried mushrooms go from the trading company to the wholesaler and then to retailers or food processors.

Demand Trends

China

In China, matsutake mushrooms are known as Song Rong mushrooms, and are found within the Yunnan province of China. They are a rare delicacy in China, and the perceived natural anti-cancerous and nutritional benefits are widely-regarded among consumers. They are also prized for the pungent spicy aroma, most often used as a flavour enhancer in Chinese cuisine. Japan is one of China's largest markets for Song Rong mushrooms, as the production of matsutake mushrooms in Japan has declined over recent years. Due to its limited production, Song Rong mushrooms can range in price up to \$2,000/kg. They are often purchased and given as a gift to wish people a long and healthy life.

Japan

Matsutake mushroom is prized for its rarity, distinct aroma and taste, and nutrition. This type of mushroom has specific growth requirements on the forest floor under Japanese red pine trees, which makes cultivation impossible, and it therefore can only be harvested in the wild. It is a highly regarded seasonal food representing Japanese autumn and can cost around US\$1,000 to US\$2,000 per kilogram, depending on the freshness. Ideally, matsutake mushroom is best and most expensive when bought locally with fresh, plump stems and the mushroom cap is still closed. On the other hand, imported mushrooms are cheaper as the aroma and flavor are lost during travel. In addition, local mushrooms are valued more, as the Japanese have strong loyalty to local produce.

Korea

In Korea, matsutake can be found in acidic soils, mainly in the Taebaek and Sobaek mountains on the east coast of Korea. They do not grow in the same spot twice. Korean pine mushrooms have lower water content, giving them a richer flavour and a characteristic aroma, and are highly sought after in Japan and China. Pine mushrooms are priced up to US\$2,000-2,200 / kg retail.

Consumer Purchase Drivers

Matsutake is considered an autumn delicacy and as harvest of these mushrooms can only be procured in its natural environment, its rarity and seasonal attributes add to its luxury value. The mushrooms are purchased and consumed fresh and in Japan, and China it is customarily bought for gift giving. Matsutake come in three different formats; fresh, dried and canned, fresh being the most preferred as the taste and flavour are in abundance when consumed fresh. Dried and canned matsutake mushrooms are purchased and consumed so it can be enjoyed all throughout the year. The decline in the production of matsutake mushrooms has resulted in a significant increase of the value of matsutake due to its rarity and its seasonal availability in the global market. The Japanese matsutake is perceived as the most valuable of the *Tricholoma* species and symbolizes good health and fertility. They are high in protein, low in fat and rich in vitamins B1, B2, and D, and are believed to have many beneficial health properties.

Product Preferences

Matsutake mushrooms are typically sold through markets as fresh produce, however dried and canned matsutake formats are available through selected retail and grocery outlets. Fresh matsutake are highly sought after and are packaged in wooden crates or baskets and graded for shape and size. Matsutake are one of the only mushrooms where it is exported via

air freight; when exported the wooden crates are packed in styrofoam containers with blue ice. This preserves the flavour and aroma of the mushroom and ensures its freshness.

Opportunities for South Australia

Matsutake mushrooms are not currently produced in Australia, however on a small scale a producer is growing Japanese red pines with the hope of producing matsutake in the future (Forest Fungi). The viability of producing matsutake in South Australia is unclear, hence technical research is needed into the potential cultivation opportunity in SA. If feasible, there is likely to be a significant demand in Japan for Australian matsutake, as Japanese consumers have significant concerns over the safety and quality of products from China, which is currently the largest supplier to Japan. Production of matsutake in Australia would involve the planting of suitable trees to act as hosts.

Olive Oil

Overview

Olive oil is produced by pressing and grinding olives by mechanical means. Olive oil is an ancient cooking ingredient used across the world. Best known for its low fat content, flavour and aroma, it is widely used in cooking for sautéing, browning, stir-frying, deep frying, baking and as dressings for Mediterranean dishes. Olive oil is popular partly due to its perceived health benefits, such as cholesterol reduction, which positively impacts conditions such as heart disease.

Although olive oil is widely available and in general cannot be considered a luxury food, there are olive oil brands that command extremely high prices in markets such as India, where these brands could be considered as luxury.

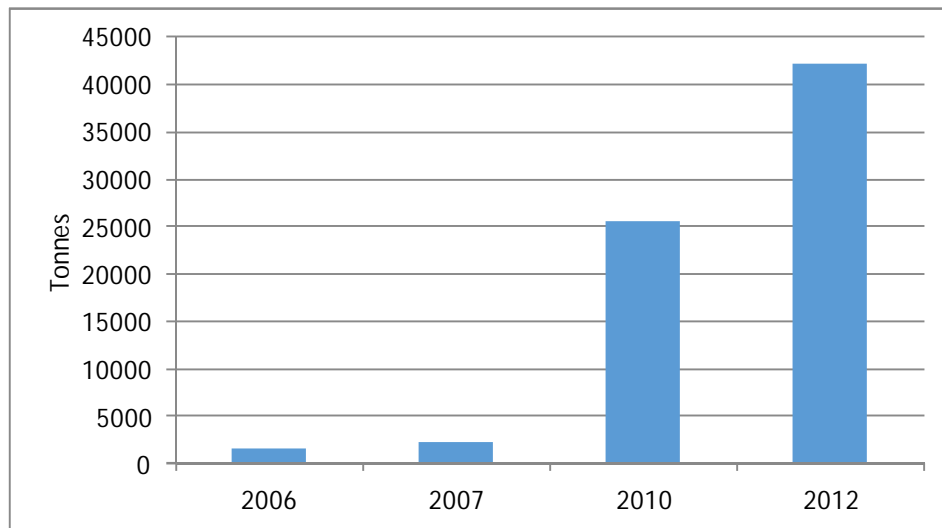
SA has a relatively small and niche olive oil industry, and like other Australian producers that produce Extra Virgin Olive Oil (EVOO), has struggled against imported brands in the Australian market that are often marketed with misleading names such as “pure” or “100%”.

Market Size and Growth

Global production of olive oil is about 3 million tonnes annually, with 75% of production coming from the EU (mainly Spain, Italy and Greece). Although Europe is also the largest consumer of olive oil, consumption in emerging olive oil markets is also growing significantly. For example, Chinese consumption has increased from virtually zero in 2005 to 37,000 tonnes in 2014, and consumption in India has increased at a CAGR of almost 80% over recent years. Japan is another market that has seen strong growth in consumption, from 32,000 tonnes in 2004 to over 50,000 tonnes by 2014. Australian production is around 20,000 tonnes annually, with domestic consumption of about 45,000 tonnes. Australian exports are fairly small at only about 5,000 tonnes, with net imports of 30,000 tonnes. The vast majority of global production is of bulk olive oil, which cannot be regarded as a luxury product, however true EVOO can be regarded as potentially being a luxury type of olive oil.

India

In India, olive oil, commonly referred to as *Jaitun*, has gained popularity primarily for its health benefits. Over the past decade, olive oil consumption in India has grown significantly, all supplied by imports.

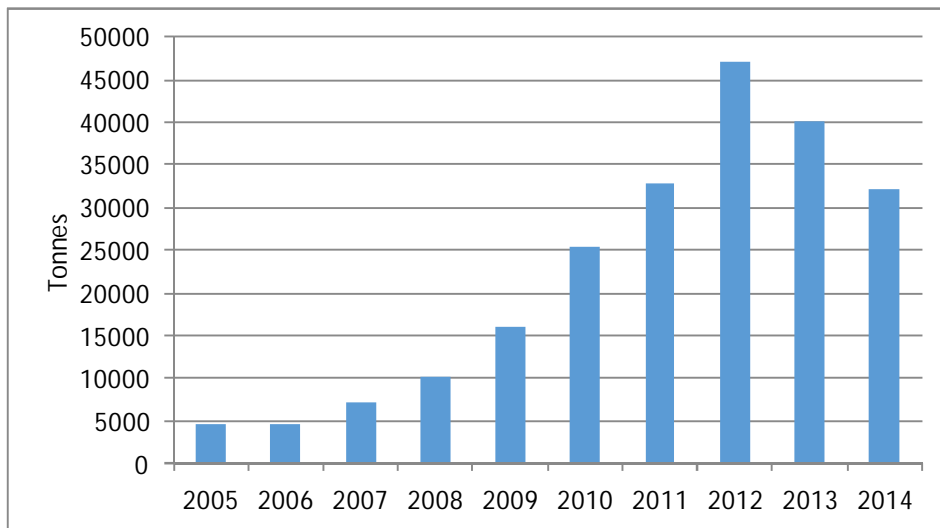
Figure 18: Olive Oil Consumption, India

Source: International Olive Oil Council

Although India has traditionally not produced olive oil, a pilot project involving collaboration between India and Israel plans to make Rajasthan the first large scale oil cultivator city in India. The project, launched in 2007, also gave rise to the Rajasthan Olive Cultivation Limited (ROCL) which plans to produce olive oil (both virgin and extra virgin) at approximately one-third of the cost of the imported oils currently on the market. The project is currently in its growing stage, with increased land space is being allocated for this project. The anticipated yield in 2016 is about 8 to 10 tonnes.

China

China has also seen significant growth in imports of olive oil over recent years, although there has been a decline in 2013 and 2014, probably linked to the crackdown on corruption. Olive oil is quite widely given as a gift in China, and top brands are perceived as luxury items.

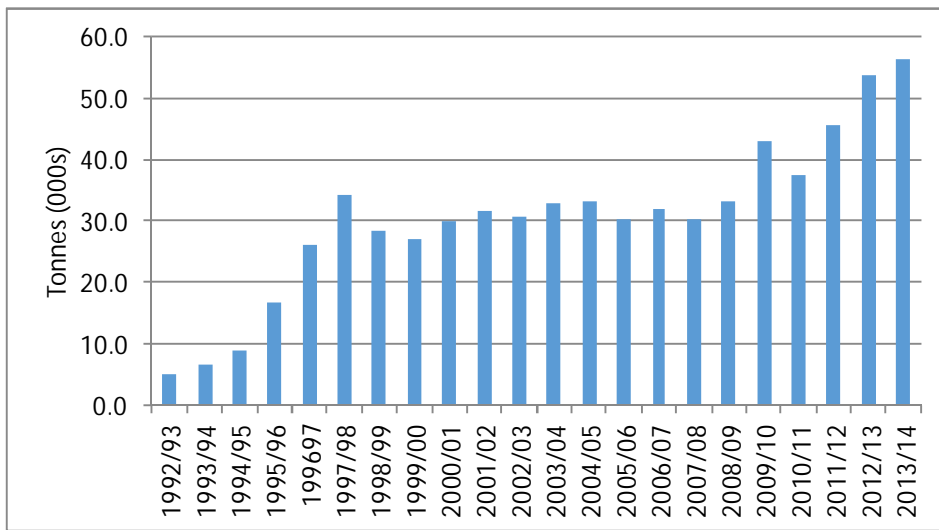
Figure 19: Olive Oil Consumption, China

Source: International Olive Oil Council

The semi-tropical climate of China offers some appropriate conditions for olives plantations, which has led China to produce its domestic olive oil. However, insufficient financial investments have restricted the mass production of olive oil in China. Domestic production of olives mainly takes place in three regions. The low mountain valley of Bailongjiang River has the most established production area, the Wudu District. The other two regions are the dry-hot valley of Jinsha River and the low mountain valley of Yangtse Gorges. The output of domestic olive oil has only been up to 20-30 tonnes per year.

Japan

During the last two decades, olive oil consumption in Japan has grown due to dietary and health concerns. Traditional olive oil producer and exporter countries such as Italy, Spain and Tunisia have increased sales in the Japanese market.

Figure 20: Olive Oil Consumption, Japan

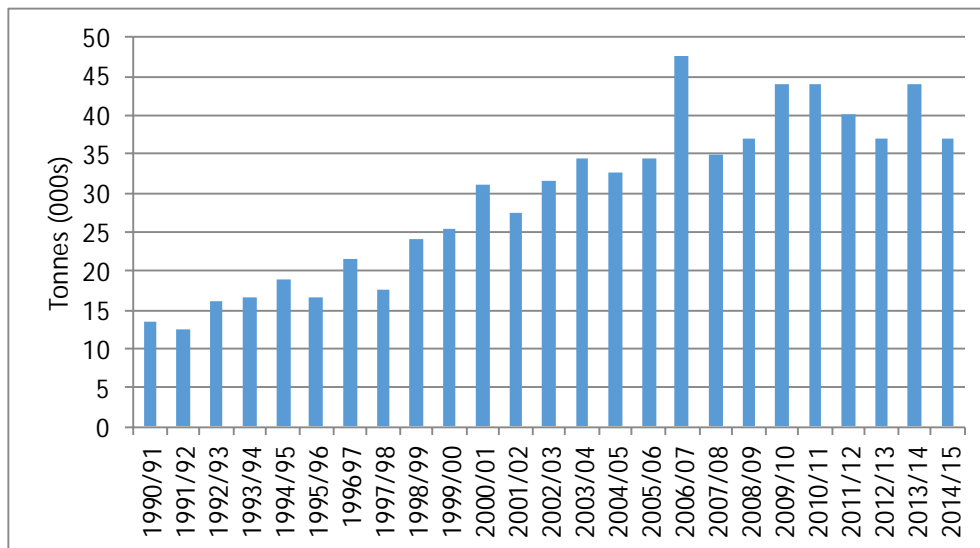
Source: International Olive Oil Council

Australia

Australia has a growing but still small olive oil industry. Australia's consumption has increased from about 16,500 tonnes in 1993 to about 45,000 tonnes in 2013; an increase of about 167% in two decades. Australia presently consumes almost 2.5 times its own annual production, and is the largest consumer of olive oil per capita outside the Mediterranean. Much of the Australian olive oil can be regarded as luxury, as Australian producers focus on producing EVOO, which can sell at a much higher price than bulk olive oil.

In 2002, Australia's olive oil production was about 1,000 tonnes. This has substantially increased - over 9,000 tonnes in 2005 to 20,000 tonnes in 2014 at a CAGR of 22%. However, Australia only represents less than 1% of global production, and domestic production does not come close to meeting domestic demand.

Domestically, Australian producers struggle against competition from imported products that benefit from lower production costs, no import tariffs (as compared to the tariffs levied on Australian exports to Europe) and misleading labelling, with an Australian standard that is only voluntary and hence cannot be legally enforced. In addition to these challenges for Australian olive oil, few producers have the scale to supply to major supermarkets, and hence are mainly reliant on local distribution channels such as door sales and farmers' markets.

Figure 21: Olive Oil Consumption, Australia

Source: Frost & Sullivan

Australian production is mainly concentrated in southern Australia, which provides the best suited climate for olive plantations. Olives grow finest in areas with hot and dry summers and cold winters. Victoria contributes to the majority of production, largely as a result of the presence of Boundary Bend which is the largest producer in Australia, followed by Western Australia and South Australia.

Demand Trends

In India, olive oil is a premium product when compared to other edible oils. Olive oil is considered healthy but awareness of its use as a food ingredient is relatively low. Olive oil currently makes only a fraction of India's 17 million ton cooking-oil market — but the demand is growing. The International Olive Oil Council estimates a rise of sales by a minimum of 60% over the next few years. The general price of olive oil ranges from US\$ 20 – US\$25 per litre, which cannot be classified as luxury, although it is a high price in India. However, the high-end olive oils in India, for example the Castillo brand, can cost up to US\$80 per litre.

The past few years in India have seen increased imports of olive oil from Mediterranean countries, especially from Spain and Italy alongside the USA and other European countries like Greece. The common types of olive oils being imported are marketed as Extra Virgin Olive Oils (although many may not be true EVOO). However, the infused / flavoured olive oils are the most expensive with some products selling for over \$100, e.g.

- Coppini Truffle Infused Extra Virgin Olive Oil (By Coppini; Imported from Italy) – approx. US\$ 135-140 for 250g bottle
- Gocce Di Tartufo Olive Oil Infused with White Truffle Oil (by Gouttes De Truffes, Imported from Italy) – approx. US\$ 130-135 for 250ml bottle

In China, at present there are more than 250 brands of olive oil available, with Spain, Italy and Greece collectively accounting for approximately 60% of total Chinese olive oil imports with the balance of imports from Turkey, Tunis, Portugal, Jordan, Australia and Argentina. Premium brands are available both individually and in gift packs such as;

- Artemis P.D.O Extra Virgin Olive Oil (imported from Greece) – approx. US\$ 55 -75 for a 1L Bottle and approximately US\$150 – 160 as gift packs of 2 bottles
- Kirlangic Extra Virgin Olive Oil (imported from Turkey) – approx. US\$ 50 - 60 for 1L Bottle and approximately US\$120 – 130 as gift packs of 2 bottles

In Japan, due to small kitchen sizes and the Japanese prefer small sized bottles of olive oils, most commonly 250 – 500ml. Many premium products are available at US\$ 30 – 45 for 250ml bottles, imported from Europe.

Australia has more than 100 brands available, with a majority of Australian produced olive oils besides Spanish, Italian and Greek brands priced at about US \$ 4 for 250ml. However, high quality speciality products such as Premium Extra Virgin Olive Oil and other infused olive oils from Pukara Estate, Olio Mio – Correggiola from Sandalyn Wilderness Estate and Premium Extra Virgin Olive Oil from Pendleton Estate are priced at around US\$ 15-25 for 250ml bottles.

Both Malaysia and Singapore procure Spanish, Italian and Tunisian olive oils. Extra Virgin Olive Oil brands like Venta del Barón, Masserie di Sant'Eramo, Oyya, La Torre and Taggiasche are priced ranging from US\$ 25-35 for 250ml.

Consumer Purchase Drivers

One of the major factors encouraging consumers to buy olive oil is the increasing health consciousness. Another important factor to promote olive oil is the formulation of International Olive Council (IOC). Set up in Spain, in 1959, under the auspices of the United Nations, the IOC has developed as the only intergovernmental organisation in the world to bring together olive oil and table olive producing and consuming stakeholders. This has led to Asian countries developing their individual olive councils in accordance with IOC, which are increasingly taking interest in promoting olive oil throughout the country.

Also, to meet the rising global demand, a lot of small to medium scale producers have started to export their olive oil products. Tunisia has about 216 traders registered with the International Olive Council followed by 39 from Italy, 34 from Spain and 30 from Greece. This has helped to introduce a variety of olive oil brands ranging on a varying price scale. Thus, an increasing number of people from the middle class have now started to buy olive oils as a specialty product.

Another important market driver is that Spanish, Italian, Greek and Tunisian olive oils are now being sold by most of the leading super market chains around all the Asian countries. Hence,

more and more consumers are now being introduced to olive oils with an easy access to buy them. Olive oils are also being sold as gift packs, which are increasing the attention of wealthy customers as a token of social status.

After being considered as cooking oil, olive oils are finding their increased use as specialty dishes. The Mediterranean dishes are often preferred in Asian countries by youngsters as an alternative cuisine over the local foods. Emerging globalisation trends are increasing the popularity of Italian, Turkish, Lebanese and Moroccan foods, most of which use olive oil as an important ingredient. The Japanese and Chinese are also finding it easier to incorporate Spanish and Greek extra virgin olive oils in their local dishes, which is helping to maintain the authenticity of local taste and aroma.

Another important factor contributing to the increasing demand for olive oils is the adaptation of western lifestyles. An increasing number of expats in the Asian countries has made it easier for olive oils to penetrate the local market. Major Asian cities have exhibited an increasing demand for olive oils as a consequence of the influence made on the local population by the foreigners in adopting a western lifestyle.

Opportunities for South Australia

Australia has a small, niche olive oil industry that currently largely relies on the domestic market, with exports only about 10% of local production. Of the 150-170 growers in SA, only about 6 can be categorised as fully professional operations (i.e. with 50 to 500 hectares of groves and with employees). The balance is largely hobby farmers and small-scale producers that largely rely on localised distribution through door sales and farmers' markets. The largest producer in Australia, Boundary Bend (Cobram Estate and red island brands) is located in Victoria.

Traditionally, the local industry has been focused on import substitution rather than exporting, however it has struggled in the domestic market in the face of the difficulties of getting widespread retail distribution against large-scale European brands that are often marketed with misleading product claims. However, markets for olive oil are developing strongly in Asia, especially in countries such as China, Japan and India, where the health benefits of olive oil are increasingly recognised, and where top brands of olive oil can be seen as luxury items, for example given in gift packs.

The opportunity for SA olive oil producers is likely to lie in the luxury, premium end of the olive oil market and not in competing for bulk commodity olive oils against the main European producers;

- SA producers need to emphasise the fact that their products are highly pure, extra virgin olive oil and the high quality products that they are producing, differentiating from European brands which may be chemically refined. The perception of SA produced olive oil as a high quality, highly pure and trustworthy product needs to be

developed. The use of Government-endorsed certification of olive oil as EVOO in Asian markets, coupled with market education on the varying levels of quality of imported oils, can help to position SA produced olive oil as a premium product.

- SA producers may need Government support to access distribution channels in Asia, for example through support to set up e-commerce operations in China, or for establishment of relationships with importers and distributors in major Asian markets.
- Product development, for example olive oil / truffle oil mixtures, can enable SA producers to access very high value markets in Asia, with these products selling for over \$100/litre. Hence, encouragement of product development initiatives across the broader luxury food ecosystem in South Australia can help producers to access value-added opportunities.
- Accessing labour during harvest period can be challenging for producers in Australia, largely relying on labour gang companies to supply short-term labour. Often producers are unable to check the legal status of labourers used during harvesting. Government support for review and accreditation of labour would remove the concern of producers that labour being used is not fully legal.

Red Wine

Overview

Wine drinking has been experiencing a renaissance in the Asia Pacific market, driven by the growth of the aspirational middle class. According to the Wine Economics Research Centre of the University of Adelaide, Asian countries will dominate global wine consumption and import growth by 2018, driven by a surge in consumption in China.

While grape wine production in the region has also grown commensurately, from a virtually non-existent base at the turn of the century, for a wine to be deemed luxurious in this market, it needs to be an imported product. The perceived sole origin for luxury wines in the market has traditionally been the Bordeaux region in France, however this trend is shifting thanks to growing consumer sophistication.

Premier Cru Bordeaux Wines

The Premier Cru (First Growth) classification was developed in 1855. Five Châteaux were given the top classification of premier cru which they hold till today;

- Château Lafite-Rothschild
- Château Latour
- Château Margaux
- Château Haut-Brion Pessac Leognan
- Château Mouton Rothschild

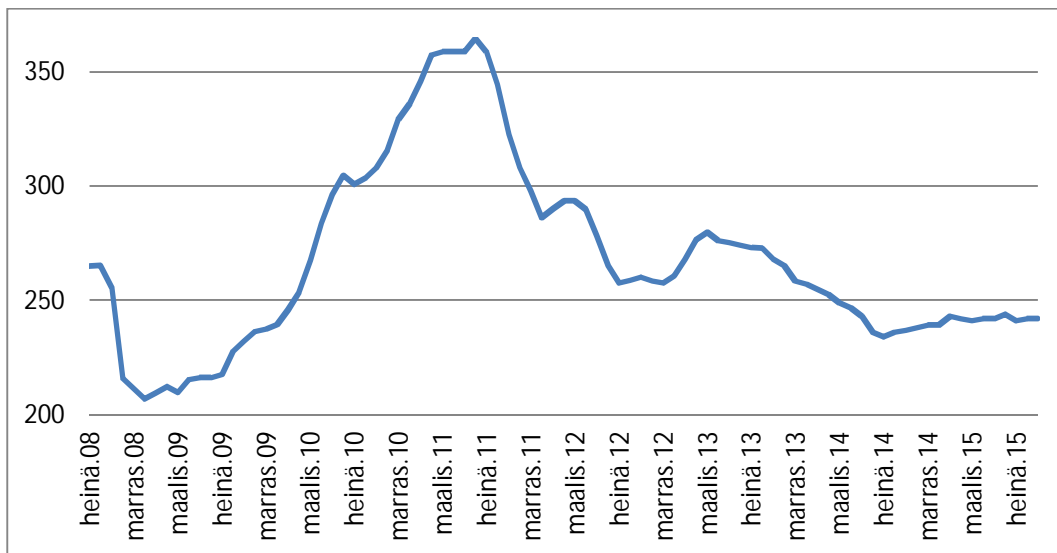
Production of Premier Cru Bordeaux is extremely limited. For example, the world renowned Chateau Lafite only produces between 15,000 to 25,000 cases of premier cru Bordeaux, as only grapes grown in the chateau's best soil are bottled as premier cru Bordeaux. The rest are bottled as a "Second Growth" that sells for a fraction of the price.

The premier position of First Growth Bordeaux wines is essentially cemented in the global market as the "original" luxury wines. To illustrate, the Liv-ex Fine Wine 50 Index tracks the daily price movement of the most heavily traded commodities in the fine wine market. The 50 component wines that make up the Index are the last ten "physical" vintages of the five Bordeaux First Growths. However due to demand far outstripping supply, the market for luxury wines, not taking into account historic vintages, has expanded to second tier Bordeaux wines (Super Second Growth) and elite French Burgundies.

Market Size and Growth

The world market for luxury wine is difficult to estimate as there are no reliable sources of information. For the purpose of this report, Frost & Sullivan looks at the Liv-Ex 100 index, declared "fine wine industry's leading benchmark" by Reuters, as an indicator of the status of the global luxury wine market. The Liv-ex Fine Wine 100 Index is a monthly calculated index representing the price movement of 100 of the most sought-after fine wines for which there is a strong secondary market. The vast majority of the composite wines in this index are from France, more specifically the Bordeaux region. At present only two Australian wines make it in to the Liv-ex 100 composite of wines and both are from the Penfolds Grange range, produced in South Australia.

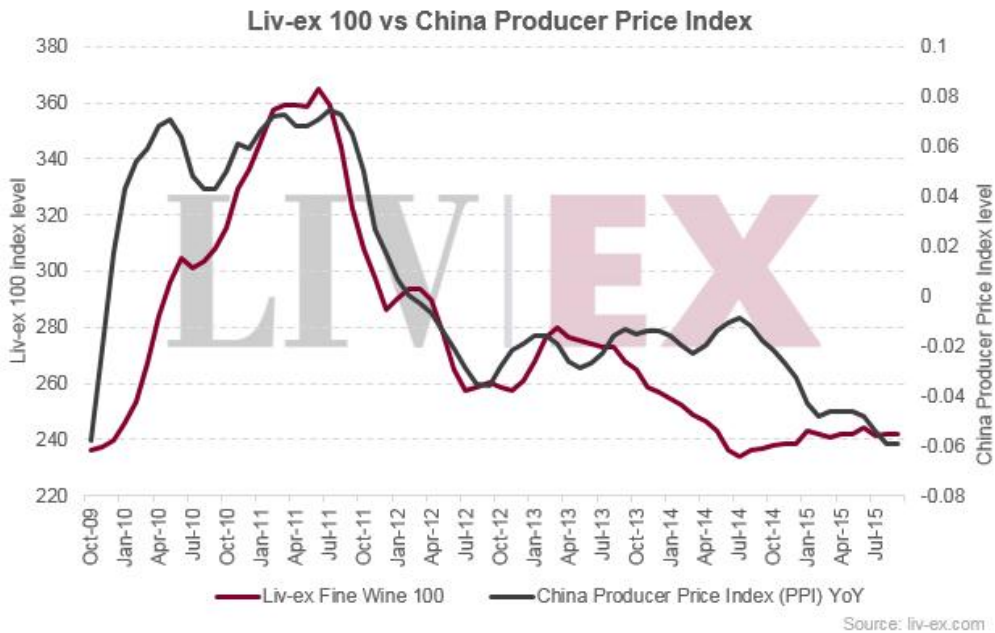
Figure 22: Liv-ex Fine Wine Index



Source: Liv-ex

Post 2009 the Index experienced a surge as price levels were driven by growth in demand from the Chinese market. However, over the past year the Liv-ex 100 has returned to levels comparable to five years ago. This could be in part due to demand for fine wine in China being curtailed by the clamp-down on expensive gift giving as part of the government's anti-corruption campaign.

Another indicator of the importance of the Chinese market to the global demand for fine wines is in the correlation of the Liv-ex 100 to the China's Producer Price Index (PPI). The PPI measures changes in the price of goods sold by manufacturers and thus increases in the PPI is usually associated with rising demand.

Figure 23: Correlation between Liv-Ex Index and China PPI Index

Source: Liv-ex

Consumer Purchase Drivers

While selected produce from many other countries are of comparable quality to Bordeaux wines, their mass acceptance as luxuries wines, particularly in the Asia Pacific market, is still to be seen. Essentially the preference for elite wines in this market, particularly in China, is mostly about caché. Bottles are being purchased as a symbol of wealth and as such the “label” on the bottle must be widely known as an “expensive/luxurious” brand for it to have value to the purchaser.

As the Asia Pacific wine market matures, and as wealthy oenophiles aim to exhibit sophistication as well as wealth, it is predicted that their taste for luxury wines will expand beyond Bordeaux and eventually French borders. This is evidenced by Liv-ex 100 lowering its Bordeaux weighting to 73% from approximately 95% Bordeaux in 2011.

Distribution Channels

While low quality wine may be packaged in cartons, luxury wines are exclusively sold in bottles and are typically shipped in crates. These bottles and crates need to be handled with care to minimise movement and temperature fluctuations to ensure the quality of the product is maintained. This proves to be a challenge in the market as the infrastructure in many Asia

Pacific countries, such as India and Malaysia, do not have the necessary infrastructure or know-how to ensure imported wines are handled in the required manner.

Given the importance of status symbolism associated with the consumption of luxury wines in Asia Pacific, in-home consumption is limited, and restaurants and bars are the primary locations for consumption. Another contributor to this trend is in the fact that even the most high-end homes in this market rarely have the appropriate facilities to store and protect the wines from the harsh climate.

Demand Trends

China

The popularity of wine has grown strongly in China over recent history. In 2013, China became the leading market for red wine by consuming 155 million nine-litre cases, an increase of 136% from 2008. While at present, 80% of wines consumed in the country are produced domestically, Chinese industry experts believe that the imported wine market share in China will exceed 50%, and that by 2030, the Chinese wine brands market share will be compressed to about 20%.

China's wine production history began in 1892 in the coastal province of Shandong with the establishment of the Changyu Winery in Yantai, a location that remains among the country's largest wine producers. In 2014 China accounted for 11% of global vineyards by land area, which grew from approximately 8% in 2010. In real terms, China's vineyards grew from 588,000 hectares in 2010 to 799,000 hectares in 2014, making it the second-largest wine-growing country by area in the world after Spain, overtaking France.

Since 2013, the global wine production has decreased by 21million hectolitres. This trend has been matched by wine production in China which has seen a steady decline. The Chinese consumption of wine declined from 18 million hectolitres in 2012 to about 16 million hectolitres in 2014. However, consumption is expected to rise again as the Chinese economy heads towards stabilisation.

Product Preferences

Over 90% of wines consumed in China are red. Red wine has gained particular favour amongst Chinese consumers for several reasons. Firstly, red wine is deemed to be a good accompaniment to most Chinese dishes. The perceived health benefit of red wine consumption is also a reason that often accompanies its consumption at Chinese social gatherings. From a cultural standpoint, the colour red is considered lucky in China, associated with wealth, power and good luck, while the colour white is affiliated with death and is commonly seen at funerals.

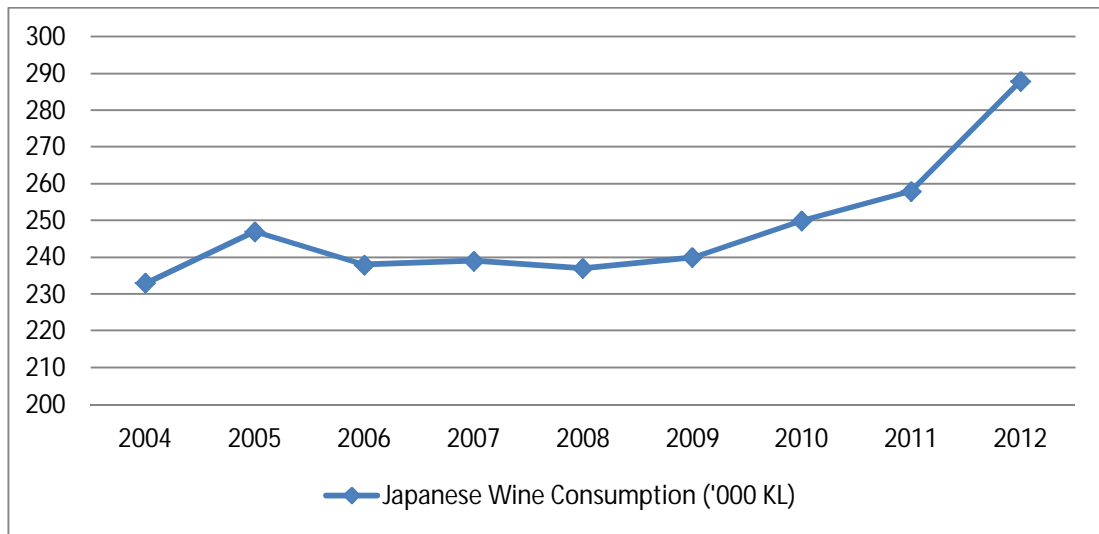
At present, luxury wine is synonymous with French wine in the Chinese market, or more specifically French Bordeaux wine. However, over the past few years, the Chinese consumers are extending their interest in luxury wine beyond the confines of French Bordeaux wines and are developing a growing thirst for wines from other countries, such as Australia and Spain. Since 2012, Spain has become the third largest wine export to China, exporting 3.27 million nine-litre cases to China, trailing only Australia (4.48 million) and France (15.46 million). This is partly explained by the difference in the price of Spanish wines compared to French wines. For instance, even premium Spanish wines command only half the price of their French counterparts. With the Chinese Government clamp down on luxury spending, other “Old World” (Spain and Italy) and “New World” (Australia, USA, Chile etc.) luxury wines are expected to be in greater demand, as they offer comparable quality at a lower price point.

Japan

Being the EU’s 6th largest trading partner in wine, Japan has witnessed an increase in wine consumption of about 18% annually since 2011. Almost half of the Japanese population is a weekly wine consumer, with about 7% consuming daily.

Japanese consumers are very particular about the country of origin of the wines. About 54% of consumers consider this as an important point and pay attention to how the imported wine performed at its country of origin. The quality to price ratio is also a critical factor for Japanese consumers.

The Japanese have traditionally only purchased French and Spanish premium wines, owing to brand awareness and global popularity. However in the recent past, the Japanese market is slowly opening up to different regions. For instance, Chilean wine sales have tripled over the last 7 years to reach 25% of total sales in 2014. The major reason for this boom was the execution of the Japanese-Chile Economic Partnership Agreement in 2007. The new trade agreement between Australia and Japan is also expected to have a similar impact and open up the Japanese market for Australian wines.

Figure 24: Wine Consumption, Japan

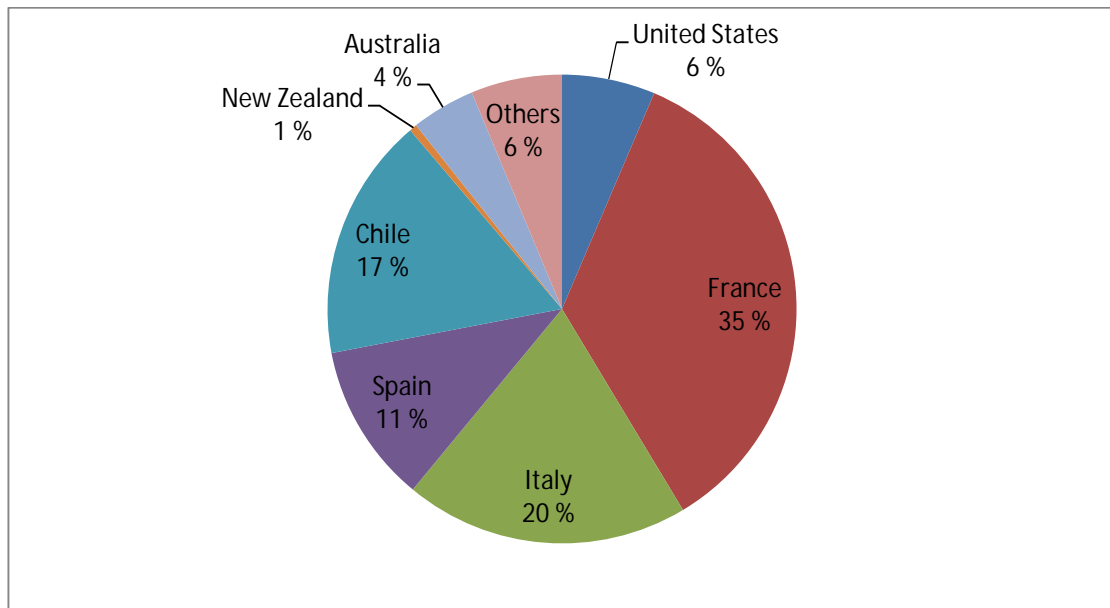
Source: OIV

The increase in “New World” wines has stemmed the growth of French wines in the Japanese market, whose annual market share of sales fell by 1.5% in 2013 to about 567,000 hectolitres. The major contributor to the loss of French market share is the increase in wine imports from Chile. Chilean wine imports into Japan have increased about 17% in volume since 2013, and are particularly popular amongst the younger generation in this market.

However, the French Beaujolais Nouveau and Bordeaux wines continue to find a steady market in Japan, owing to demand from the older generation, as well as the international awards which persuades consumers to pay a higher price for premium French wines.

Italian fine wines also faced a decline in market share by about 4.5% in 2013, largely due to their dependency on Italian restaurants as distribution channels, which have started to decrease in numbers over the last 5 years. Similarly Spanish wine imports declined by about 5.1% in 2013 due to the diminishing “ham and wine” trend in Spanish restaurants in Japan. However, Spanish premium wines maintained a strong share of the Japanese market due to their established global presence, taste and attractive packaging.

Australian wine imports into the Japanese market reduced by about 5.6% between 2012 and 2013. The decline was attributed to a lack of support from Japanese distribution networks for Australian wines; particularly fine wines. Essentially local wine importers found it easier to market the popular French and Spanish premium brands compared to Australian premium labels due to a lack of awareness in the market.

Figure 25: Japan Wine Imports by Country

Source: OIV

India

While India's burgeoning middle class makes it an enticing prospect for any alcoholic beverage producer, India's market for wine is still at its nascent stage. Cultural stigmas, such as wine being considered "a woman's drink" in the past has stunted the popularity of wine. By comparison, India is the world's largest whisky market, with over 200 million consumers of hard liquor.

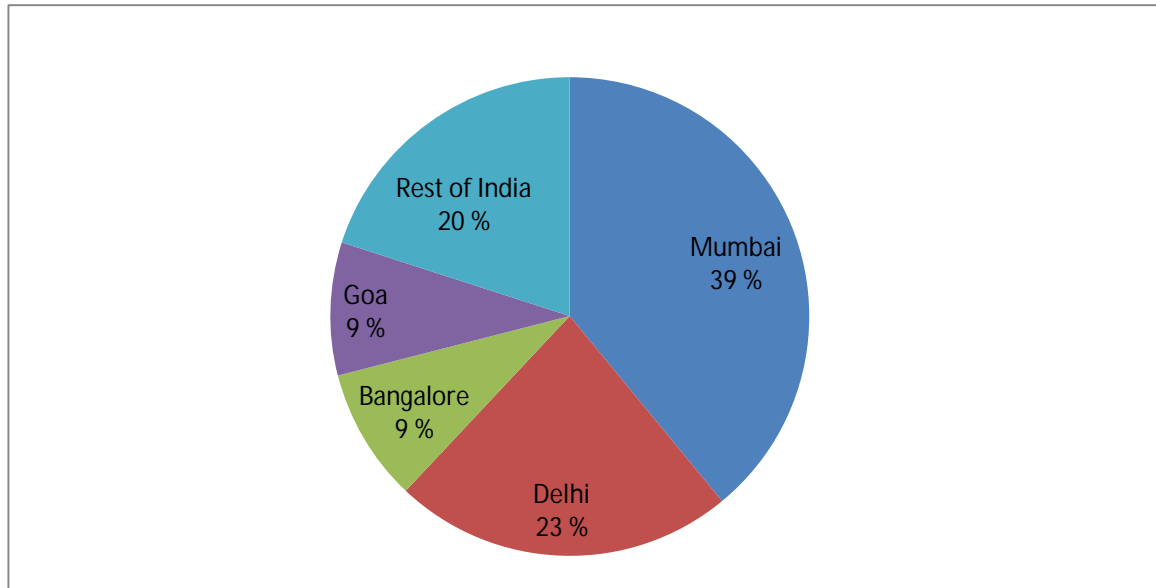
However, over the next five years, 100 million Indian consumers will reach the legal drinking age of 25, and given that wine is particularly popular amongst younger Indians, the domestic market is expected to grow rapidly. Furthermore, as more Indian women enter the workforce and consequently gain greater independence, they are able to break free from traditions of the past that prohibited them from consuming alcohol. By 2017, Indian wine consumption is estimated to rise to 2.1 million cases of wine per year, equating to an increase of 73 percent from 1.21 million in 2013.

The domestic wine consumption reached approximately 15 million litres in 2014, growing from with 10 million litres in 2007 and from 1 million litres in 2001. It is expected that wine will continue to gain market share over hard liquor in the Indian market, partly due to the recent education push by the government to raise awareness of health issues surrounding consumption of hard liquor.

Wine consumption in India is concentrated around several major commercial and tourism hubs. Major metropolitan cities such as Mumbai and Delhi have the highest consumption of wine due to the prominence of high net worth individuals and families living in these cities.

These cities are also home a large proportion of foreign nationals from Western cultures who have helped in propagating the popularity of wines in these cities. Over past few years, Goa also has contributed towards wine consumption mainly driven by its large local tourism industry. Bangalore, being the IT hub of India, is home to a large population of educated young Indians with relatively high disposable incomes who have developed a taste for wine.

Figure 26: Wine Consumption in India by Region



Source: Frost & Sullivan

Restraints

While structural issues, such as poor storage and transportation infrastructure, are significant challenges to the importation of wine, taxation and duties are the primary stumbling block. India's basic import duties on wine are at 100%, which are within the WTO limits. However, federal surcharges and state-level taxes can raise tariff protection up to 260% in certain cases. By the time the wine has reached certain parts of India, where further duties are slapped on it, the final tariff can be as high as 500%. The EU and the United States have filed complaints with the WTO on the Indian tariffs, alleging they were unfair trade barriers that keep foreign countries from competing in India's lucrative alcohol market. Both the US and the EU argue India imposes additional duties on top of basic customs duty, making imported wines and spirits prohibitively expensive.

Due to these high taxes on the imports, Indian wines form a major share of the consumption, with approximately 75% of the wines consumed in India are produced locally. India has about 123,000 acres of vineyards. However despite these challenges, the proportion of wine imports in the market has been increasing, growing from approximately 13.3% in 2003 to 19.14% of the market in 2013. The major sources of imports of wines into India are France, Australia,

Chile, Italy, South Africa, California, and Spain. Of late, Canada has also supplied small quantities of wines, particularly ice wine. Production of sparkling wine has also started in India.

Luxury wine is still a relatively unknown concept in India at present, except among the nation's elite. However as India prepares to enter a new phase in its economic growth, a new generation of well-heeled consumers are expected rise and follow the footsteps of their counter parts in China by using luxury wine purchases as a means to assert their status in society.

South East Asia

Despite nearly 40% of its population being of Islamic faith, which prohibits the consumption of alcohol, South East Asia (SEA) is fast becoming an important market for the wine industry.

Vietnam leads the SEA market, with an annual wine consumption of 6.6 litres per capita, and the country spends about \$750 million a year on wine. In the Philippines, largely a beer-consuming country, the wine trade is predicted to have a total volume growth of 8% by 2018. Even the predominantly Muslim countries of Indonesia and Malaysia, with relatively small wine markets, are also experiencing growth in the sector.

The gateway to this lucrative market is the island state of Singapore, which is fast becoming the next Asian wine hub, after Hong Kong. 2014 saw the opening of the Singapore Wine Vault, (the largest wine storage facility in Southeast Asia), allowing wine connoisseurs and avid collectors to keep their liquid assets stored safely in the company's cellars.

Australian wines are finding strong acceptance in these markets, primarily due to Australia being one of the primary tertiary education destination for many of the regions elite's. Returning students often bring back a taste for Australian wines, thus spurring demand in these markets. However, this trend is not believed to have extended to the luxury wine segment, where French wines continue to dominate at present.

Opportunities for South Australia

Given the high margins in the luxury wine segment, the high operational cost impacting most other Australian produce will not be an issue for the market. The larger challenge will be for South Australian luxury wine producers to establish caché in the hearts and minds of the Asia Pacific consumer.

The two primary sources of caché in this market are historical pedigree and critical endorsement. While endorsement can be achieved through producing a superior quality product, a historical pedigree is much more difficult to emulate, at least in the eyes of the consumer.

A potential strategy would be to replicate the Bordeaux classification system at the Barossa Valley so that parallels are drawn between wines produced in both regions. This initiative should leverage the success of the Penfolds Grange brand globally, in order to give a halo effect to other wine produced in Barossa Valley.

Penfolds Grange has gained traction in the Asia Pacific market, particularly in China. The company continues to build its brand in the region, and even launched its latest vintage in Shanghai as part of Penfolds 2015 Collection, making it the first time the company has launched a vintage outside of its spiritual home, the Barossa Valley.

Sophistication often follows wealth. While the Asia Pacific market may have been impressed by the historical pedigree of French wine, increased exposure to the global market place is expected to create a class of wealthy oenophiles that will seek to distinguish themselves from the masses. The goal for South Australian luxury wine producers would be to reach this segment, educate them on the distinctiveness of their products and make them willing brand ambassadors.

While the large, but shrinking, "luxury wine gifting" market will likely continue to be dominated by the Bordeaux premier crus, there is a growing opportunity in the self-consumption market for wines from the "New World". Private consumption of luxury items is often a far more rational, planned and deliberate process compared to public consumption, which is largely done to establish a high social standing. The notion of "self-reward" lies behind consumer motivation in private consumption of luxury items.

For example, Chinese consumers who have experienced rapid financial and economic gains appear particularly prone to the need to reward themselves for their success. This has little to do with impressing others in their social circle and is more focused on the need for personal contentment. Once again, wealthy and sophisticated oenophiles will be an important segment in this market.

Ensuring traceability through the supply chain will be increasingly important for SA producers, as counterfeiting of wine is widespread in Asia, particularly for premium and luxury brands. The ability to demonstrate traceability of origin and minimise any counterfeiting is therefore important for SA producers, and the use of traceability technology could provide a source of competitive advantage against competing countries and regions.

Rock Lobster

Overview

Rock lobsters are large crustaceans that do not have claws. The other feature that distinguishes them from clawed lobsters is that they have long spines / horns on the front of the head. Clawed lobsters are found in North America and Europe. In Australia, there are two main species that are commercialised:

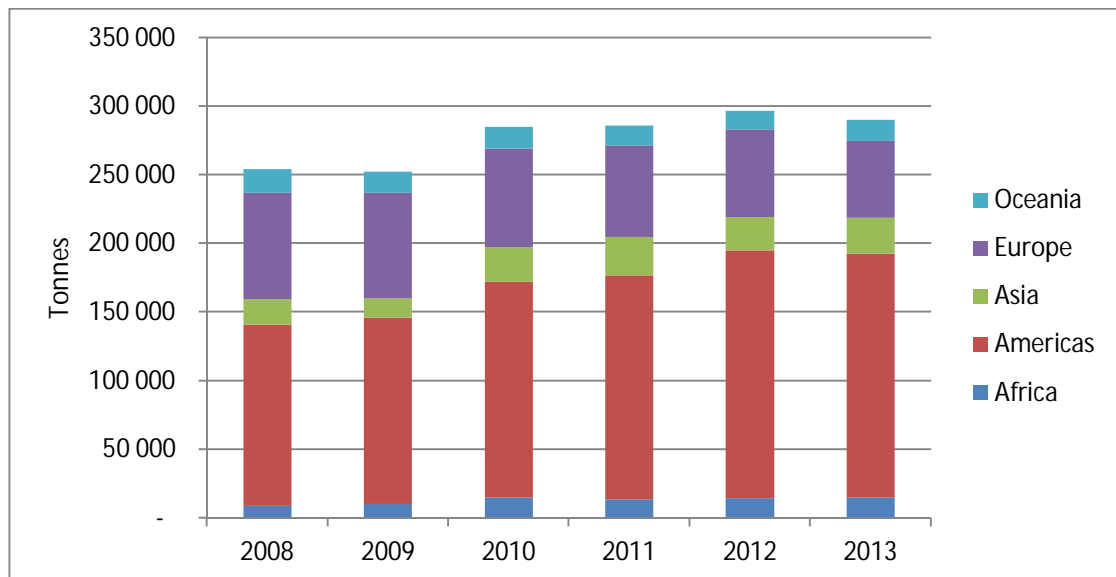
- The Southern rock lobster, which thrives in the southern coast of Western Australia, South Australia, Tasmania, Victoria and southern New South Wales.
- The Western rock lobster, which is found off the mid Western Australian coast.

While there are some other species such as the Eastern rock lobster and species of tropical rock lobsters, the Southern and Western rock lobster account for 90% of total Australian rock lobster catch.

Market Size and Growth

In 2013, the global production of spiny rock lobsters was approximately 290,000 tonnes, with the Americas being the largest producers, followed by Europe.

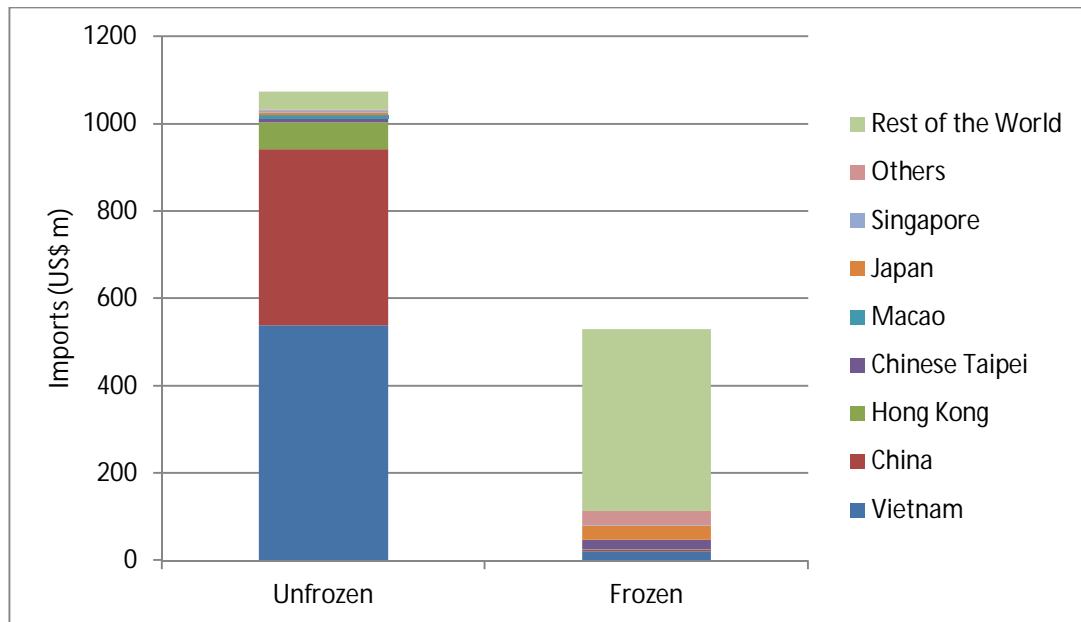
Figure 27: Global Production of Spiny Rock Lobsters, 2008-13



Source: FAO - Fisheries and Aquaculture Information and Statistics Branch

Asia is the largest destination market for live rock lobster exports, primarily destined for China.

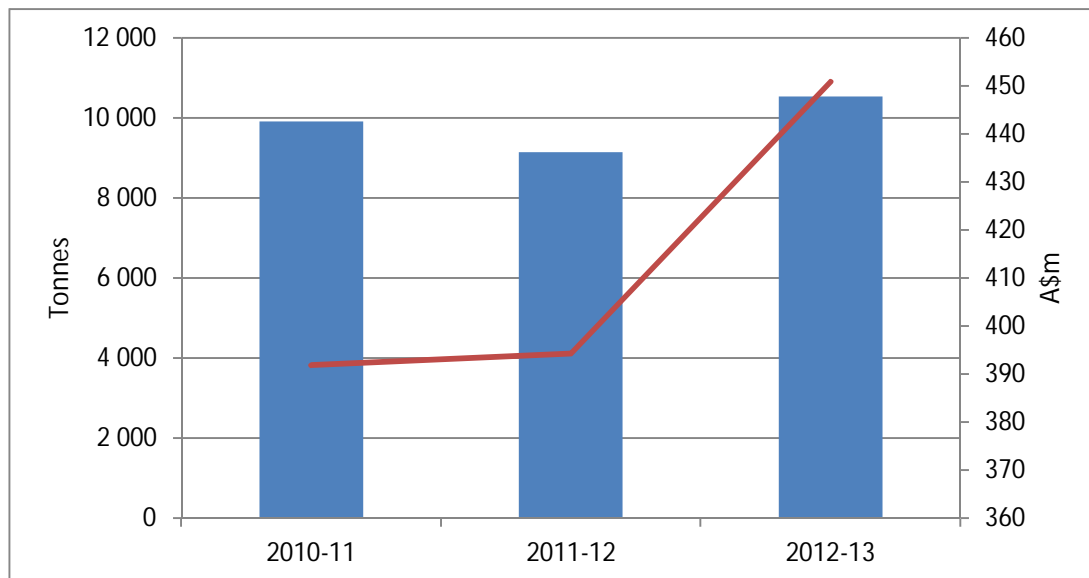
Figure 28: Import Value of Rock Lobster, Asian Countries and Rest of the World, 2014



Source: ITC calculations based on UN COMTRADE statistics

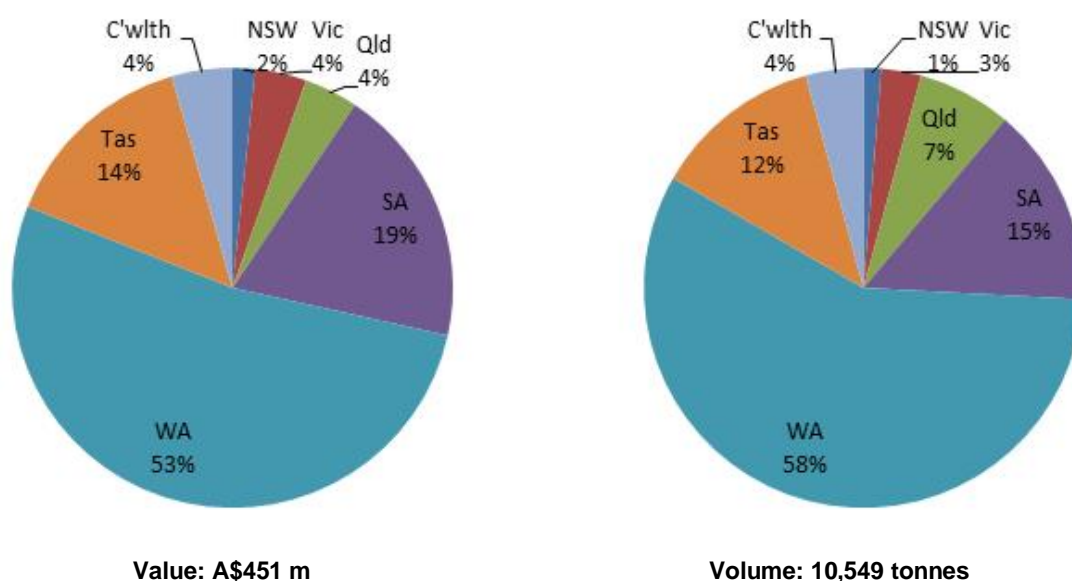
Australia produced 10,549 tonnes of rock lobster in 2012-13 at a value of A\$451 million (a 14% increase in value over the previous year).

Figure 29: Australian Rock Lobster Production Volume and Value, 2010-11 to 2012-13



Source: ABARES

Rock lobster is Australia's largest seafood export by value. While Western Australia accounts for over half the total production volume and value of Australian rock lobster, South Australia is also a key supplier, accounting for 19% of total value in 2012-13 and 15% of total volume.

Figure 30: Australian Rock Lobster Production Volume and Value by State, 2012-13


Source: ABARES

China is the main Asian export market for Australian live Southern rock lobsters (with trans-shipment through Hong Kong or Vietnam being the main approach used by the industry to overcome trade barriers in mainland China; a situation that will change with the China FTA (ChAFTA) in place). Conversely for frozen rock lobsters, the main market is the USA.

Table 5: Australian Frozen Rock Lobster Exports by Destination Market, 2010-11 to 2012-13

	2010-11		2011-12		2012-13	
	Tonnes	\$ '000	Tonnes	\$ '000	Tonnes	\$ '000
France	23	937	5	211	1	46
Hong Kong	68	2,342	29	904	51	2,068
Japan	301	8,466	230	6,974	177	5,847
Singapore	12	458	6	258	0	0
Taiwan	326	12,662	100	4,191	27	1,199
United States	370	23,066	241	14,188	184	11,655
Others	106	3,749	15	821	19	701
Total	1,206	51,678	626	27,548	461	21,514

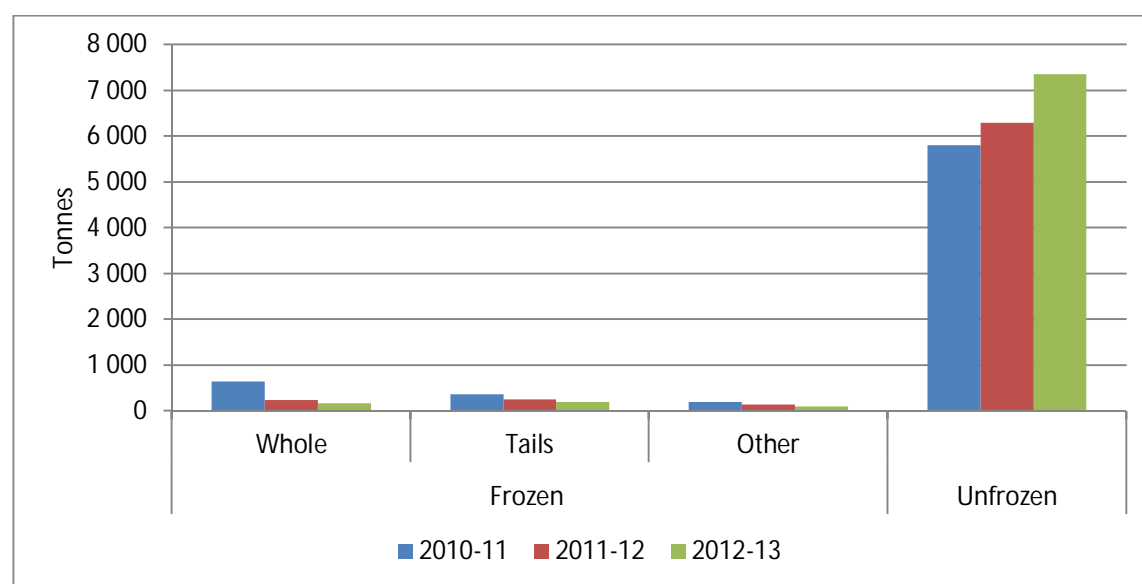
Source: ABARES

Table 6: Australian Unfrozen Rock Lobster Exports by Destination Market, 2010-11 to 2012-13

	2010-11		2011-12		2012-13	
	Tonnes	\$ '000	Tonnes	\$ '000	Tonnes	\$ '000
China	1,355	69,433	201	12,032	125	7,445
Hong Kong	3,993	223,624	5,185	289,982	2,695	149,595
Japan	197	10,369	194	10,309	143	7,728
Taiwan	68	3,068	33	1,480	13	613
Thailand	69	4,597	127	9,529	4	236
Vietnam	0	8	468	30,900	4,304	256,076
Others	128	6,494	82	4,930	74	4,056
Total	5,811	317,593	6,290	359,162	7,359	425,748

Source: ABARES

Over time, the mix of lobster product exported has shifted significantly away from cooked to live product.

Figure 31: Australian Rock Lobster Exports by Type, 20110-11 to 2012-13

Source: ABARES

Distribution Channels

The Australian rock lobster harvest season is generally November to April. To facilitate live lobster shipment with low mortality rates, fishing boats have tanks or wells with seawater to store live lobsters, the catch is air-freighted to export destinations and needs to arrive around 30-48 hours from the time of being harvested from the water, and port facilities are equipped

with refrigeration systems that bring the water temperature down so that the lobsters' metabolism is slowed.

Lobster in the destination markets is generally sold to wholesale seafood markets, who in turn re-sell to restaurants and retailers. Through the entire supply chain, compliance obligations are generally high in terms of food safety, labelling and documentation.

A significant change to the distribution channels has been the growth in online sales – driven to a large extent by Chinese online retailing giant Alibaba. In Nov 2014, Alibaba's founder, Jack Ma was quoted as saying that he was aiming to sell 200,000 Canadian lobsters on Nov. 11, Alibaba's yearly deep discount day.

Demand Trends

China

China is the largest importer of seafood globally. In this market, the rock lobster is typically more popular than the clawed lobster (the higher meat yield per rock lobster is a significant contributing factor, as well as the rich red colour when cooked that Chinese consumers find auspicious and in keeping with festival ambience). As income levels rise in China, lobster – which was at one time bought for gift giving or special occasions (weddings and banquets) – is increasingly being purchased by households for their own consumption.

Within this context of rising income levels and Chinese buying behavior driven by the need to reinforce reputation/prestige within the community, the premium positioning of Southern Rock Lobster is likely to strengthen the 'pull' effect (of upscale and aspirational customers asking for the product).

China is the largest export market for Australian Southern rock lobster, accounting for 85% by volume of total exports per annum. In terms of other competing suppliers to China, in 2013 China imported \$205.7 million worth fresh rock lobster from New Zealand, \$34.7 million of frozen lobster and \$21.1 million fresh/chilled rock lobster from Canada and \$23.6 million of fresh rock lobster from Indonesia.

Consumer Purchase Drivers

Given rock lobsters positioning as a gourmet or luxury food, demand is directly driven by growth in household disposable income levels in the main export destination market, China. For Q3 2015, China's GDP grew by 6.9% year on year and disposable income grew by 9.2%.

Food safety risk in China is another driver of consumer spending on imported seafood at premium restaurants.

Product Preferences

Prices of Southern rock lobsters are usually dependent on the size, colour and seasonality (prices tended to decline with increased availability during harvest season, except for the Christmas period when increased demand helps support higher prices).

Asian customers prefer live lobsters for restaurants and markets.

Chinese restaurants generally prefer lobsters below 2kg each (to facilitate ease of storage and serving).

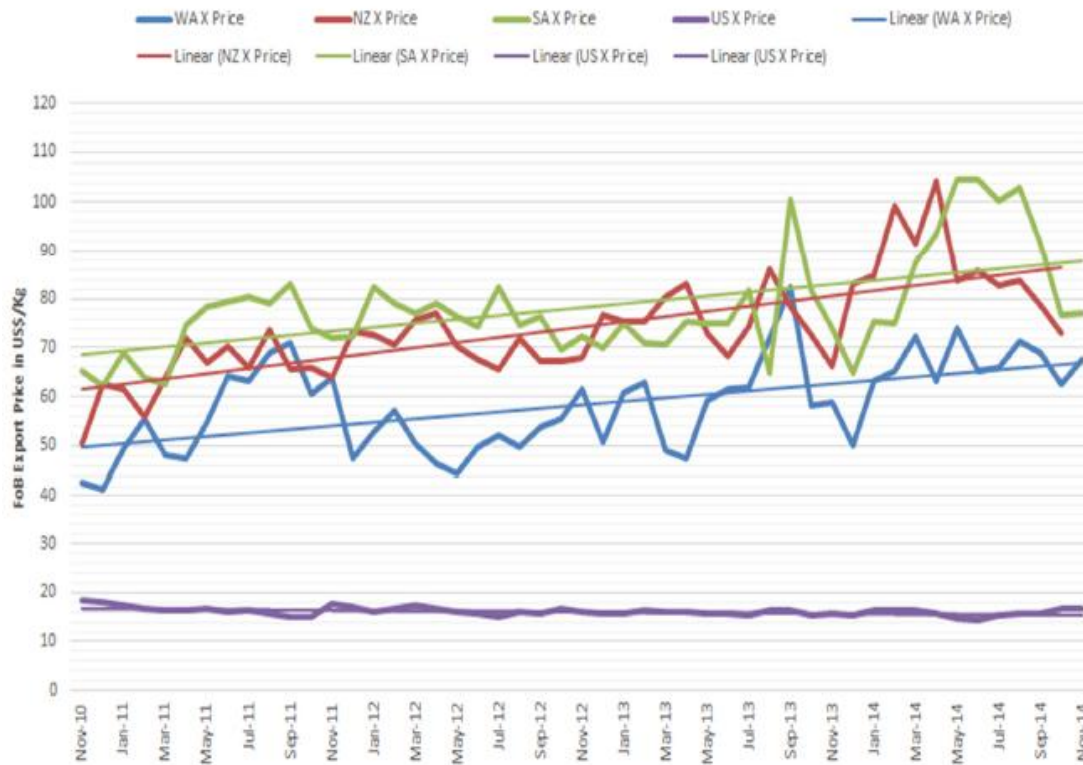
Opportunities for South Australia

South Australia benefits from the 'high quality', 'clean' and 'sustainable' image that Australia enjoys in global markets (for example, the strict annual allowable lobster harvest quotas ensure sustainability of the sector). Moving forward, as traceability becomes a key demand trend in several export markets, South Australia's high environmental standards will help sustain its competitive advantage. In this context, the Marine Stewardship Council (MSC) certification is a key tool in supporting the marketing message to export destination markets.

With the China FTA (ChAFTA) in place, a phased reduction of the current tariff from 17% to zero over 4-years puts Australia in a more competitive position (New Zealand and Chile already have zero tariff access to China). The FTAs with Japan and Korea also included rock lobster. While the expansion of the Chinese middle class is expected to be a long-term driver of demand growth for rock lobster, the fact that the Australian rock lobster industry is mainly reliant on a single market for the majority of its exports presents risks that can only be alleviated by growing alternate export markets as well. This presents the opportunity to leverage the currently undervalued >2 kg lobster which is not in demand in China in new markets.

The main competitive challenge for Australia is the relatively higher price of its product when compared to other exporters. The chart below outlines the export price trend for lobster from South Australia, Western Australia, New Zealand and the USA over the period Nov 2010 to Nov 2014.

Figure 32: Monthly Export Price for Lobster, South Australia, Western Australia, New Zealand and US, Nov 2010-Nov 2014



Source: Western Australian Department of Fisheries, Economic Research Associates Pty Ltd, 2015 (prices derived from value and volume data in: Australian Bureau of Statistics International Trade Customised Report, Statistics NZ. Harmonized Trade Exports and the United States Census). USA Trade Online)

However, export volumes to China have risen without negatively impacting average prices; thus confirming the fact that China's demand is growing faster than supply. This presents South Australia with the opportunity of reinforcing its premium position whilst growing supply volumes (in general, competing on price tends to erode perceived value of products targeting the luxury food sectors). To do this however, would require bolstering direct marketing efforts to Chinese end-customers so that the 'pull' effect is strengthened by reinforcing premium value. It will also require proactive efforts to influence the Chinese food service sector to support this premium positioning by specifically confirming source through labelling or naming on the menu as 'South Australian Southern Rock Lobster'. This will help protect South Australian product from the risk of substitution by lower-priced rock lobster from Western Australia, New Zealand or the USA.

The Australian industry's main operational challenge is the rising cost of production. For example, according to Southern Rocklobster Limited (SRL), Australian production costs for rock lobster are around seven times that of Cuba and around five times that of US and Canadian clawed lobster (August 2014). Apart from addressing increased compliance costs (due to regulation) and improving management practices, research (for example, to reduce

the risk of paralytic shellfish toxins through algae, enhance productivity through alternative spatial and temporal management approaches, improve mapping, navigation etc.) will help improve South Australia's competitive position in relation to operating costs.

The current weak Australian dollar will make Australian exports more competitive; however this is based on diverse economic factors beyond the control of the industry.

Without direct air shipment facilities from Adelaide, product is usually trans-shipped for export via Melbourne.

At the harvesting end of the chain, electronic catch reporting in SA (Deckhand iPad application trials and roll-out) is expected to streamline information management. Also, whale entanglement in rock lobster fishing gear is an issue that is being addressed by the industry through codes of practice and educational publications.

Over the next 10 years, rock lobsters farmed via aquaculture will improve the competitiveness of Australian export. Industry initiatives in this direction are still at the trial stages and the main challenge will be scaling up from lab projects to commercial operations. For example, research at the University of Tasmania's Institute for Marine and Antarctic Studies (IMAS) has been focused on growing rock lobsters from eggs to adults in captivity.

At the same time value-added product opportunities need to be explored where applicable (e.g. lobster portions, bisque, ravioli, frozen steaks, pizzas, salads, etc.).

Truffles

Overview

Truffles are underground mushrooms. They have a pungent aroma and taste and are used to permeate and enhance many foods. Truffles are relatively rare, and the mystique associated with them helps to command very high prices. Truffles grow underground on the roots of trees, which either naturally host the fungi or which have been inoculated with truffle spores. Trees and truffles have a symbiotic relationship – the tree provides the truffle with a source of carbohydrates and nutrients, and the fine thread-like filaments of the truffle coats the tips of the tree roots to form mycorrhiza which helps the tree to absorb soil minerals and nutrients. Truffle farming therefore involves tree-planting of appropriate tree species (e.g. beech, poplar, oak, birch, hornbeam, hazel and pine), with truffles being available for harvesting between four and ten years later.

The main truffle types are French Black or Perigord truffle (*Tuber melanosporum*); white truffles (*Tuber magnatum* (Piedmont) or *Tuber borchii* (Tuscan)) which are typically associated with the Piedmont region of Italy; the Chinese truffle (*Tuber sinense*, *Tuber indicum* and *Tuber himalayense*) from Asia; and the burgundy or summer truffle (*Tuber uncinatum* / *aestivum*) mainly found in central Europe, North Africa and Turkey. In Australia, most production is of Perigord truffles, although some producers have planted white truffles.

Australia is the world's fourth or fifth largest producer of truffles (after France, Italy and Spain, and possibly also China), with truffle production occurring across the south of Australia, from NSW to WA. WA is the largest producer, accounting for 80% of Australian production, followed by NSW / ACT. Of the truffle-producing regions, South Australia has the least developed truffle industry, with only around 10 of the 350-400 growers estimated to be active in Australia. Producers in South Australia are small-scale in comparison with some counterparts in other states, and are generally reliant on very localised distribution channels (e.g. farmers' markets).

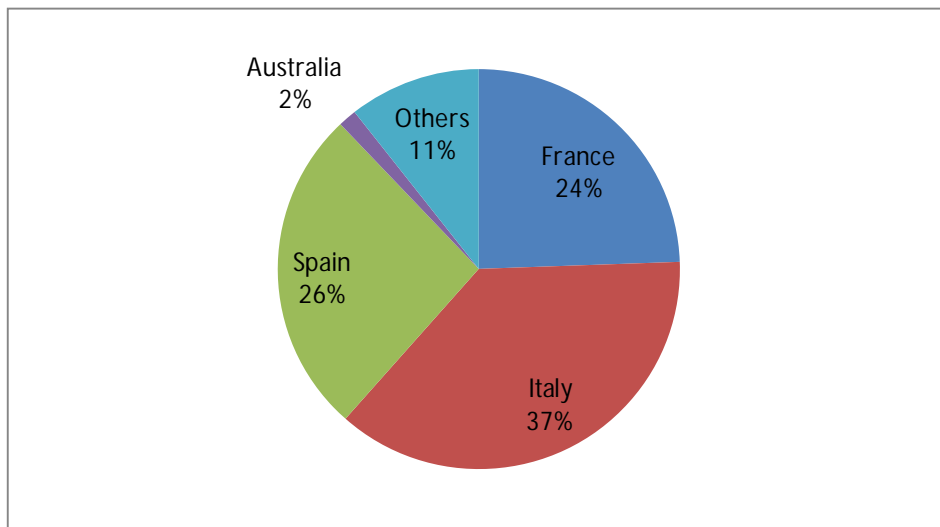
Truffles are generally sold in their natural form, however there is a wide range of processed food products that incorporate truffles, such as pastes, pates, oils etc. Some truffles are also sold in frozen form, although the freezing process significantly reduces the market value of the truffle.

Market Size and Growth

Globally, production of truffles has declined over recent decades, reflecting significant disruption to land areas in Europe during and after the Second World War. The impact on native or wild truffle production areas means that truffle production has largely switched to managed farms (truffieres). From production of around 1,000 tonnes annually in the 1930's,

production has now declined to around 500 tonnes (actual production is highly variable by year, and this represents the estimated maximum production over recent years). This decline was caused not by a fall in demand, but by a reduction in production. Australia is now the world's fourth largest producer of truffles, after France, Italy and Spain (possibly excluding China, for which reliable production data is not available). However, new production areas are being actively developed for truffles, especially in Chile, South Africa and North America, which provide a threat to Australia's market position.

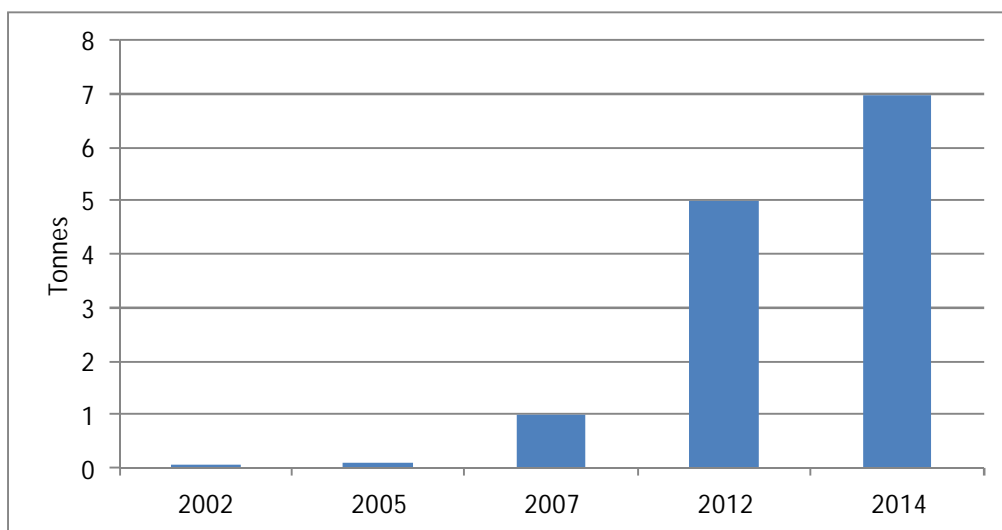
Figure 33: Truffle Production by Country



Source: Frost & Sullivan

Australian production in 2014 was estimated at around 7 tonnes. This has increased from virtually zero in 2002.

Figure 34: Australian Truffle Production



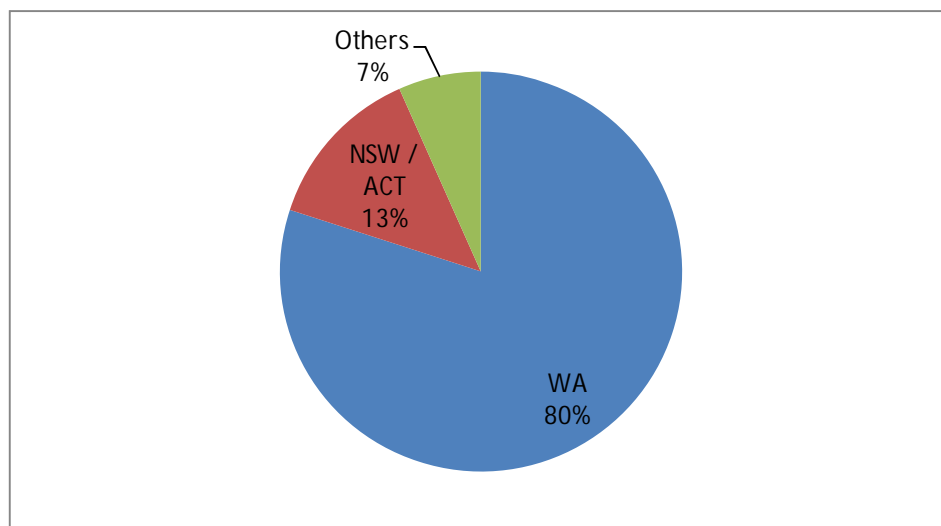
Source: Frost & Sullivan

Of the 7 tonnes produced in Australia, around 5 tonnes are exported, with domestic consumption of around 2 tonnes. Europe is the largest export market for Australian producers, however demand is growing particularly in Asia, in markets such as Shanghai, Singapore and Hong Kong, where there is growing interest in fine dining and high-end cuisine, especially for “westernised” luxury food products.

Australian producers can typically command prices of around \$2,000 / kg when sold direct to the public, or \$1,500/kg to restaurants. When sold through distributors, prices can be around \$1,000 / kg. The value of the truffle industry in Australia (at end-user prices) can therefore be as high as \$14 million.

Within Australia, WA is the main producer, accounting for around 80% of production, and most of the largest producers are located in WA. Most of the rest of production occurs in NSW / ACT.

Figure 35: Australian Truffle Production by State



Source: Frost & Sullivan

Demand Trends

Demand for truffles is growing strongly in Asia, particularly in the growing number of fine dining establishments that offer westernised fine dining options (such as in cities such as Shanghai, Mumbai, Singapore and Hong Kong). The rarity particularly of white truffles has made them one of the most expensive and luxurious food items. Young and wealthy Chinese consumers are starting to develop a palate for western cuisine, in which luxury foreign foods such as truffles are becoming increasingly popular. During November, when the white truffle season begins in China, there are tableside dishes during banquets and formal dinners

adorned with white truffles to signify their luxury and rarity. A white truffle can retail at up to US\$3,000/kg.

In India, truffles are probably the most luxurious imported food item. However, they are not easily available at high end retail outlets and are generally only found in heritage and five star hotels. Truffles are priced at US\$ 150- US\$200 for two small chunks of truffles in a bottle priced at US\$ 150 – US\$200. However, even with such a high price tag, the demand for these is rare but increasing gradually due to growing awareness among Indian consumers.

Truffles are offered in the most prestigious restaurants in Japan. The prices can vary from US\$1,000/kg upwards. Large truffles discovered are often put up for auction. A sum of US\$330,000 was paid for a 1.5kg white truffle in 2007, although this kind of price has not been matched since the GFC. Being a good indicator of wealth, truffles generally accompany dishes in expensive restaurants.

Increasing awareness of truffles as a luxury product is also driving demand for processed foods that include truffles, e.g. food infused with truffle oil.

Consumer Purchase Drivers

The main driver for purchase of truffles or truffle-derived products in Asia is a growing interest in fine dining and especially westernised fine cuisine. Truffles are typically consumed in Asia through restaurants or other food service channels (such as cruise ships and airlines), and consumption is being stimulated by the growth in westernised fine dining outlets in major Asian cities. Although truffles are produced in Asia (especially in China), the market clearly differentiates between local products and imported products. White truffles, in particular, are seen as particularly prestigious products, and there is growing interest in many Asian markets.

There is growing demand in Asia for preserved and value-added truffle products, such as cooked and canned/bottled truffles, dips and patè, sauces and dressings.

Opportunities for South Australia

As demand in Asia grows for fresh truffles and value-added truffle products, SA has an opportunity to broaden and enhance its truffle industry, which currently forms a negligible part of the overall truffle ecosystem in Australia. Opportunities for SA to support the truffle industry include;

- SA producers should be encouraged to look to grow white truffles, which are more highly valued in Asia and which would differentiate SA against other Australian and Chinese producers.

- Use of traceability technology to verify that truffles are Australian-grown; with Chinese truffles selling for significantly less than Australian truffles, there exists the risk of fake Australian truffles being sold in Asia. Use of traceability technology to verify that truffles are Australian-produced will support greater value-add in Asia.
- Producers should be supported to identify and exploit packaging technology that is better able to maintain the integrity and aroma of truffles when exported into Asia.
- SA producers should be supported and encouraged to look for value-add opportunities for truffles, for example production of blended products with other SA luxury food producers, such as olive / truffle oil blends.
- SA producers have generally had less support than their counterparts in other states in terms of industry workshops, seminars and other training. Consequently, there is an industry view that producers in SA have less technical expertise in truffle production than growers in other states. Encouragement and support for industry development in SA could therefore help to support industry growth.
- There is a general lack of technical skills in areas such as mycology and cultivation in truffières available in SA. Encouragement of research and education in SA in these areas would help to stimulate greater availability of technical skills.
- Other states in Australia have undertaken more activities to raise the visibility of the local truffle industry, for example the Canberra and Melbourne truffle festivals. Conversely, South Australia is not seen as having a significant truffle industry.

Wagyu Beef

Overview

Wagyu refers to all Japanese beef cattle breeds, where 'Wa' means Japanese or Japanese style, and 'Gyu' means Cow or Cattle. There are four breeds of Japanese Cattle: Japanese Black (with three major black strains: Tajiri or Tajima, Fujiyoshi, and Kedaka), Japanese Brown (Red Wagyu), Japanese Polled, and Japanese Shorthorn. Traditionally selected for agriculture, wagyu were known for their physical endurance, owing to their high intramuscular fat content. Today, this 'marbling' is prized as a quality of premium beef, characterised by its unique taste and tenderness. Whilst 'wagyu' or 'Kobe' beef can be found in the USA, Australia, and Europe's fine-dining restaurants, under Japanese law, 'Kobe beef' is distinguished from other wagyu, and can only originate from the Hyogo prefecture of Japan (where Kobe is the capital city). Kobe beef must also be authentically certified under strict criteria:

- The breed must be of pure Tajima lineage; born, raised and slaughtered in the Hyogo prefecture of Japan, between 28-60 months of age.
- Certified with a yield score of A or B
- Attain a quality score of 4 or 5 in the Japanese Meat Grading Association (a scale of 1 to 5, based on factors of marbling, colour/brightness, firmness/texture, fat colour/luster/quality).
- Achieve a Beef Marbling Standard (rating of intramuscular fat) of 6 or higher out of 12.
- Have a Japanese Chrysanthemum seal officially certifying it as Kobe beef.

Of the approximately 3,900 cattle that meet these standards each year, only around 10% is exported from Japan. Therefore, the majority of 'Kobe beef' available outside of Japan does not actually conform to the Japanese trademarked term, "Kobe", though they may be of similar high quality, and often originate from wagyu-bred, or wagyu-crossbred cattle.

Wagyu, on the other hand, is a wider term which encompasses other Japanese cattle breeds, and still shares the highly-marbled qualities of Kobe beef. Whilst they are not necessarily raised under the strict criteria that Kobe beef is subjected to, they are still high value cattle that are often raised along Japanese-style feeding regimes, which are primarily based on grains, and seldom grass-fed. As wagyu genetics are no longer allowed to be exported from Japan, a majority of the wagyu beef found outside of Japan are DNA verified wagyu, bred and raised from seedstock exported in the 1990s.

Today, the largest exporters of wagyu beef are Australia and the USA, with Australia exporting 80-90% of its wagyu beef to the USA, Asia (including Japan, South Korea, China, Hong Kong, Singapore, Taiwan), Europe, and the Middle East.

Market Size and Growth

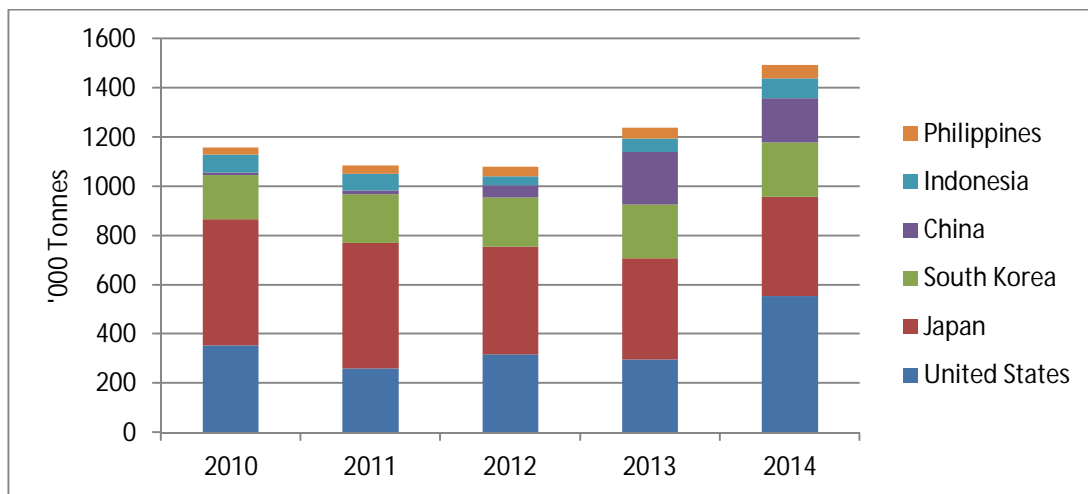
There are around two million full blood wagyu globally, of which 96% are in Japan. Of the 2.6 million feedlot cattle in Australia, 83,000 are wagyu, of which approximately one in five are considered full blood. Thus Australia has the second highest population of full blood wagyu in the world, and registers approximately three times the number of wagyu than the USA. Whilst wagyu represent only 3% of feedlot cattle in Australia, they represented A\$261 million in sales in 2014, accounting for approximately 8% of the total feedlot carcass value. Wagyu, therefore, represents an immensely high value portion of Australian beef, of which 80-90% is exported, with the USA, Japan and Korea as leading destinations.

Given that Australia is the world's third largest beef exporter, with beef exports contributing approximately 1% to the nation's GDP, wagyu is a key value-added niche sector. Whilst Australia is relatively small on the global scale for beef production, its smaller population and subsequent smaller domestic consumption means that it is able to export over 60% of its production each year, with 74% of Australian beef production exported in 2014.

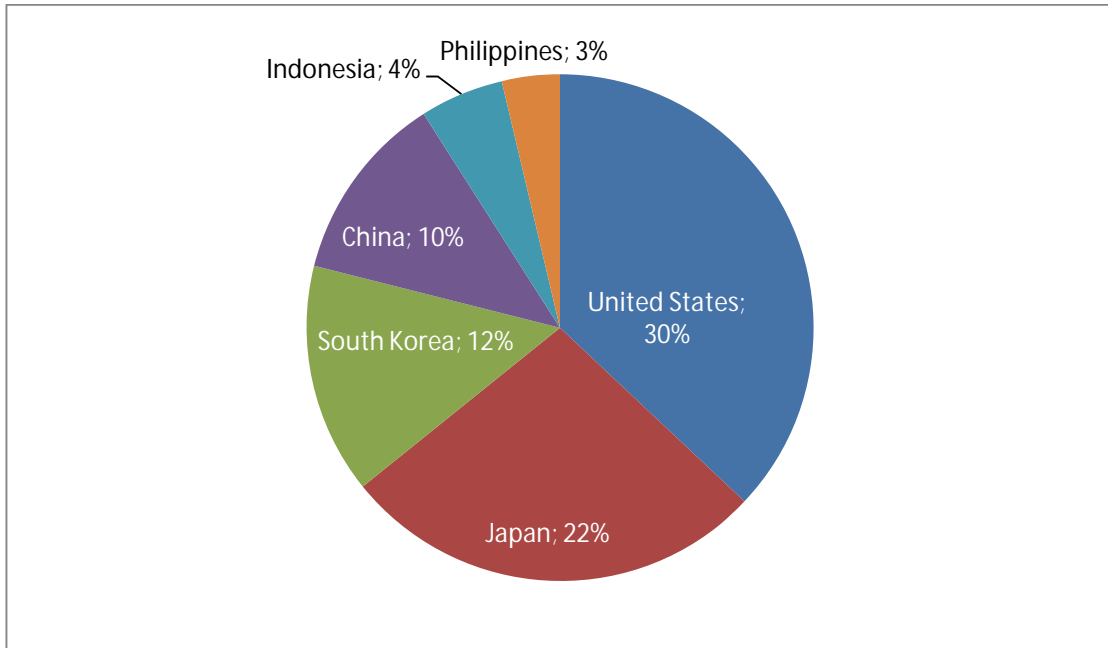
Continued droughts in the first half of 2015 led to increased slaughter rates (the national herd has been reduced to a 20 year low), resulting in higher beef production, and subsequently, an increase in exports. However, in spite of the spiking supply, global demand for Australian beef has not declined, with strong prices holding stable at the highest rates in two decades. Furthermore, prices are expected to remain robust throughout the next few years, even with lowered slaughter rates.

The Australian Wagyu Association projects wagyu will account for 7% of feedlot cattle turnoff (184,000 heads), and A\$580 million (17% of total feedlot carcass value) by 2020.

Figure 36: Australian Beef Exports by Country



Source: ABARES

Figure 37: Australian Beef Export Market Share

Source: ABARES

In 2014, 17,800 tonnes of wagyu were exported out of Australia, with only 1,251 tonnes shipped from Japan. Whilst in 2015 beef exports are expected to decrease significantly due to supply constraints and herd replenishment, by 2020, a projected 39,400 tonnes of wagyu is expected to be exported out of Australia.

Distribution Channels

The Kobe Beef Distribution & Promotion Council oversees the control of authenticity for all meat shipments abroad, and has a select list of authorised foreign distribution members. The certified producers, authorised exporters and importers are enumerated on the Kobe Beef Distribution and Promotion Council's website.

Exact export quantities can also be found on this list, and every restaurant or retail shop selling Kobe beef displays a 10-digit individual ID number or QR code that ensures traceability and certification, including the animal's lineage, birthdate, slaughter date, weight and other such details.

In Australia, wagyu beef distribution is similarly managed by the Australian Wagyu Association, with registered members profiled on their website, throughout the value chain (including artificial breeders, feeding/testing/health & ID, livestock transport, livestock

exporters, seedstock breeders, wholesalers, butchers, feedlots, commercial breeders, restaurants, meat exporters, and livestock marketing agents):

The association also details the wagyu beef value chain in the following progressive order: seedstock producers, commercial producers, feedlots, abattoirs/processors, wholesalers, retailers and consumers.

For export markets, relevant exporter and importer agents can also be included, for which Australia is becoming increasingly vertically integrated; several of Australian wagyu producers (e.g. AACo, Beefcorp International Pty Ltd) also oversee their own export operations to numerous overseas markets.

Like Japan, Australia's wagyu production and exports are well documented, with its largest wagyu producer, for example, the Australian Agricultural Company (AACo), offering a unique animal ID for all their cattle. Not unlike Japanese Kobe beef, this traceability assurance ID details the animal's life history, and movements between properties, tracking them through the supply chain to the consumer.

Given that the melting point of oleic acid, which lends wagyu beef its unique taste, is at around 18°C, the meat is often flash-frozen and shipped in refrigerated containers. Air-freight is also an increasingly common practice for the cold chain of the high-value, perishable meat product.

Demand Trends

Japan

Japan has been the leading export destination for Australian beef for over the last two decades, and has only been overtaken by the USA recently in 2014. Chilled and grain-fed beef products such as wagyu constitute a large majority of this export. The nurture and feeding of wagyu domestically has been strictly regulated, and native-bred Kobe beef is often famed for its unconventional farming methods, including massaging and feeding beer. However, these traditional customs actually originate from the lack of arable land in Japan and cramped farm spaces, as well as to stimulate the animals' appetite during the hot summer months.

Domestically produced Kobe beef is naturally considered the premium and commands the highest prices, often with superior genetics and higher marbling (greater proportion of monosaturated fats and oleic acids) compared to foreign wagyu. However, households are increasingly opening up to cheaper alternatives such as Australian wagyu, in the face of a fragile economy, boosted by import tariff reductions on beef through the recent FTA. Whilst wagyu is often prepared as a steak or burger in Western markets, the Japanese also enjoy kobe beef as a sukiyaki (hot pot), shabu shabu (broth), sashimi (fresh meat), and/or teppanyaki (iron griddle) or yakiniku (grilled, Korean-style barbeque). The taste profile

resulting from grain-fed beef is so preferred in countries such as Japan and Korea, that some Australian and American producers have also adopted grain-based feeds for their cattle. These differences should be noted, as the richly marbled wagyu typical in Japanese Kobe beef is often intended for Japanese broth-style dishes, and may be too rich for larger-serving steak meats common to the domestic Western markets.

China

Wagyu beef is a prized delicacy in China, and is one of the most widely-known cuts of luxury beef throughout China. Its growth in demand is largely due to its famed standard of quality, and perceived nutritional value, high in monosaturated fats. In spite of the wide diversity of diets spanning the Chinese mainland, beef has seen relatively robust demand, whilst poultry and pork have undergone numerous food safety violation scandals. Increasing middle class purchasing power has boosted imported meats, with a developing taste for fine-dining experiences such as wagyu. However, anti-austerity measures are also expected to slightly curb such indulgences, which are commonplace on special social occasions and banquets. Whilst the ban on Japanese imported beef following mad cow disease has still not been lifted since 2001, wagyu has still been enjoyed through alternative suppliers such as Australia, with which its recent FTA will eliminate beef import tariffs over nine years.

Korea

Korean consumers have long considered Hanwoo (native bred 'Korean cattle') to be the top class meat, on par with wagyu. Hanwoo, though expensive, is also typically more affordable than wagyu, and is consumed on special holidays and ancestral rituals. With Korean consumers shifting from seafood to beef, following fears of radioactive contamination from Japan, Hanwoo has found even greater popularity in recent years, accounting for 35% of the total beef consumed. However, spiking prices due to declining herds and improving quality ratings have led consumers to depend more heavily on imported meats for regular consumption. Australian beef is keenly sought after, with a growing interest in wagyu in particular, as leading fine-diners and retailers seek to stock wagyu beef, also boosted by scheduled import tariff elimination via the recent Free Trade Agreement. Marbling in meat is highly preferred amongst Koreans, and Korean-style barbeques (a preparation in which thinly sliced meats are grilled and served with side dishes; similar to Japanese yakiniku) are both popular and ubiquitous.

Consumer Purchase Drivers

Rising global beef prices, particularly for domestically bred premiums in Korea (Hanwoo) and Japan (Kobe/wagyu) have led Asian consumers to seek more imported alternatives. In recent

years, this has resulted in a large drive towards importing wagyu beef produced outside Japan. Prices for imported wagyu can vary significantly depending on factors such as marbling quality, cut, and genetics. Top grade (A5) authentic Kobe beef can sell around US\$300/kg in retail, compared to Australian-bred wagyu, which can commonly range between US\$20 – 40/kg in retail stores in Korea.

In spite of the high fat content that lends wagyu its famed marbling, the intramuscular fat that is found in wagyu is high in a very liquid, monounsaturated fat called oleic acid. This has been reported to have positive health benefits on cholesterol metabolism – decreasing LDL (low-density lipoprotein) cholesterol known to be detrimental to health, and increasing HDL (high-density lipoprotein) cholesterol known to reduce cardiovascular disease risk. These added health benefits continue to boost the reputation of wagyu, particularly for Australia, which upholds its strong reputation as a beef exporting region that is free of Bovine Spongiform Encephalopathy (BSE; also known as Mad Cow Disease – for which Australia was one of the first countries to be rated ‘negligible risk’), or other diseases that may otherwise impact the livestock and meat industries.

Product Preferences

Wagyu beef is typically sold in five-star restaurants, and is a signature of fine-dining. Preparations can vary, depending on country, region and the cuisine of the restaurant, but rare-cooked steaks and grills are common, with Japan also serving it as sashimi, or hot-pot/broth-style traditional dishes. Serving sizes are relatively small, given the rich nature of the marbling that characterizes wagyu/Kobe beef. Imported Australian wagyu can also increasingly be found in retail, such as local butchers and supermarkets, in leading Asian markets such as Japan, China and Korea, where imported beef is on the rise.

Opportunities for South Australia

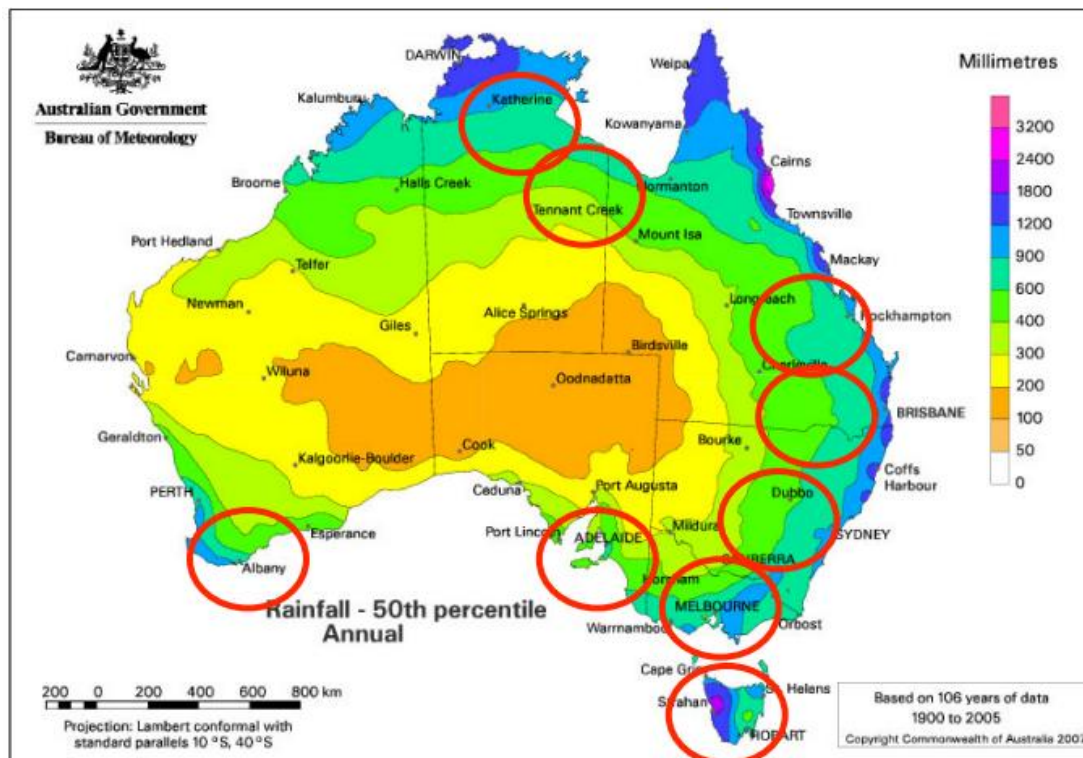
Given that Australia has the largest population of full blood genetic wagyu outside of Japan, in an optimal environment, free of the diseases that have otherwise restricted exports to other markets, the Australian wagyu industry has good prospects. Of the approximately two million full blood wagyus that exist globally, 96% are in Japan, and the second highest population is in Australia (Around 20% of the 83,000 wagyu in Australia are full blood). Opportunities lie in every node of the value chain, with a particular pull-through focus on further improving eating quality and increasing returns to the beef industry:

- To remain internationally competitive in export markets, Australia needs to continue to improve its wagyu eating quality, and boost returns to the beef industry. In order to do so, Australia needs to improve the efficiency and margins of its currently highly expensive beef production system. At current standards, it is 80% more expensive to

process beef in Australia than it is in competing export nations such as the USA and Brazil. Wagyu, being primarily grain-fed cattle (with a 300-600 day finishing diet on grain), is cheaper to produce in the USA, where grain feed costs are lower, along with lower wages, higher productivity, and more efficient upstream processing, distribution, transport and retail. Australia, in contrast, is a primarily grass-fed cattle producer, raising and finishing 70% of its cattle on pasture. The USA is able to offer cheaper wagyu to key Asian markets such as Korea, where it also has the advantage of an earlier FTA implementation. Whilst the quality of wagyu genetics in Australia, along with its exceptional record in progeny testing and traceability are to be lauded, production costs still leave room for competitive pricing strategies in export markets. An increasing number of Australian wagyu and meat producers are becoming more vertically integrated, to this purpose.

- Wagyu breeds are operational in temperate to tropical climates. Given Australia's diverse climatic range, there are several regions that are viable and currently active for wagyu production. In South Australia, the south-eastern regions around Adelaide are capable of producing wagyu, with some production already occurring.

Figure 38: Potential Wagyu Production Areas



- Given that the supply of wagyu is relatively tight, particularly from competing exporter nations such as the USA and Brazil, prices are expected to remain strong. Huge opportunities loom in Asia, as Australia continues to differentiate its cattle industry towards more premium products, rather than sheer volume. Wagyu is a vital sector in

this respect, with cross-bred wagyu alone fetching prices of around 40% higher than baseline Angus, and full blood wagyu at premiums of 100% above.

- As export markets, South Korea continues to show increasing interest in Australian wagyu, as Hanwoo prices continue to escalate. Japan also looks to Australian wagyu as a cheaper alternative to authentic domestic Kobe beef, with a weakening Japanese Yen and inflation, accompanied by stagnant household incomes. With FTAs encompassing beef import tariff reductions in Korea, Japan and China, Australia's future prospects in the wagyu export markets of Asia are positive.