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The Chinese seafood market: opportunities and challenges for Australian exporters

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Executive Summary

The rapid changes in China's economy and society since the reform period have generated strong opportunities for exporters of natural resources, and Australian seafood exporters have responded accordingly. Australian seafood products now have a significant presence in the Chinese seafood market, characterised in particular by high-value products such as rock lobster and abalone. With the Chinese seafood market expected to continue to grow, and the ongoing implementation of the China-Australia Free Trade Agreement (ChAFTA) the potential for Australian seafood exporters to continue to do very well is very high. However, several significant challenges face Australian seafood suppliers that mean that whether or not this potential is fully realised is an open question. This report examines the challenges and opportunities facing Australian exporters of seafood to China.

The first part of the report focuses on the Chinese seafood market. Chinese seafood consumption has rapidly increased in recent years, driven by urbanisation and higher incomes (Zhou et al., 2014). By 2030 it will account for approximately 38 percent of global food fish consumption (Kobayashi et al., 2015). While Chinese consumer preferences have traditionally been strongly associated with fresh and live seafood, there is increasing demand for diverse types of frozen seafood and imported seafood. Such demand is also strongly associated with a desire for high-quality seafood. While awareness and interest in environmental sustainability issues is growing, demand for sustainably produced seafood is strongly outweighed by concerns about health and food safety. To meet this growing demand for high-quality seafood, China continues to produce a significant amount of its own seafood, but imports are likely to continue to rise. Much imports continue to be traded through informal channels (mostly Hong Kong and Vietnam) and this grey trade continues to be a significant barrier to seafood traceability and regulation in China.

“Because of their reputation for high-quality, safe and well-managed product, Australian exporters are generally very well-positioned to respond to any emerging demand for environmentally-sustainable seafood in China.”

The second part of the report shifts the focus to Australia. Dominated by rock lobster and abalone, Australian exports have grown significantly in recent years and they now have an established presence and reputation in the Chinese market. The ongoing implementation of ChAFTA appears to be driving a rapid increase in direct trade to China, notably an increase from \$85 million in 2016 to \$358 million in 2017. However, in order for ChAFTA to fully deliver on its potential, a range of significant non-tariff barriers need to be addressed. While declining, the informal or grey trade poses a range of commercial and reputational risks for Australian exporters, and addressing the non-tariff barriers to ChAFTA should be a priority for the government. Because of their reputation for high-quality, safe and well-managed product, Australian exporters are generally very well-positioned to respond to any emerging demand for environmentally-sustainable seafood in China. While the future of Australian seafood exports to China overall looks positive, greater diversification to hedge against the risks associated with heavy reliance on the Chinese market, as well as developing new forms of value-added production are important areas for the Australian seafood export sector to consider.

The Chinese seafood market

The nutrition transition

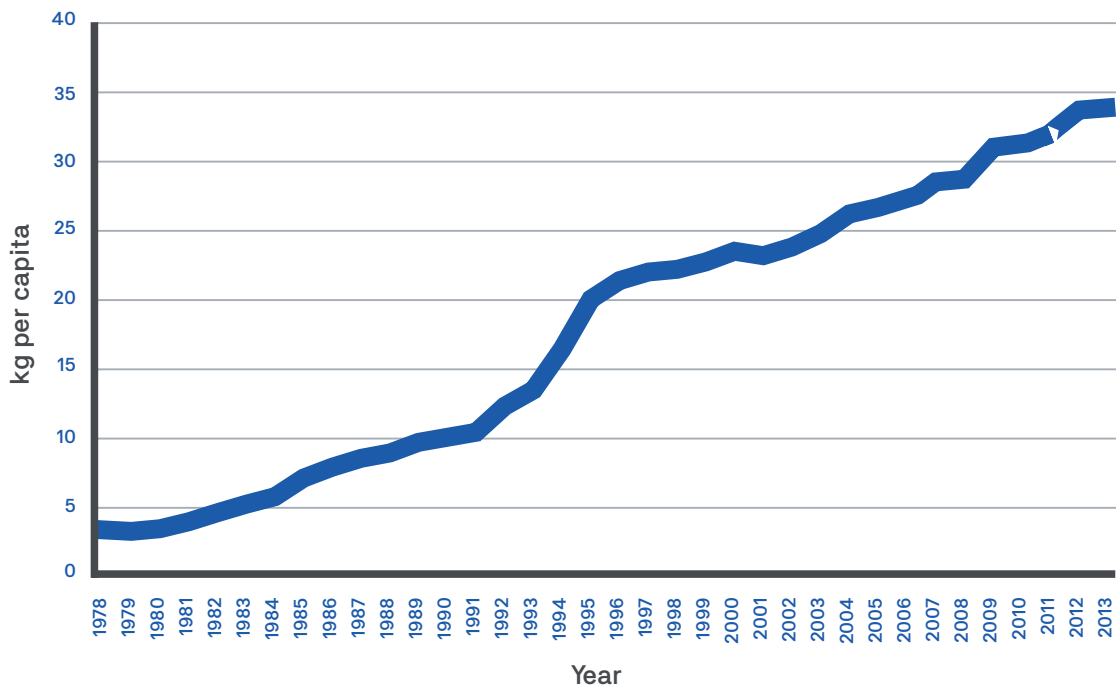
Since the reform period beginning in 1978, China's food market has been profoundly transformed (Zhou et al., 2014). China has undergone a 'nutrition transition', whereby consumers have shifted from a predominantly carbohydrate-based, vegetarian diet to one composed of greater levels of animal products. This transition incorporates wider changes in the food system more generally: from supply chains, to the extent of food processing, to the locations where consumers eat food (Popkin, 2014; Zhai et al., 2014; Hu et al., 2004; Reardon et al., 2012). The large-scale factors driving these shifts include urbanisation, increased incomes, lifestyle changes, preference and taste changes, and improved food availability (Zhou et al., 2014).

The rapid growth in the consumption of animal products has meant that Chinese seafood consumption has also risen dramatically: current consumption trends of just under 35kg per capita annual consumption are a seven-fold increase since 1978¹ (Figure 1). As comparison, Australian per capita consumption is 26kg, the United States' is 21.5kg, and Japan's is 48.6kg (FAOSTAT, 2018). China is now the largest consumer of seafood products in the world, and by one estimate, in 2030 China will account for up to 38 percent of the consumption of global food fish (Kobayashi et al., 2015).

“China is now the largest consumer of seafood products in the world, and by one estimate, in 2030 China will account for up to 38 percent of the consumption of global food fish”

FIGURE 1.
Apparent per capita seafood consumption in mainland China, 1978-2013 (latest data available)

Source: FAOSTAT, 2018.



¹There are multiples sources of data available to track food consumption levels. Food balance sheets of the Food and Agriculture Organization of the United Nations do not measure actual consumption, but the supply of food in the country that is potentially available for human consumption, which does not always correspond to actual consumption. In the seafood sector, for example, there can be discrepancies between measurements of live weight and edible weight (Chiu et al., 2013). Although they likely overestimate actual consumption rates (Kearney, 2010), they are often used as proxies for consumption. Government data on actual aquatic product consumption in China is much lower and does not take account of out of home consumption (Chiu et al., 2013; Zhou et al., 2014). Seafood is defined here and in this paper as all “fish and fishery” products (including freshwater fish, and invertebrates) available for consumption (FAOSTAT).

Changing modes of consumption

As is the case in other food sectors in China (Zhou et al., 2014) the Chinese seafood market is characterised by a high degree of diversity and variability. Distinct regional cuisines play stronger roles in particular parts of the country: seafood dishes from Shandong's *lucai* (鲁菜) for example, are popular throughout much of northern China (containing more temperate species) while Cantonese *yuecai* (粤菜) is popular in the south (containing more tropical seafood). Coastal areas consume much more marine seafood than inland areas, which consume more freshwater species. And wealthier consumers spend significantly more on seafood than poorer consumers do (Fabinyi et al., 2016; de Jong, 2017).

There are different consumer preferences for freshwater and marine seafood. While there are certainly specific types of freshwater seafood that are considered to be high-value specialities (e.g. Qiandao lake fish head) marine species are overall considered to be of higher quality. Freshwater species, by contrast, overall tend to be considered cheaper and of lower quality. Many marine species are steamed or lightly cooked to preserve the flavours, whereas freshwater species are often roasted, grilled or fried; they are very popular in the cuisines of inland provinces such as Hunan and Sichuan. Marine species tend to be more associated with being acceptable in frozen form, and with eating out of home (Fabinyi et al., 2016).

Despite this diversity, there are certain types of seafood that are very popular across the country. Locally-produced seafood remains the most commonly consumed. Among marine species, for example, domestically caught hairtail remain extremely common in supermarkets, and are widely consumed among the middle classes (Fabinyi et al., 2016). Among freshwater species, domestically cultured carp remain the most popularly consumed type of fish in the country overall (Chiu et al., 2013).

However, changes to the Chinese seafood market are certainly taking place. One example of such changes is in the increasingly diverse product forms that seafood products now take. Traditionally in much Chinese cuisine, there is a strong emphasis on freshness. As one prominent anthropologist of Chinese food culture, Eugene Anderson, has described, 'Fresh seafood should be *fresh*...Food is part of a system of belief in which quality, freshness, purity and high standards are matters of necessity, if one is to remain in any way truly human' (1988: 174 emphasis in original; p. 139). This emphasis on freshness can be seen in the development of markets for live seafood, such as lobsters, coral trout and abalone. Dried forms of seafood are also traditionally popular for certain products (e.g.

“ While the overall proportion of seafood sales sold online is still relatively small, this is expected to change as part of the rapid growth in fresh food e-commerce”

sea cucumbers, abalone, shark fin, fish maw). Yet increasingly, frozen seafood is becoming more popular in China and the growth rate of the frozen seafood sector reflects this (Fabinyi and Liu, 2016). The expansion of the frozen seafood industry is clearly related to broader trends in China that support such growth. For example, supermarkets have rapidly expanded in China, with the top five supermarket chains growing more than tenfold between 2001 and 2009 (Reardon

et al., 2012). Supermarkets – as opposed to wet seafood markets – are much more closely associated with the sale of frozen seafood. Cold chain logistics for frozen seafood transport are also rapidly changing in recent years, driven in part by an increasing need to improve food safety (Mao, 2015a). For example, cold chain infrastructure such as storage capacity and the number of refrigerated vehicles is growing by 15-30 percent per annum in China (de Jong, 2017). More generally, there is an increasing need for seafood products to cater for a busy middle class professional sector who typically do not have time to go to the seafood market and purchase live seafood, and who are looking for more convenience (Fan, 2016).

The need for convenience is also reflected in the rapid growth of online shopping and e-commerce. Overall online sales in China have expanded massively in recent years, and by 2015 accounted for 35 percent of the global online market (Deloitte, 2016). While the overall proportion of seafood sales sold online is still relatively small, this is expected to change as part of the rapid growth in fresh food e-commerce (Fan, 2016; de Jong, 2017). In the seafood sector, e-commerce from business to consumer involves major players such as Tmall.com (owned by Alibaba) and JD.com, while emerging companies in the business-to-business sector focusing on seafood include Gfresh and Ewfresh. Gfresh, in particular, has increased sales to US\$1 billion in just its first three years of operation (de Jong, 2017). For exporters, these business-to-business companies offer the chance to connect them to traders within China and assistance with customs and other regulatory procedures in China. Major Australian exporters of rock lobster and abalone already have a strong presence on Gfresh. Given the dynamism of e-commerce in China, Australian seafood exporters will need to rapidly become very familiar with and engage closely with this environment.

Health and food safety

Chinese consumers enjoy seafood for a range of reasons. As well as simply for the fact that it is perceived by consumers to ‘taste good’, seafood is widely perceived to be nutritious and good for health (Fabinyi et al., 2016). In particular, seafood is generally seen as more nutritious, lighter and lower in fat than red meats such as beef and pork. As well as these more conventionally ‘healthy’ attributes, which are also common in Australian understandings of seafood, certain types of seafood also incorporate ideas from Traditional Chinese medicine (TCM). TCM has expanded in popularity since the 1980s, becoming popularised in mass media and growing in response to the decline of state-funded healthcare (Gerth, 2010). It has contributed to the growth in demand for certain types of seafood perceived to hold medical value. Napoleon wrasse, for example, are believed to be good for the skin. Sea cucumbers – roughly translated as ‘sea ginseng’ (*haishen*, 海参) – have been described in TCM materials for centuries and are believed to be good for kidney function and to act against impotence. Sea cucumbers and shark fin soup are both viewed to be *bu* foods (补品) which are specific types of unusual foods seen as strengthening or tonic-like. Sea cucumbers are also increasingly used in a variety of different health products such as wine, soap and pills (Purcell et al., 2014; Fabinyi et al., 2017). Seafood caught from the wild are also popularly believed to hold more nutritional value than farmed fish, related by some scholars to ideas about obtaining natural power from the wild (Coggins, 2003; TRAFFIC East Asia, 2010).

The association of seafood with health is highlighted by the marketing of much seafood in China, which typically focuses on attributes such as ‘natural’ or ‘pollution-free’ and so on (Figure 2). These attributes have also become particularly important in China because of the value placed on food safety by consumers. In many polls, food safety is frequently viewed by consumers as one of the main issues facing consumers, and seafood food safety is no different (Fabinyi et al., 2016). There have been a series of well publicised food safety crimes in China in recent years; specific seafood safety issues have included pollution, and the use of illegal levels of antibiotics and carcinogenic chemicals such as malachite green in aquaculture (Broughton and Walker, 2010; Tang, 2016). There have also been related concerns over the use of gelatine to manufacture ‘fake’ shark fins (Fabinyi and Liu, 2014a). The intense concerns over food safety in China are reflected in the development of the revised Food Safety Law, which came into effect in 2015.

Concerns over food safety have also driven a growing interest in the organic food market in China. Organic certification is administered by the China Organic Food Certification Center under the Ministry of Agriculture, although, like many certification schemes in China, it suffers from a lack of consumer trust (Winglee, 2016). This market has grown rapidly in recent years, so that by 2014 China was the country with the fourth highest organic food market (EU3.7b) (Lerner and Willer, 2016). While capture fisheries cannot access this market, cultured fish can – some farmed sea cucumbers, for example, hold organic certification.



FIGURE 2.

Sea cucumbers sold in a Beijing supermarket marketed as ‘safe’ and free of ‘chemicals’ and ‘additives’

Source: author supplied image

Social context of seafood consumption

As with all forms of consumption, seafood consumption is not just an individual experience but a deeply social one (Croll, 2006). In particular, seafood is linked to the idea of eating away from home (Fabinyi et al., 2016). Eating seafood out of home can involve cheap seafood such as at the *dapaidang* (大排档) that serve copious amounts of freshwater prawns or families eating out at local restaurants, but a particularly important feature of the Chinese seafood market is the prominence of so-called 'luxury seafood' eaten at high-end restaurants. Most of the luxury seafood is consumed in banquets that are significant social occasions and these have become far more common since the 1980s.

The close associations between luxury seafood and banqueting is partly because of the increased importance of Cantonese cuisine. Cantonese cuisine is regarded historically as one of the 'eight great culinary traditions' of China (Swislocki, 2009) and is regarded of particularly high status. This means that Cantonese cuisine, with its emphasis on fresh seafood, is one of the dominant types of cuisine associated with banquets. As the middle classes and their wealth increased from the 1980s, Cantonese Chinese cuisine has also expanded significantly. Some of the most well-known luxury seafood products such as shark fin, for example, used to be limited to a few southern cities, but are now found in any large urban centre in China (Clarke et al., 2007).

The strong influence of Cantonese cuisine affects the types of seafood served and the ways they are prepared. Some of the important dishes that need to be served at these banquets typically include: lobster, geoduck, crabs, abalone, shark fin, sea cucumbers, and reef fish (Figure 3). Among reef fish, Napoleon wrasse command the highest price at more than US\$600/kg; other high-valued species include panther grouper, leopard coral grouper and other groupers.

While China imports seafood from all over the world, certain regions or countries tend to be associated with specific products. For example, in northern China the *Apostichopus* species of sea cucumber (mostly farmed from Liaoning or Shandong provinces) are preferred, but in the south a wider variety of tropical species of sea cucumbers are also commonly consumed (Fabinyi et al., 2017). Geoduck are largely imported from the western coasts of the USA and Canada, while Australia is well known for rock lobster, abalone and reef fish (Fabinyi and Liu, 2014a).

Apart from their taste, the main attraction of purchasing high-value seafood is in fact their price: ordering these types of seafood is a way of showing your guests that you value them and honour them. Expensive seafood dishes

are therefore often called ‘face dishes’ (*mian cai*, 面菜) as their purpose is to ‘give face’. Holding a big seafood banquet is a way of cementing social ties with important business or government partners, for example, and people who are in high-level positions in government or the private sector may attend several banquets a week as part of their work obligations. As part of the Xi administration’s anti-corruption drive, the government has been cracking down on government banquets involving luxury seafood and government officials attending banquets (see ‘Governing seafood trade and banquets’ on page 15). However, in professional contexts, networking, maintaining ‘*guanxi*’ (关系) and building social relationships with influential people remains absolutely crucial (Jacka et al., 2013).



FIGURE 3.
Examples of luxury seafoods served at banquets

Source: author supplied image

Sourcing seafood for consumption

Given the scale of Chinese seafood consumption, how it will source this seafood in the coming years is a question with major implications for exporters to China. At the broadest level, China is transitioning from an economy dominated by exports and investments, to one where consumption plays a greater role. While economic growth has slowed in recent years, the expectation among many economists is that growth will continue and that middleclass incomes will keep rising (e.g. Song et al., 2017). With an increase in wealth seen as the major driver of seafood consumption, it means that increases in seafood (and other animal product) consumption are also expected to continue to rise (Zhou et al., 2014; de Jong, 2017).

China currently pursues multiple strategies to source this seafood. Much seafood consumed within China is produced from domestic aquaculture. China produces the largest quantity of farmed fish in the world with 58.8 million tons in 2014: 60 percent of global volume and 45 percent of value (FAO, 2016; Wang et al., 2017). It is also a technological pioneer and leader in this field with high levels of innovation (Han et al., 2016; Wang et al., 2017). However, there are also constraints to further growth in aquaculture. Soil and water pollution, a lack of additional available land, and a continued reliance on imported fishmeal (Cao et al., 2016) all mean that domestic aquaculture alone is unlikely to expand at the rates required to meet the seafood demands of the emerging Chinese middle classes. Government policy on aquaculture increasingly reflects these challenges, with an emphasis now on promoting the quality of cultured fish over simple quantity (Fabinyi and Liu, 2014b). Furthermore, aquaculture cannot currently meet the demand for diverse types of seafood in China. For example, while marine fish culture is increasing, a much higher proportion of farmed fish are freshwater fish (FAO, 2016).

Domestic wild capture fisheries remain highly significant within China and it remains the country with the highest marine capture fisheries production in the world, with 14.8 million tons in 2014 (FAO, 2016). Yet these capture fisheries are also facing critical transitions. In response to significant problems of pollution, illegal fishing and stock sustainability, the government has been progressively introducing measures to limit fishing effort, such as seasonal closures, fishing licenses and a 'zero-growth' policy (Shen and Heino, 2014). Partly in response to the challenges faced in the domestic aquaculture and domestic capture fisheries sectors, China has been increasingly looking externally for its seafood supply (Mallory, 2013).

As part of this external focus, China's 'going out' or *zou chuqu* (走出去) policy has broadly encouraged companies to invest in resources such as food outside of China (Economy and Levi, 2013; Zhou, 2017). In the fisheries,

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aquaculture and seafood sectors, this has largely meant an increased role for the distant water fishery (Mallory, 2013) estimated at approximately 4.6 million tons a year between 2000 and 2011 (Pauly et al., 2014). Under the rubric of the Belt and Road Initiative, investment from Chinese aquaculture companies is also unfolding in foreign aquaculture operations (e.g. Mao, 2017).

It is currently unclear how much fish consumed in China comes from imports, partly because of statistical anomalies related to the re-processing trade in Northeast China, the

informal trade through Hong Kong and Vietnam, and the large amount of fishmeal imported for aquaculture. However, because of the increasing demand for diverse types of seafood, imports of seafood to China are still expected to continue to rise in coming years (Villasante et al., 2012; Zhou et al., 2014).

Governing seafood trade and banquets

An important feature of the Chinese seafood market is the so-called ‘grey trade’. This essentially involves the transport of seafood into mainland China through informal channels in order to avoid mainland Chinese tariffs. While edicts from the central government may formally prohibit this trade, provincial and local authorities appear to tolerate it – as one seafood trader has described, using a Chinese idiom: ‘The mountains are high, and the emperor is far away’ (*shan gao huangdi yuan* 山高皇帝远) (Fabinyi and Liu, 2016). Price inflation concerns may also play a role in the Chinese government choosing to tolerate this practice (Edwards et al., 2016: 56). Hong Kong, as a tax-free zone and an important seafood entrepôt or trading hub in its own right, has traditionally been a very important grey trading node. In recent years, Vietnam has become another central trading hub (Eriksson and Clarke, 2015). From these locations, seafood products typically pass through Shenzhen, Guangzhou or Guangxi province, and are then distributed throughout the country (Barclay et al., 2016a). Because of the clandestine nature of this sort of trade, establishing authoritative information about it is very difficult, and the particular dynamics and routes of grey trading shift rapidly in response to specific conditions in Hong Kong, Vietnam and their respective borders. Much of the social norms that effectively regulate this trade are formed through long-term social connections. The seafood industry in China is dominated by ethnic groups from Guangdong and Fujian, and trust plays a significant role in trading relationships (Fabinyi and Liu, 2016; Barclay et al., 2016.)

The prevalence of the grey trade for much seafood imported into China means that traceability – knowing the origin and supply chain of the product – is a significant challenge. By the time the seafood makes its way to a restaurant or home in mainland China, it has been through many different sorts of transactions, which make it very difficult to prove where the final product has come from. This challenge is reflected in low levels of regulations for seafood traceability in China, where there is no standardised system for seafood labelling and no official list of seafood names (Xiong et al., 2016a). Xiong et al. (2016b) for example, found that fish labelled as ‘cod’ in China (*xue* 鳕) had a mislabelling rate of over 60 percent. Traceability is important, because it is a basic prerequisite for implementing other types of governance for both food safety and environmental sustainability. It is also a prerequisite for taking advantage of place-of-origin branding. The prevalence of grey trading also contributes to the difficulty in understanding the amount of seafood imported into China.

However, there are indications that grey trading is becoming less tolerated. In recent years, for example, China has prosecuted cases of seafood smuggling with high-profile seafood businesses in Guangdong (Mao, 2014; 2015b). In recent years, China has prosecuted cases of seafood smuggling with high-profile seafood businesses in Guangdong (Mao 2014; 2015b), and in 2018 police arrested several prominent salmon industry figures who were accused of operating a smuggling ring worth approximately \$US100m (Kynge, 2018). The crackdown on grey trading likely forms part of the wider governance project of the Xi administration that is centred on stamping out corruption.

The anti-corruption campaign began shortly after Xi Jinping’s ascent to the leadership in late 2012, and has continued and even intensified since then. One of the specific targets of this campaign was government officials using public funds at banquets (Jefferies, 2016). Because much luxury seafood is consumed at banquets, this meant that the luxury seafood sector was strongly impacted. Some products, such as shark fin and higher-priced live reef fish such as Napoleon wrasse appear to have been affected more intensely, as they sit at the very top of the price list in seafood banquets (Fabinyi and Liu, 2016). Shark fin soup was also specifically banned at government banquets. Beijing, as the centre of political life in China, appears to have been the most severely affected city, and many dried seafood traders there have been struggling (Barclay et al., 2016a; Fabinyi and Liu, 2016).

“The potential for environmentally sustainable seafood to become more influential in China over time is certainly strong, and there are several indications of changes taking place”

Governing for environmental sustainability

Globally, the sustainable seafood movement has developed as a way to link market actors such as consumers and traders with environmental sustainability. It has expanded massively in recent years, and the largest seafood eco-label, the Marine Stewardship Council, now covers approximately 300 certified fisheries in 35 countries, representing approximately 12 percent of the global marine

harvest (MSC, 2017). However, popular concerns about the environmental sustainability of seafood are currently not widespread among Chinese consumers. A survey of 300 seafood consumers in Beijing and Shanghai, for example, found strong support for the statement, ‘I basically don’t ask if the product is in danger of extinction when buying or consuming seafood’ (mean of 3.7 on a five point scale) (Fabinyi et al., 2016). Environmental sustainability is typically conflated with legality: if something is legal, it is therefore seen as entirely sustainable. Furthermore, the responsibility for environmental governance in China is seen largely to lie with the government, not with market actors such as consumers and traders (Fabinyi et al., 2017).

However, demand for and awareness about sustainable seafood is highly geographically variable (MSC, 2016) and can change over time depending on where non-governmental campaigns, media and scientific coverage has focused on. Furthermore, the sustainable seafood movement focuses not so much on changing the perceptions of consumers themselves, but on working with major trading companies associated with seafood trade. The potential for environmentally sustainable seafood to become more influential in China over time is certainly strong, and there are several indications of changes taking place (Box 1).

Other environmental non-governmental organisations (NGOs) are actively working on other areas of seafood consumption, including: a campaign for a moratorium on Napoleon wrasse, the development of a sustainable seafood database tailored specifically for China, and the insertion of sustainable seafood forums into high-profile industry expos and events. In 2016, the head of the Chinese office of the Marine Stewardship Council, An Yan, was named the most influential figure in the Chinese seafood industry (Mao, 2016). Furthermore, demographic and educational trends are likely to further promote the awareness, understanding and interest in sustainable seafood – a survey of 300 middle class seafood consumers in Beijing and Shanghai, for example,

found that younger, better-educated seafood consumers were more likely to be aware of and supportive of environmentally sustainable seafood (Fabinyi et al., 2016).

The Convention on International Trade in Endangered Species of Flora and Fauna (CITES) is a governance tool that is becoming more widely applied to marine species. Napoleon wrasse, and more recently several species of sharks and rays, have been listed under CITES Appendix II. While implementation and enforcement of CITES regulations in mainland China is hampered by several factors (Barclay et al., 2016a; Wu and Sadovy, 2016) it is likely that more species will become subject to the reporting requirements of CITES Appendix II in coming years.

In short, while there is currently not strong market pressure for environmentally sustainable seafood in China, this is likely to change in the future.

BOX 1. Example of emerging pressure for environmentally sustainable seafood in China

In June 2017, JD.com, China's second largest e-commerce platform, began marketing Australian southern bluefin tuna. However, despite Australian regulations for the management of southern bluefin tuna, this species is listed as Critically Endangered, and JD.com had the day before signed a partnership with WWF China. Following an intense campaign led by a Chinese environmental NGO that targeted the credibility of JD.com's commitment to environmental sustainability, JD.com promptly withdrew Australian southern bluefin tuna from their site (Zhang, 2017).

For several years there has been a high-profile environmental campaign against the consumption of shark fin soup. Led by WildAid, campaigners have sought to change popular consumption of shark fin soup through prominent advertising on subways, at bus stops, airports and television (Figure 3). Since 2013, there have been reports that shark fin consumption is declining. While many factors have contributed to this decline – including the government's anti-corruption campaign, concerns over food safety and 'fake' shark fins – the environmental campaigns undoubtedly contributed to greater awareness among consumers, and lower consumption (Fabinyi and Liu, 2014; Eriksson and Clarke, 2015).



FIGURE 4.

Example of advertising against shark fin soup consumption, using high-profile ex-NBA star Yao Ming

Source: author supplied image

Australian seafood exports

Current patterns

Australian seafood exports overall have continued to grow in recent years, increasing from just over \$1 billion in 2013 to \$1.4 billion in 2017.² And products exported to China form the dominant component of these export values. In particular, rock lobster is widely regarded as an Australian success story. Originally focused on exporting lobster tails to North America, since the late 1980s Australian producers have shifted to the Chinese market and rapidly expanded the industry (Austin, 2014). Rock lobster is now by far Australia's largest seafood export by value, worth \$693 million in 2015–2016³ (Savage, 2016). Another product sold heavily in the Chinese market, abalone, is Australia's second-highest seafood product by value, with \$182 million exported in 2015–2016. Other species with a significant market in China include salmon, sea cucumbers, live coral trout, crabs, and prawns.

A key issue for producers of wild capture fisheries is that increases in production are heavily constrained because of regulations governing the environmental sustainability of these fisheries, in particular the total allowable commercial catch (TACC). TACCs are determined by the relevant management authority, which uses a combination of fishery dependent information (e.g. catch levels) fishery independent information (e.g. survey data) and consultation with stakeholders to make a decision. Most of the major seafood products exported to China are managed at the state level. Because the TACC is determined on the basis of sustainability, this means that production rarely dramatically increases from year to year. From 2005–6 until 2016–2017, for example, the coral trout fishery has caught between 725 tons and 1024 tons every year (Queensland Government, 2017). Similarly, since a quota system was introduced in 2010–11, the Western Australia Rock Lobster Fishery has caught around 5500 tons each year (de Lestang, 2016). And Tasmanian abalone has in fact seen steady declines in the TACC from 2010 (2660 tons) to 2018 (1334 tons) (Mundy and Jones, 2017). This means that unlike in many other industries such as mining, the benefits from increased trade with China are more likely to be seen in higher prices, as opposed to greater output.

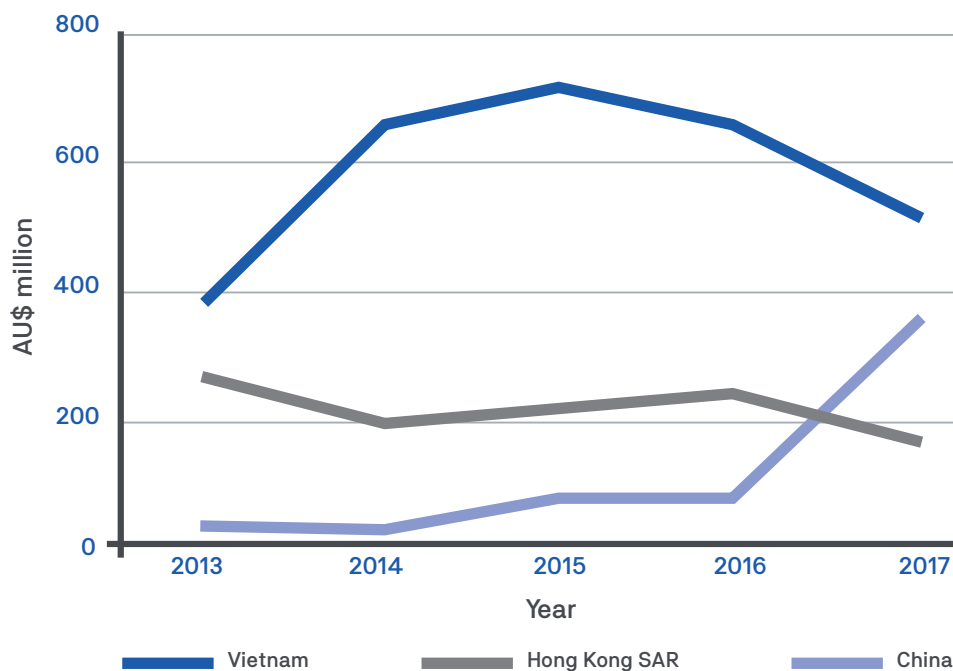
² Defined as 'Fish (excl. marine mammals) crustaceans, molluscs and aquatic invertebrates, and preparations thereof (excl. extracts and juices of fish, crustaceans, molluscs or other aquatic invertebrates, prepared or preserved of SITC 01710)'. Source: Australian Bureau of Statistics stat.data.abs.gov.au

³ Data from the Australian Bureau of Statistics is presented by calendar year, while data from Savage (2016) is presented by financial year. Source: FAOSTAT, 2018.

Determining the exact amount of seafood products traded to China by volume can be difficult because of the complexity of trade routes and intermediaries involved. In official statistics, Australian seafood exports to China are still significantly less in value when compared to Vietnam in 2017 – \$358 million to \$505 million respectively. However, because of the well-known status of Vietnam and Hong Kong as grey trade hubs (e.g. Eriksson and Clarke, 2015; Barclay et al., 2016) much of the seafood product listed as exported to Vietnam and Hong Kong is likely to end up in China (Harkell et al., 2017a; 2018a). Direct trade to China has been increasing since 2013 (see Figure 5). In particular, in 2017 direct trade from Australia to China has dramatically increased more than fourfold, from \$85m in 2016 to \$358 million. By contrast, exports to Vietnam and Hong Kong have both declined in the same period by \$155 million and \$61 million respectively. This means that it is very likely that exports that were going to China through Vietnam and Hong Kong in previous years are now being traded directly to China. As discussed below in the context of ChAFTA, this is a trend that is likely to continue.

FIGURE 5.
Australian seafood exports to China, Hong Kong and Vietnam,
2013-2017

Source: Australian Bureau of Statistics



Australian seafood enjoys an extremely strong reputation in China. In particular, Australian rock lobster and abalone are popularly regarded by traders and consumers as superior to similar seafood products coming from other countries (Fabinyi and Liu, 2014a; 2016). Such perceptions can be widely seen in local media and WeChat discussions that promote the quality of Australian seafood. In Ningbo and Qingdao in 2017, for example, local media reported with excitement about the first direct sales of Australian rock lobster into these cities (Dzwww.com, 2017; Zj News, 2017). Specific promotional events are created to highlight Australian seafood, for example: an Australian lobster tasting event in Chongqing to highlight the fifth batch of lobster imported directly from Australia; Brolos' Lobster feast in Shanghai; and the Australian Lobster Festival in Yongcheng, Henan. Often these events are generated through partnerships between Australian and Chinese industry groups. Australia's strong reputation for high quality and safe seafood has therefore been further improved by marketing and promotional work (see Box 2).

Yet, despite this strong reputation, significant challenges also exist for Australian exporters. In recent years, for example, the anti-corruption crackdown has impacted the demand for the most highly-priced seafood products. Australian rock lobster is significantly more highly priced than the so-called 'Boston lobster' from North America (*Homarus americanus*) which are smaller, have claws and less bright colours. Interest in North American lobsters as a more moderately priced alternative has been increasing in China, especially since the anti-corruption campaign has

BOX 2. Example of collaborative marketing work by Australian seafood exporters

Australian Wild Abalone (AWA) is a collaborative marketing effort designed to promote wild caught abalone from Australia. Supported with funding from industry and the government, using the AWA brand requires producers to comply with a quality assurance code of practice. There are currently 14 suppliers associated with AWA. AWA has engaged in a range of activities designed to increase awareness and interest in the brand in China. They have a Chinese website, have developed WeChat and Weibo sites and distributed educational tools and developed a partnership with the influential peak body, the China Cuisine Association. In 2015 a competition was held to design and cook the best Australian abalone dishes. The winners were declared AWA Chinese Chef Ambassadors, and in 2016 they along with other chefs and restaurant managers were hosted in Australia to visit the abalone suppliers (Abalone Council, 2016).

been implemented, and US and Canada have seen lobster exports to China increase dramatically in recent years (Fabinyi, 2016). Increased production from aquaculture is also competing with Australian wild capture fisheries, for example farmed abalone from China. However, despite these challenges, Australian seafood in China is clearly doing well, and this has been given a boost with the development of ChAFTA.



FIGURE 6.

Much Australian seafood exported to China is consumed in luxury seafood restaurants, such as this one in Beijing

Source: author supplied image

ChAFTA

ChAFTA entered into force on December 20 2015. The enactment of this agreement was viewed by many in the Australian seafood industry as a big win, many of whom had participated in the negotiations between Australia and China. ChAFTA is currently in the process of progressively eliminating the tariffs on Australian seafood to zero by January 1 2019 (Australian Government, 2018). The level of tariffs for Australian seafood before ChAFTA varied a lot depending on the product form and the specific species, but for some of the most important exports, ranged from 10 to 15 percent (Table 1).

“ChAFTA is currently in the process of progressively eliminating the tariffs on Australian seafood to zero by January 1 2019”

TABLE 1.
Tariff rates for selected seafood products under ChAFTA
Source – Australian Government, 2018

Product	Base rate (%)	Dec 20 2015	Jan 1 2016	Jan 1 2017	Jan 1 2018	Jan 1 2019
Rock lobster	15	12	9	6	3	0
Abalone	10-14	8-11.2	6-8.4	4-5.6	2-2.8	0
Sea cucumber	10-14	8-11.2	6-8.4	4-5.6	2-2.8	0
Atlantic salmon	10-14	8-11.2	6-8.4	4-5.6	2-2.8	0

Despite the opportunities presented by lower tariffs, a range of challenges remain to translate ChAFTA into tangible gains for Australian seafood exporters. For example, getting seafood exported directly to China requires listing on the China Approved Species List of Seafood. Currently, many species exported from Australia are not currently listed. Out of the approximately 126 species actually listed, around 51 are not caught in Australia, or are extinct (Seafood Trade Advisory Group, 2017). The process for obtaining approval for new products is very slow, and requires high-level government-to-government negotiation. This has effectively meant that despite the reduction in tariffs, many export products are still not legally allowed for direct sale into China. Another key issue is the use of sulphur dioxide in canned abalone. Chinese regulations currently prohibit the import of seafood with any levels of sulphur dioxide, whereas Australian regulations allow up to 1000 ppm (Dobson 2011). Additional barriers to trade faced by Australian exporters include restricted inspection times of China Inspection and Quarantine, and regulations that change rapidly (e.g. labelling regulations) often without notice.

Taken together, the prominence of these non-tariff barriers present significant challenges for traders wishing to sell directly to China. They therefore are a strong push towards the ongoing prevalence of grey trading, something ChAFTA was designed to overcome (Harkell, 2017a; 2017b). Given Chinese crackdowns on grey trading, the commercial and reputational risks are clear. In 2010, for example, a crackdown by the Chinese government on grey trading resulted in a lengthy embargo on Australian lobster exporters (Saulwick and Garnaut, 2010).

“Despite the opportunities presented by lower tariffs ... the process for obtaining approval for new products is very slow, and requires high-level government-to-government negotiation”

As well as presenting a significant risk for Australian exporters, the prevalence of grey trading in China means that it is very difficult to prove traceability of Australian product in China. This means that product from other countries can be marketed as Australian when it does not actually come from Australia. The Australian reputation for quality seafood can therefore easily be taken advantage of, without the benefits flowing to Australian producers. Sea cucumbers and live reef fish that come from Southeast Asia, for example, are commonly marketed as being from Australia (Fabinyi and Liu, 2014; Barclay et al., 2016) (Figure 6).



FIGURE 7.
‘Australian bald’ sea cucumber being marketed in Hong Kong.
Source: author supplied image

Industry stakeholders have been engaging with major Chinese industry organizations such as the China Cuisine Association and the China Aquatic Products Processing and Marketing Alliance in order to make progress on these issues (e.g. Seafood Trade Advisory Group, 2017). But there is a clear role for higher-level representation from the Australian government to resolve some of these ongoing concerns so that ChAFTA translates more directly into improved outcomes for Australian seafood exporters.

Environmental sustainability

Australian seafood exporters overall appear well placed to take advantage of any emerging demand for sustainably produced seafood in China. Broadly, Australia has a reputation for well-managed fisheries (Mora et al., 2009). West Australian rock lobster, for example, became the first fishery in the world to be certified by the Marine Stewardship Council in 2000. In relative terms, Australia also benefits from the fact that many of its competitors in tropical fisheries are widely viewed as environmentally unsustainable. 38 percent of sea cucumber fisheries are globally considered overfished, for example, including many tropical species from Pacific Island countries (Purcell et al., 2013). In much of Southeast Asia, live coral trout are caught with the destructive fishing method of cyanide, and are considered overfished (Sadovy de Mitcheson et al., 2013). In contrast, Australia is extremely lucky that it has the institutional and financial resources to fund relatively effective management regimes. Coral trout, for example, are part of the Queensland Coral Reef Fin Fish Fishery, which was recently assessed as 'sustainable' (Queensland Government, 2016). While these management regimes are by no means perfect, in relative terms it is clear that Australian fisheries are reasonably well managed (Mora et al., 2009).

However, exporters will need to be able to proactively respond to environmentally sustainability challenges as they emerge. The case of Australian southern bluefin tuna being removed from the JD.com platform earlier in 2017 illustrates that Australian producers are not immune from such challenges. The global failure of fishery managers to successfully regulate many sea cucumber and coral trout fisheries also means that in coming years it is possible that a range of key species exported by Australian producers will be listed on CITES Appendix II (e.g. sandfish and black teatfish) (Kinch et al., 2008). Listing will not mean a total ban on trade, but will require additional documentation and approved fishery management plans.

In addition to successfully managing wild capture fisheries, aquaculture will increasingly form part of the seafood production landscape into the future. Globally, aquaculture is rapidly expanding, and in Australia the real value of aquaculture production has increased from about \$800 million in 2004-05

“In Australia, much media attention has focused on Chinese investment in agricultural production through the purchase of farmland. Seafood production, however, is also increasingly becoming an area of focus for Chinese investment.”

to about \$1.2 billion in 2014-15 (Savage, 2016). Most of this growth has been due to increased finfish production, in particular salmon from Tasmania. Australia is also a leader in research and development for aquaculture, and hopes to produce commercial quantities of cultured rock lobster by 2021 (Pigram, 2017). Australia’s reputation for quality, healthy and safe seafood production means that aquaculture products will continue to appeal to Chinese consumers. However, aquaculture in Australia also faces challenges. In particular, high labour costs and a high regulatory burden (e.g. for food safety and environmental impacts)

mean that the costs of production are typically much higher than in – for example – Southeast Asia. This means that aquaculture in Australia for the Chinese market will likely focus on high quality, high value species.

More broadly, in the longer-term climate change poses a significant existential threat to several important fisheries that export to China. For example, climate change is expected to cause sustained declines in the numbers of coral trout (*Plectropomus* spp.) (Pratchett et al., 2017) while other seafood products from southern Australia such as lobsters, abalone, prawns and tuna are also expected to be impacted in a variety of ways (Pecl et al., 2011a, 2011b).

Chinese investments

Chinese seafood companies are increasingly directly involving themselves in supply chains. In much of Southeast Asia, for example, financing for live coral trout extends from traders in China to exporters, through to local traders, and all the way to fishers in remote communities (Fabinyi, 2016). Similarly, in the Pacific, financing from China provides the capital for some traders and collectors in the sea cucumber trade (Barclay et al., 2016). While this sort of financing has generated livelihood opportunities for households that in many cases lack the capital to obtain these sorts of seafood products, fishers who are financed receive lower prices than those who are organised independently (Fabinyi, 2016).

In Australia, much media attention has focused on Chinese investment in agricultural production through the purchase of farmland. Seafood production, however, is also increasingly becoming an area of focus for Chinese investment. While investments from Chinese capital are unlikely to significantly increase output from capture fisheries because of TACC

“Rightly or wrongly, the seafood industry will face public questions about these sorts of investments from Chinese actors, and will need to work actively to manage their so-called ‘social license to operate’.”

limits, there are other ways in which Chinese investment has been taking place. Unlike capture fisheries, aquaculture has the potential to significantly increase output, and some industry figures claim there is a need for increased capital to develop the sector (Malpass, 2014). Australian aquaculture is one of the stated areas of future investment for the New Hope Group, China’s biggest private agribusiness (Courtney, 2017). Project Sea Dragon – slated to become Australia’s largest aquaculture farm, and one of the world’s

largest prawn farms – is also attracting interest from Chinese investors (NT News, 2017). If running at full capacity by 2025, the farm is claimed to be able to produce up to 150,000 tons of prawns a year worth \$1.7 billion, much of which is expected to be exported to China (De la Llave, 2017). Chinese officials have also expressed interest in the development of onshore processing facilities (e.g. Ellard, 2013).

Chinese investment in Australian seafood production has also taken place through buying of fisheries quota units (which, taken together, make up the TACC). According to one Tasmanian abalone industry figure in parliament, ‘We regularly get emails and phone calls from Chinese looking to buy in permanent quota’, and Chinese do own a small percentage of abalone quota (Commonwealth of Australia, 2015). In 2016, Chinese conglomerate Legend Holdings bought 90 percent of the seafood processing, wholesale and export business of a large Australian seafood company in Western Australia, which included some rock lobster quota. Industry stakeholders have diverse views about this purchase: one has expressed concern about foreign ownership of food production (Thompson, 2016) while others have suggested it will help with marketing activities through more direct linkages (Diss, 2016). Like the debate on farmland and many other issues involving Chinese foreign investment, it is likely that Chinese investment in fisheries and aquaculture production will be controversial. Rightly or wrongly, the seafood industry will face public questions about these sorts of investments from Chinese actors, and will need to work actively to manage their so-called ‘social license to operate’. More generally, the seafood trade to China may also suffer from negative public perceptions about the effects of high prices in China for the Australian seafood market. The dominance of the Chinese market for products such as abalone and rock lobster has meant that local consumption is strongly affected (e.g., Ruddick, 2015).

“How the broader Australia–China relationship evolves in the context of geopolitics could end up having a direct bearing on Australian seafood exports.”

Diversification

While seafood exports to China has largely been a positive story for Australian producers, there is a range of risks associated with heavy dependence on one market. Economic shocks, such as the SARS outbreak of 2003, or the anti-corruption crackdown beginning in 2012, can and have had impacts on seafood exporters to China (e.g. Akamine, 2005). In a

study commissioned by the Western Rock Lobster Council, for example, reliance on China as a single market was identified as the greatest risk for the industry (AgKnowledge, 2016).

Political risks are also present: in 2012, for example, China placed sanctions on Philippine bananas during the South China Sea dispute (see also Box 3). How the broader Australia–China relationship evolves in the context of geopolitics could end up having a direct bearing on Australian seafood exports. Given the recent tensions in the relationship, this is a distinct possibility: in February 2018, for example, China issued a safety warning to Chinese students in Australia (Smyth and Hancock, 2018). Diversification of seafood exports to other countries (e.g., those with high numbers of ethnic Chinese diaspora) has the potential to reduce some of these risks associated with heavy reliance on the Chinese market, and is being actively explored by some industries (e.g. AgKnowledge, 2016).

BOX 3. Example of political tensions resulting in seafood sanctions

For most of the period 1997–2010, Norway accounted for the majority of Chinese salmon imports (Chen and Garcia, 2016). In 2010 the Nobel Peace Prize was awarded to Chinese literary critic and activist Liu Xiaobo. In response, the Chinese government implemented a subtle form of sanctioning targeting Norwegian salmon imports, including stricter testing and inspection procedures, longer custom-clearance times, and stricter licensing approval measures. Norwegian exporters were able to continue to trade to China through rapidly increasing their indirect trade via Vietnam (Chen and Garcia, 2016). However, direct access to Chinese markets was sanctioned for many years – it was not until December 2016 that diplomatic relations were normalised between Norway and China, and not until March 2018 that Norway retook its position as the largest fresh salmon supplier to China (Harkell, 2018).

“Taking advantage of the tourism boom in some locations of coastal Australia would require developing infrastructure to build stronger links between the tourism and seafood industries.”

Beyond China and other countries, an emerging area that some Australian seafood producers are hoping to tap into is the large and growing market of Chinese visiting and living in Australia. For example, the Lunar New Year – a period of high seafood consumption among the Chinese in Australia – is seen by Australian producers as one of the periods of peak demand. The increasing Chinese population in locations such as Sydney in particular has seen increased local demand

for certain products such as live prawns, mud crabs, barramundi and silver perch (Barclay et al., 2016b: 128-129; 2016c: 129-130).

Chinese tourism to Australia has expanded rapidly in recent years – from around 540,000 in 2011 to more than 1.3 million in 2017 (Tourism Australia, 2018) expected to increase to 3.3 million a year by 2026 (Sexton-McGrath, 2017). Some of this tourism is devoted to maritime and food tourism. Some aquaculture operators are promoting offerings of local food production experiences, with one land-based aquaculture farm already having Chinese tour groups as its second-largest market, and some tourism promotion agencies aware of the potential to attract Chinese tourists to local food experiences (Barclay et al., 2016c: 85). The Sydney Fish Market is one of Sydney’s premier tourist destinations and is particularly popular among Chinese tourists, who made up approximately 40 percent of all international visitors to the market in 2015 (Destination NSW, 2016). Other companies are exploring ways to diversify their product, for example through abalone beer (Kansom, 2018). There is also the opportunity to promote direct seafood sales to tourists. Rock lobster fishers in southern Australia have noted strong interest from tourists in buying directly from them, and are keen to explore options to do this more easily and effectively (FRDC, 2017).

Taking advantage of the tourism boom in some locations of coastal Australia would require developing infrastructure to build stronger links between the tourism and seafood industries. The Apollo Bay Seafood Festival, for example, has been running since 2012, and is one example of these sorts of linkages. The sorts of shifts being explored by Australian seafood producers in tourism and in new product forms represent both ‘value-added’ forms of production, and a hedge against the risk of relying on the Chinese market alone.

Future prospects

Australian seafood exports to China have responded strongly to the opportunities presented by the Chinese seafood market in recent decades. Australian products have a robust reputation for quality, safe and healthy seafood, with rock lobster and abalone in particular transforming into major industries. While aquaculture will likely become more prominent, it is highly unlikely that Australia will ever become the '(sea)food bowl' of China because of production constraints. However, it will likely continue to do very well with sales of high-value, quality seafood at the upper end of the market. The recent enactment of ChAFTA appears to have facilitated such trade, likely driving a major increase in direct trade to China since 2017. Direct trade is a good thing because it is likely to result in higher prices, reduced reputational and commercial risk for exporters, and an increased capacity to promote their products. However, the Chinese seafood market is a highly dynamic environment, and the Australian export sector will need to proactively respond to a range of challenges in order to reap greater benefits from this market.

Resolving the non-tariff barriers to direct trade with China, especially the China Approved Species List of Seafood, would dramatically increase the ability of Australian exporters to trade directly with China. Because bilateral communication on the issue is done on a government-to-government basis (the Department of Agriculture and Chinese Customs) there appears to be a role for high-level ministerial support in the Australian government to progress this issue. By resolving this and other non-tariff barriers, the increased level of direct trade that would result would also allow Australian seafood exporters to capitalise on their excellent reputation more effectively. They would have a greater degree of control over the supply chain, and be able to better promote their products and maintain their market presence in a context of rapidly growing competition from other countries. Examples such as the AWA initiative are an example of how Australian exporters can market their products in a collaborative, innovative way.

Ensuring the environmental sustainability of their seafood will need to be an ongoing priority for Australian exporters and managers. This is firstly because of the simple fact that their businesses ultimately rely on environmental sustainability, and also because of the likely emergence of demand for this sort of product in China. Because of the impacts of climate change on capture fisheries, there is also a role for industry to encourage the Australian government to develop a credible policy on climate change.

Australian seafood exporters to China currently depend very heavily on one market, largely because many of the products that they export tend to be far more popular among ethnic Chinese than other groups. While diversification to other countries is an obvious goal given the substantial risks involved in exporting to just one market, it will always be a difficult task because of the difficulty in obtaining returns in other countries that equal the strength of Chinese demand. However, other forms of diversification, such as through tourism, offer different sorts of opportunities. In addition to bolstering the capacity of Australian exporters to increase the quantity and quality of direct trade to China and other countries, therefore, developing stronger linkages between the tourism and seafood sectors in Australia is a chance to develop an entirely new sort of market.

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About UTS ACRI

For the first time in its history, Australia's most important economic relationship is with a nation very different in governance, politics and values. In the past, Australia's dominating economic relationships have been with the British Empire, the United States and Japan.

Today our most important economic partner is China.

China contributes now more to world economic growth than any other country. China absorbs 34 percent of Australian goods exports. By 2030, 70 percent of the Chinese population is likely to enjoy middle class status: that's 850 million more middle class Chinese than today.

In 2014 the University of Technology Sydney established the Australia-China Relations Institute (ACRI) as a think tank to illuminate the Australia-China relationship.

Chinese studies centres exist in other universities. ACRI, however, is the first think tank devoted to the study of the relationship of these two countries.

The Prime Minister who opened diplomatic relations with China, Gough Whitlam, wrote in 1973: 'We seek a relationship with China based on friendship, cooperation and mutual trust, comparable with that which we have, or seek, with other major powers.' This spirit was captured by the 2014 commitments by both countries to a Comprehensive Strategic Partnership and the 2015 signing of a Free Trade Agreement.

About the author



Dr. Michael Fabinyi is a Senior Lecturer at the University of Technology Sydney (UTS), and holds a PhD in Anthropology and Environment from the Australian National University (2009). Before moving to UTS in 2016 he was based for seven years at the Australian Research Council Centre of Excellence for Coral Reef Studies at James Cook University. His research expertise includes the social aspects of marine resource use and trade, the role of China in global fisheries, and coastal livelihoods in Southeast Asia. He has

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The report draws largely on my existing published research and knowledge from studying Chinese seafood consumption and trade since 2010. The scope is therefore limited to and restricted to the particular features of Chinese seafood consumption and trade that the author is most familiar with. Full details of the research methods are described in the references, but most of this research was long-term qualitative research based on extensive interviews with seafood traders (Chinese and foreign), chefs, restaurant managers and consumers in restaurants, markets, and seafood expos. The research was largely conducted in Beijing but also included fieldwork trips to other major centres of seafood consumption and trade, including Dalian, Guangzhou, Hong Kong, Qingdao and Shanghai. This report has aimed to build on this research by updating it with a review of media reports, policy documents, statistics, academic literature and discussions with Australian seafood industry stakeholders from 2017.

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