



INFOCUS

NOVEMBER
2018

**THE TRACK
AHEAD**

FOREWORD

The recent history of Australian agriculture can be seen in a series of chapters. From the introduction of grain crops to the development of merinos and other sheep breeds. From the transition from horses to the Sunshine Harvester and other machinery to the development of irrigation and advanced water infrastructure.

The sector has also continued to develop through a series of major regulatory and structural changes. At a regulatory level, the creation and ultimate dissolution of single-desk marketing or buying bodies has arguably had a greater impact on the sector than any other. These ranged from the reserve price scheme for wool, to the single desks for wheat, barley and sugar, plus the state-based dairy desks.

The implications of deregulation and the opening up of marketing to the wider sector are still being felt through the wider agri sector.

At the farmgate level, fewer but larger farms undeniably bring enhanced levels of efficiency and profitability, due not just to scale but to the passion of innovative and successful farmers. There will always be a place for the smaller family farm that targets this scale and that appreciates the need to be profitable and sustainable, or who have other interests.

Concurrently, the impacts of new technology and new capital will open up farming to a whole suite of new operators. While the visions of many new agtech developments are grander than the reality at this point in time, the developments will gradually provide less-skilled farmers with the capacity to run an operation.

At a high level, Australia continues to adjust the balance of different agri sectors, driven by varying factors including demand, investment and climate. Perhaps the most notable has been the ongoing decline in the national sheep flock, despite record prices for wool and sheep, while wheat acreage has continued to trend upwards in almost exactly the opposite direction. Strong new investment in the beef sector, combined with recent high Chinese demand, has seen beef properties become the most commonly sought of the major sectors.

Globally, the rising demand for increased volumes of quality food may sound like an agri cliché, but it remains as relevant as ever. Growth in demand by Chinese consumers continues unabated in every product from, wine to cherries to lamb. While Australia rightly focuses on China and Asia for our agri exports, it is important that we continue to look globally. Regions such as North America, Europe and the Middle East are still important markets for many of our goods.

Looking ahead, it is never the wrong time to pause for a moment, and ask the fundamental questions on the direction of the industry, to help take the best steps forward, in planning for the future.

- How do Australia's major agri stakeholders best work collaboratively, in a free market and unsubsidised environment? (This includes producers, processors, industry bodies, external stakeholders, regulators, and importantly, banks.)
- What is the optimal policy for maintaining a competitive, efficient and innovative industry, but ensuring that major disruptions, such as drought or trade bans, do not set the sector back for many years?
- With detailed analysis of Australia's agri export competitors, including their forecast volume growth and breadth and quality of their output, how should Australia be positioning itself for 2030? For example, in which categories will Australia be a bulk soft-commodity supplier versus a niche provider

In a continuously evolving agri sector, perhaps no two factors will impact Australian agriculture more than technology and capital. Conversely, while every agri entity will have its own strategy, how do agribusinesses, regulators, external providers and, importantly, banks, best work together to ensure that the potential gains are maximised by as many good operators as possible?


In this publication, ANZ has sought to examine a number of Australia's agri sectors in depth, providing a level of detail to those keen to learn more. Importantly, we have also looked toward 2030, highlighting the opportunities and challenges of each sector, and asking the questions which need to be discussed.

We are honoured and excited to work with so many great people and businesses in the dynamic agricultural sector, and as a banker to Australian agriculture for almost 200 years, to be immersed in discussions which will take the industry forward. As always, we welcome your thoughts and ideas on this publication, and look forward to our continuing work with you.



Mark Bennett

Head of Agribusiness and Emerging Corporate Business and Private Banking

 @bennett2_mark

AUSTRALIAN AGRICULTURE

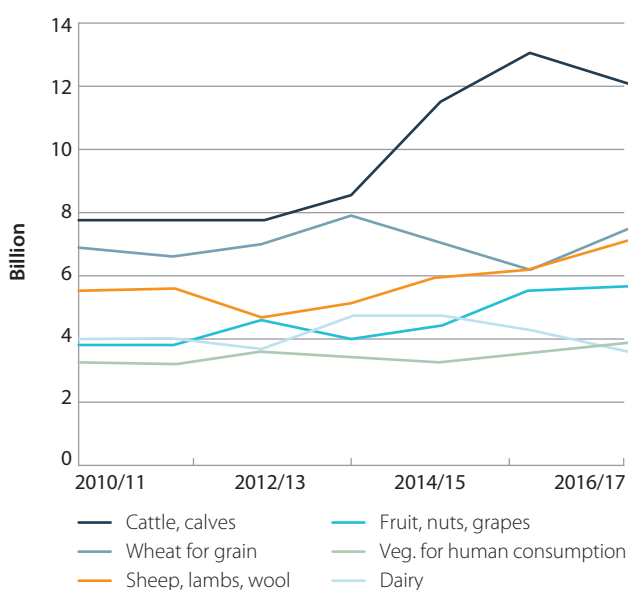
The Australian farming landscape is a varied and rapidly evolving industry that is attracting significant attention from domestic and international investors, as the need to feed and clothe the world's surging population continues to grow. The combined fruit of all farmers' labour in Australia, according to 2017 figures, is a \$60.8 billion (b) agricultural production industry that has grown by over \$15b, or 35 per cent, since 2010.¹

Australian agriculture can be categorised into many subgroups, however, the gross value of agricultural production is consistently dominated by five major industries, being cattle, horticulture, wheat, sheep and wool, and dairy. The combined contribution of these industries to the total value of Australian agricultural production has averaged 68 per cent since 2010, and ANZ analysis of long-term trends in farming businesses suggest that these industries, in particular beef and wheat farming, will continue to dominate in terms of production value, percentage of total farms and total area farmed.²

Trends in Australian farming are towards consolidation, with a reallocation of resources from smaller less efficient farms to larger scale operations. Over the past 20 years, as farm consolidation has occurred, a correlated increase in productivity has been demonstrated. Whilst scale is often attributed as the key driver of increases in farm productivity, ANZ analysis demonstrates that since 1995–96, 62 per cent of the increase in agricultural output can be attributed to farm consolidation leading to greater access to technology, with technology arguably the key driver of the productivity gain as opposed to the scale.³

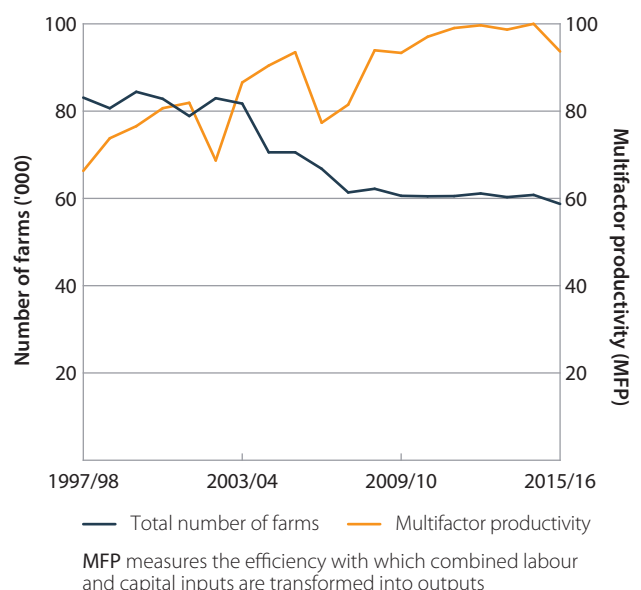
With these trends in mind, many facets of industry have hypothesised as to the future value of the Australian agricultural industry. In March of 2018, the National Farmers Federation (NFF) published a national goal for Australian agriculture to become a \$100b industry by 2030.⁴ This bold forecast would require the industry to grow by some \$40b, or over 65 per cent, over the next 12 years.

GROSS VALUE OF AUSTRALIAN AGRICULTURAL COMMODITIES



Source: ABS, ANZ

FARM CONSOLIDATION AND PRODUCTIVITY



Source: ABS, ANZ

1 ABS Value of Agricultural Commodities Produced 2010–2017

2 ANZ InFocus *In The Mix* – August 2018

3 ANZ InFocus *Advance Australian Agriculture* – May 2017

4 *Talking 2030: Growing agriculture into a \$100 billion industry*, National Farmers Federation, KPMG, March 2018

ANZ MODELLING – INCREASING CAPITAL AND PRODUCTIVITY IN AUSTRALIAN FARMING BY 2030

	Base Case	Moderate Case	Aggressive Case
Technology based capital stock growth	0.5% p.a.	1.0% p.a.	1.5% p.a.
Global demand for food	0.9%	1.4%	1.9%
Productivity growth	1.0%	2.0%	3.0%
Australian Agriculture Sector by 2030			
Gross Value-added	\$73.9B	\$85.1B	\$97.6B
Cumulative Value-added growth	\$177.0B	\$293.4B	\$417.5B
Share of global exports	1.5%	1.8%	2.1%

SIZE OF VALUE-ADDED BY INDUSTRY BY 2030

	Base Case	Moderate Case	Aggressive Case
Dairy	\$4.51B	\$5.2B	\$6.0B
Grains	\$14.6B	\$17.0B	\$19.6B
Beef	\$16.1B	\$18.6B	\$21.5B

Source: ANZ InFocus *Advance Australian Agriculture* – May 2017

AS THE MAJOR CONTRIBUTORS TO GROSS AGRICULTURAL PRODUCTION VALUE, THE WAY IN WHICH AUSTRALIA'S FIVE MAJOR INDUSTRIES EVOLVE, GROW, AND COMPETE INTERNATIONALLY OVER THE NEXT 12 YEARS TO 2030 WILL BE PIVOTAL IN ANY RACE TO THE \$100B GOAL

In 2017, ANZ modelling of three technology based capital growth scenarios in Australian agriculture was combined with productivity growth and global food demand projections. The model analysed the impact of technology on both productivity in the Australian farming sector, and Australia's share of global agri exports to 2030. The outcome of the model, as per the table above, was that an 'aggressive' growth model would be required to reach a total industry value of some \$97b by 2030.³ With such potential in sight, there are many factors at play that will determine the likelihood of the industry reaching these milestones, including, but not limited to, labour, infrastructure, access to capital, potential productivity growth and, importantly, international trade, market access, and global competition for agricultural exports.

As the major contributors to gross agricultural production value, the way in which Australia's five major industries evolve, grow, and compete internationally over the next 12 years to 2030 will be pivotal in any race to the \$100b goal.

After closely examining the Australian horticulture and wine industries in 2018 through the ANZ InFocus research reports *Future of Fresh* and *Ripe for the Picking*, ANZ Agribusiness now sets out to evaluate Australia's wheat, beef, sheep and wool, dairy, wine and horticulture industries. Specifically, this paper will discuss the trends for trade of these agricultural products to key importing nations, and the opportunities and challenges that lie ahead for Australian agricultural exports as demand for protein and fibre grows.

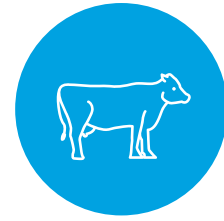
The paper will also identify the other countries or regions to watch when considering Australia's potential share of each global trade, and discuss what strategies may be required by our major commodity industries as a whole, to ensure continued export success. There is also a need to highlight to all levels of industry the importance of their understanding and commitment to Australia's international competitiveness, as the implications for producers through to processors and exporters are equally as significant.



WHEAT



CANOLA



BEEF

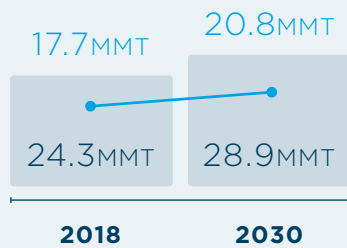
GLOBAL OUTLOOK (CONSUMPTION)

2018 758MMT
2030 853MMT +12%

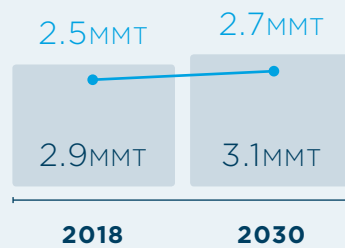
2018 72MMT
2030 87MMT +19%

2018 71MMT
2030 82MMT +13%

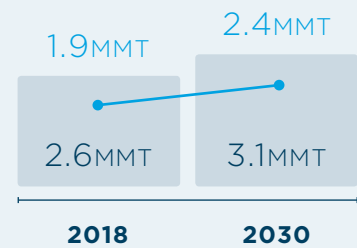
AUSTRALIA OUTLOOK (PRODUCTION AND EXPORT)



72% EXPORT AS % OF PRODUCTION (2018-30)



86% EXPORT AS % OF PRODUCTION (2018-30)



75% EXPORT AS % OF PRODUCTION (2018-30)

GLOBAL SITUATION OVERVIEW AND KEY COMPETITION

Australia should be able to defend its market share, however rising Black Sea region exports to Asia may impact Australian wheat pricing.

- Consumption in **India, Pakistan** and **Egypt** to remain strong and together account for ~26 per cent of growth over forecast period.
- Imports into **Indonesia, Philippines** and **Vietnam** to grow by 25 per cent, 25 per cent and 32 per cent respectively.
- **Black Sea region** exports to grow by 19 per cent over 2018. Overall global export share will increase to 35 per cent in 2030.

Rising exports from Ukraine (largely to EU) may provide tough competition to Australian exports.

- Consumption growth in **China** and **India** to continue and together account for ~40 per cent of growth over forecast period.
- **China** will remain largest importer and is estimated will account for ~43 per cent of global imports in 2030.
- Exports from **Ukraine** to double by 2030 and are forecast to increase in share to 25 per cent of global exports (from 10 per cent in 2018).

Consumption to remain strong in Australia's key export markets and increased market access may counteract competition in the short term.

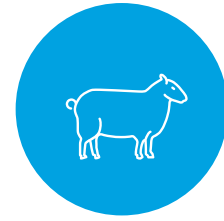
- Beef production is forecast to rise in **China** (+25 per cent), **Argentina** (+23 per cent) and **Brazil** (+17 per cent). Strong growth is estimated in exports from **Brazil** and **Argentina** and together they may increase their share of global exports from 20 per cent to 29 per cent (in 2030). **India's** export volumes to remain steady through forecast period with no major growth.
- Strong consumption growth seen in **China, Pakistan** and **Vietnam** and both **China** and **Vietnam** to top global imports with 8 per cent and 10 per cent shares respectively.



DAIRY



COTTON



SHEEPMEAT

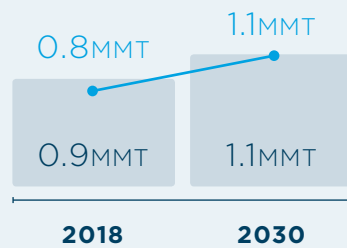
2018 45MMT
2030 54MMT +20%

2018 26MMT
2030 30MMT +13%

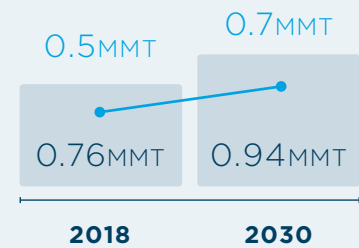
2018 15MMT
2030 18MMT +22%



49% EXPORT AS % OF PRODUCTION (2018-30)



99% EXPORT AS % OF PRODUCTION (2018-30)



72% EXPORT AS % OF PRODUCTION (2018-30)

Growth constraints limit Australia's export potential, while increasing production in the EU region enables rising exports from that region, even to the Australian market.

- **EU, India** and the **US** are expected to register robust dairy production growth and together account for 61 per cent of global growth over the 2018–30 period. **Australia's** production is forecast to remain near 2018 levels on average over 2018–30.
- **EU, NZ** and the **US** will drive global exports with ~24 per cent, 26 per cent and 12 per cent shares respectively and account for ~81 per cent of volume growth over 2018–30. **China** will remain largest dairy product importer through to 2030.

High exportable surplus of quality product provides strong support to assist an increase in Australia's export share.

- Production to remain strong across **India, Brazil** and **Australia** and exportable surplus in Australian market will help increase its share of global exports.
- **Vietnam** to remain largest importer with ~23 per cent of global imports in 2030 from ~19 per cent in 2018.
- **China** consumption growth to fall at 1.5 per cent pa (2018–30) and reduce share of imports to 13 per cent in 2030.

Australia's sheep meat exports are forecast to increase with strong growth in global consumption.

- **China** will remain largest producer and consumer, but imports are likely to remain at current levels.
- **Saudi Arabia** (+0.6 per cent pa), **European Union** (+1.0 per cent) and **Malaysia** (+2.2 per cent) will remain major importers through forecast period.
- **Australia's** share of global exports to increase from 39 per cent to 48 per cent (2018 to 2030). **New Zealand's** share will remain near current levels of 33–34 per cent.

WHEAT



OVERVIEW

- Record wheat harvests across the world have kept downward pressure on Australian wheat prices outside of local drought years.
- Despite increasing export tonnage to major markets like Indonesia and Vietnam, Australia's share of value of these markets is under increasing competitive pressure.
- Ukraine (and other Black Sea region producers) are serious competitors on world wheat markets, and while economic and structural issues are present, their scope for yield and cost of production improvements will assist to place their produce competitively in the international market.
- Investment in the Australian wheat industry's premium brand is important. Australia's capacity to target end users specific requirements and supply a safe and quality product appear to be paramount to industry success.

The history of wheat in Australia dates back to the First Fleet. The arriving colonists planted a number of types of grains in what is now the Botanic Gardens in Sydney, in a bid to see what would grow best in this new country. While the early crops were patchy, continuing efforts ultimately led to successful production, with rapid spread of cultivation across the colonies.

Today, Australia's wheat sector forms a fundamental component of the national agri complex. As a sector, it accounts for ~12.4 percent of the total value of Australia's agricultural exports, as well as providing a cornerstone as a feed supply for Australian livestock.⁵

The success of Australia's wheat industry has largely come from ongoing innovation, at every point of the industry. Ongoing research in wheat breeding has provided for continuing yield growth in a challenging climate. Developments in grain storage and handling have allowed the sector to maintain a reputation for efficiency and quality among global clients.

THE AUSTRALIAN WHEAT INDUSTRY

Australia's wheat industry remains largely dependent on exports, with an average of 75 per cent of the crop being sold offshore. Australia has a heavy reliance on export markets for wheat offtake, yet it is a relatively small international producer, accounting for around 3.5 per cent of world wheat, and 11 per cent of global exports.⁵

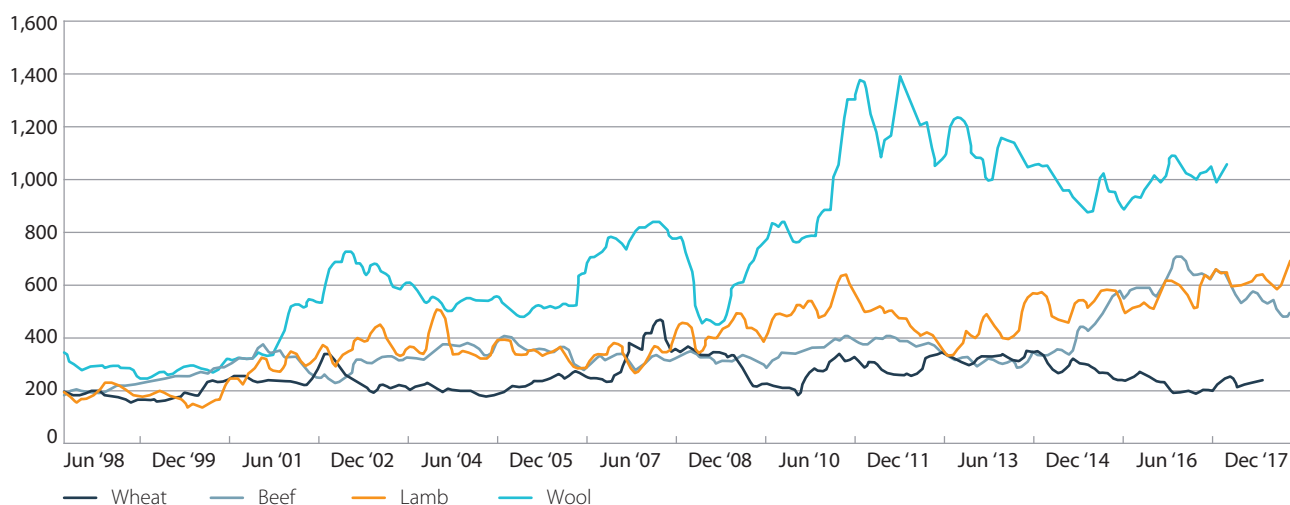
While Australia produced an average of 25 million (m) tonnes of wheat per annum from 2012/2013 to 2017/2018, the fact that individual totals varied from 22.9m tonnes to 31.8m tonnes provides an indicator of the volatility of the industry.

AUSTRALIA'S WHEAT INDUSTRY REMAINS LARGELY DEPENDENT ON EXPORTS, WITH AN AVERAGE OF 75 PER CENT OF THE CROP BEING SOLD OFFSHORE

In terms of revenue, wheat farming has averaged \$7b per annum of gross value since 2010, making up around 12 per cent of gross agricultural production value in Australia. This makes wheat the country's second-largest agricultural industry by gross revenue, behind beef cattle farming, according to 2017 Australian Bureau of Statistics (ABS) data.

Since the early 1990s, the area of Australian agricultural land dedicated to wheat farming (and other crops) has increased dramatically, from a little over 9m hectares in 1990/91 with average yields of 1.6 tonnes per hectare, to 12.8m hectares in 2016/17 and average yields of 2.7 tonnes per hectare.

MAJOR COMMODITY PRICES 1998–2018



Source: Wheat – US no. 1 hard red winter AUD per Metric Ton; Beef – EYCI Ac/kg cwt; Lamb – ESTLI Ac/kg cwt; Wool - 19 micron spot price USD/kg

At the same time, the average area cropped per farming operation has also climbed markedly. The growth in wheat acreage has mirrored a decline in acreage for sheep farms. A rapid uptake of technology, such as auto-steer making has made cropping an increasingly efficient enterprise, particularly where labour resources may be limited.⁶

Since the 1990s however, ANZ analysis of long-term commodity prices has shown that Australian wheat prices have experienced the least growth of all major commodity prices, especially compared to beef, lamb, and wool. Over this period, as world wheat production has gradually increased, prices received by Australian farmers have remained within a 60-point standard deviation, which is a relatively narrow band. In contrast, over the same period prices for beef, lamb and wool, while far more volatile, all trended upwards far more strongly.

Indeed, in the 20 years since 1998, wheat prices have only risen sharply (by more than 25 per cent on the long-term average) on four occasions – twice due to local drought years, and twice due to dips in world wheat production. Following each price rise, however, has come the subsequent fall back to long-term average levels of the last 20 years, of around \$260 per tonne.

What is positive from this analysis – and something that is not unknown to wheat farmers across Australia – is that wheat farming at this long-term average price can still be a highly profitable enterprise. According to ANZ analysis of ABARES farm survey data comparing wheat farming to beef, sheep and mixed farms, over the past 10 years, wheat (including other crop) farms achieved the highest rate of return of all farms.⁶ This was despite having the highest level of volatility in rate of return, largely due to the variable nature of cropping yields.

AUSTRALIAN WHEAT EXPORTS

With around 75 per cent of Australian wheat being exported each year, prices received by Australia's wheat farmers are largely dependent on global factors. As such, maintaining Australia's share of key wheat markets, particularly in the face of rapidly improving competition, remains fundamental.

Australia's five major wheat export markets over the five years from 2013 to 2017 of Indonesia, Vietnam, the Philippines, China and Japan, accounted for over half of both total wheat export tonnage and total wheat export value in 2017. India has been an additional export market, and indeed became Australia's fourth largest export market in 2017, however inconsistencies and uncertainty surrounding tariffs on future wheat imports make it a difficult market to predict.

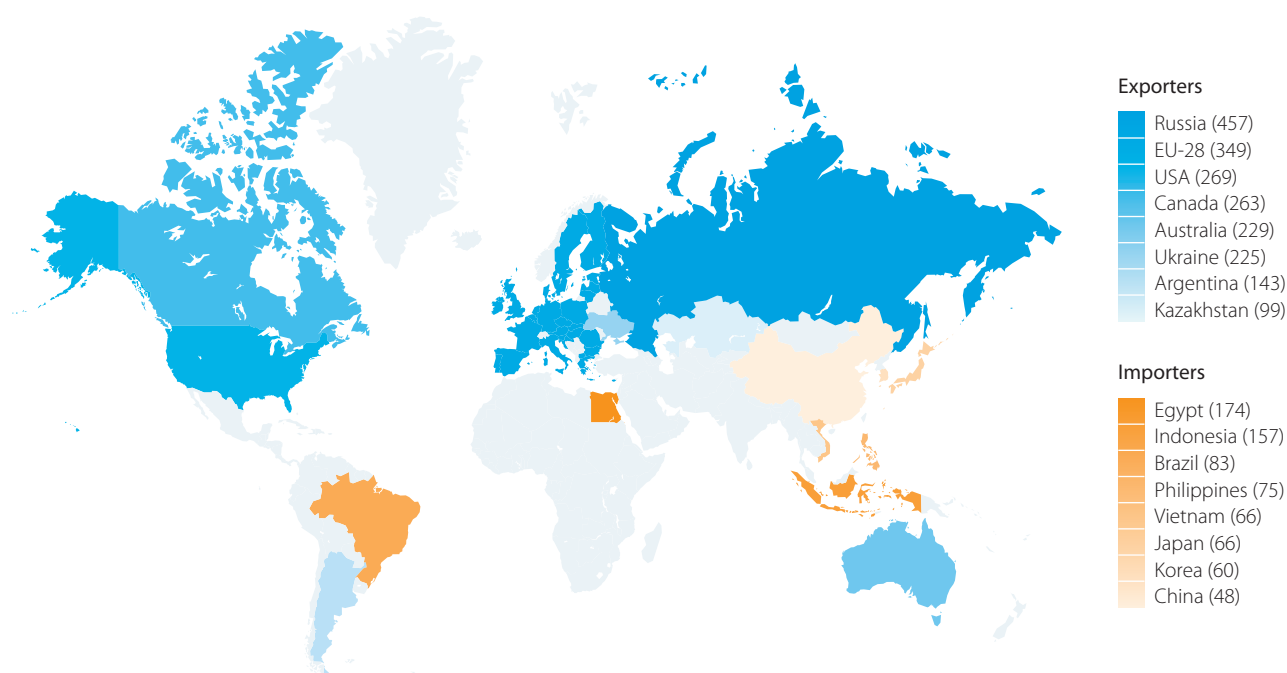
Each of these countries, when analysing world wheat consumption and trade forecasts, are regularly identified as key players in the future of world wheat trade, driven by both forecast population growth, economic growth, and subsequent changing dietary habits. The FAO-OECD* and USDA** both forecast that Australia's key markets of Indonesia, China, Japan, Vietnam and the Philippines will hold their current share of world imports out to 2027, that is, combined, approximately 16 per cent of all world wheat imports. Both FAO-OECD and USDA also forecast significant growth in demand for wheat in Egypt, the Middle East, northern Africa and sub-Saharan Africa. These have traditionally not been high volume markets for Australian wheat due to both distance and quality constraints, with these regions typically requiring large quantities of lower grade, lower priced wheat than Australia can provide.

⁶ ANZ InFocus *In The Mix* – August 2018

* Food and Agriculture Organization of the United Nations and Organization for Economic Co-operation and Development

** United States Department of Agriculture

WHEAT NET EXPORTERS AND IMPORTERS (TOTAL MMT 2019–2030)



Source: OECD-FAO, ANZ

What this modelling suggests, in short, is that Australian wheat already has established market access to some of the world's most important markets, and made those markets accessible from Australian ports at a reasonable cost. ITC (International Trade Centre – joint venture between the World Trade Organization and the United Nations) modelling agrees with this assumption, and adds other mostly ASEAN* countries into the mix, ranking Australia's biggest potential wheat upside opportunities (in order of biggest potential export value gain) as Indonesia, Japan, Thailand, Philippines, and South Korea.

A consideration with any modelling outcomes is that Australian wheat is likely to come under more intense competitive pressure from other producing countries who are also striving to increase the market access, throughput and value of their surplus wheat to these same importing countries.

Market share is a key measure of an exporting country's penetration into an international market. An increase in market share over time is one measure of success, however, growth in the gross value of product exported to a market is an equally important indicator. ANZ analysis of Australia's five top wheat export markets demonstrates that whilst growth in export quantities has been positive to all five of Australia's major wheat markets in the years 2013 to 2017 (ranging from 1 per cent growth for exports to Japan to 50 per cent for the Philippines), wheat export value has gone backwards in Indonesia, Vietnam, and Japan. For Indonesia, Australia's number one wheat export market, Australia exported 5 per cent more grain over 2013–2017, however, experienced a 6 per cent reduction in export value over this time.

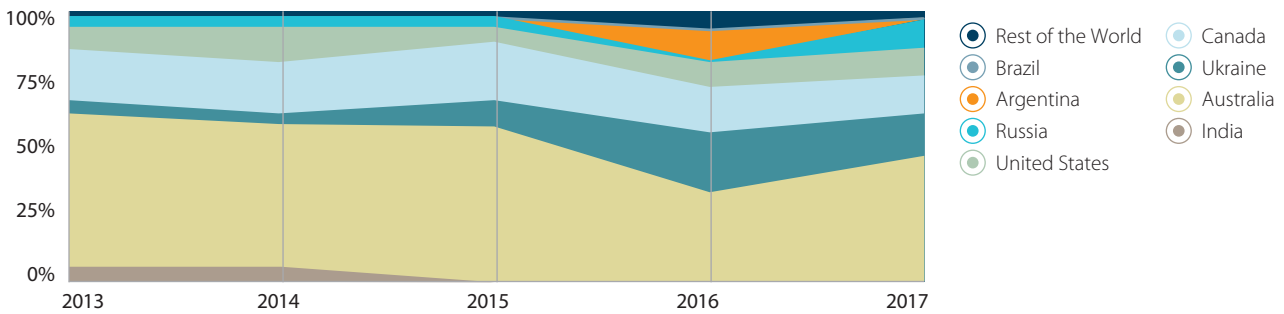
Australia's share of the Indonesian wheat import market has come under increasing pressure in recent years, in particular from Ukraine, who have increased export quantities to Indonesia by 71 per cent for the five years from 2013–2017, and increased export value by 84 per cent for the same period.⁷ Australia's total market share has suffered as a result, going from a majority trading partner holding 57 per cent of the Indonesian wheat import market (value) in 2013, down to 37 per cent in 2017. Interestingly, Australian wheat was significantly cheaper in Indonesia in 2017, at an average price of \$USD271/tonne, versus Ukrainian wheat with an average price of USD\$482/tonne.⁷ A large volume of grain available from a bumper 2016/2017 Australian wheat harvest was at play, however this price differential does demonstrate that Indonesian buyers are willing to purchase competitors' wheat at a significant premium to secure supply volume for the country's requirements.

Vietnam is another key market in which Australian wheat has lost ground (in value terms) over recent years. An 8 per cent increase in grain export volumes from Australia to Vietnam between 2012 and 2016 has gone hand in hand with a 3 per cent reduction in export value. Australia's share of the Vietnamese wheat market peaked at 88 per cent of import value in 2011, however rapidly declined to 38 per cent in 2016, giving up market share to relative new entrants, Argentina, Bulgaria, Romania, and Brazil. US wheat has also lost market share in Vietnam over this time. Australian wheat was among the most expensive wheat to enter Vietnam in 2017, averaging USD\$216/tonne against an all-country average price of USD\$195/tonne.⁷

⁷ UN Comtrade and TradeMap

* Association of South East Asian Nations

MARKET SHARE OF INDONESIA WHEAT IMPORTS - VOLUME



Source: UN Comtrade, ANZ

Growth markets for Australia, such as the Philippines, imported nearly 2m tonnes of grain from Australia in 2017, from just over 200,000 tonnes five years prior in 2013. While the US remains the dominant wheat trading partner for the Philippines, Australia has rapidly increased its share of value of the market, however Ukraine is also present as a growing exporter to the country, with small amounts of grain also beginning to enter from Russia and, to a lesser extent, Argentina. In the Philippines, there may be an opportunity for significant expansion of Australian wheat exports, however, Australian wheat is largely seen as 'feed' wheat only, and a significant investment into market perception and education is required in order to change this widespread misconception.

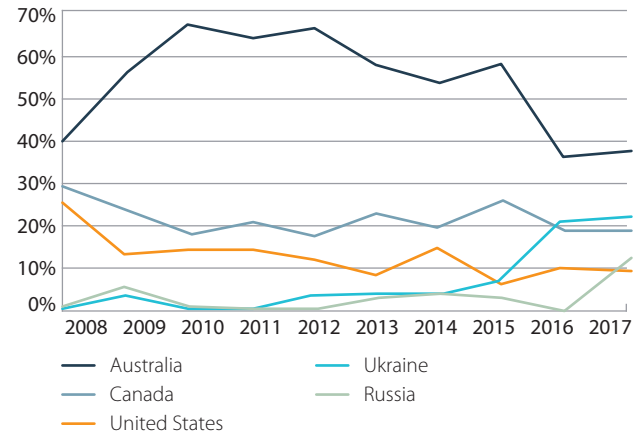
As export market competition increases, it begs the question as to what is going to keep Australian wheat front of mind for these key export markets. In addition, how does the Australian wheat production system compare when looking at its ability to be price and volume competitive with the likes of Ukraine, Russia, and Argentina in the offtake markets that play such an important role in the average Australian wheat farmer's profitability?

EXPORT COMPETITORS

The Australian grain industry is becoming increasingly aware of the threat that other wheat-exporting nations pose to Australian exports going forward. For wheat into Australia's key markets, Ukraine is most commonly and most rapidly appearing and increasing market share. Canada, Argentina and, to a lesser extent, Russia are, however, also important players.

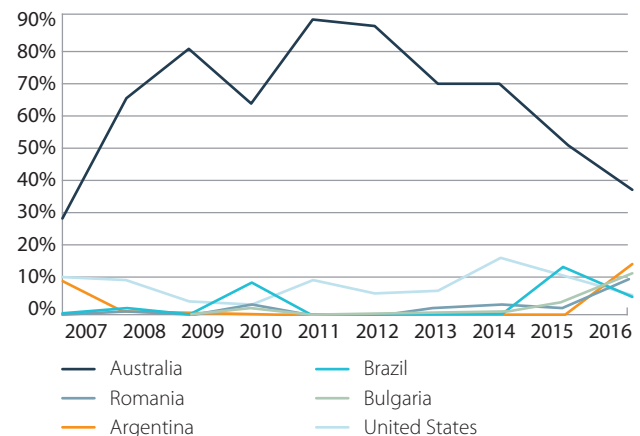
A simple strength, weakness, opportunity and threat (SWOT) analysis of Ukraine and Australia may assist to understand the potential threat of this fellow-exporting nation, particularly for growers and producer level industry players who may not be frequently exposed to the conversations surrounding export competition. Placing the Australian industry in comparison to our competitors as a means of evaluating how real any threat may be for Australian wheat producers' bottom lines in this heavily export reliant industry is also vital to understanding where the future strategy may be to protect Australian wheat export value.

MARKET SHARE OF INDONESIA WHEAT IMPORTS - VALUE



Source: UN Comtrade, ANZ

MARKET SHARE OF VIETNAM WHEAT IMPORTS - VALUE



Source: UN Comtrade, ANZ

SWOT ANALYSIS

Ukraine	Australia
Strength	
<p>High Yield and Low Cost of Production</p> <p>Average yield 3.35t/ha with significant upside. Soils are deep, rich and fertile, with favourable climate for wheat production.</p>	<p>Relationships, Trust and Integrity</p> <p>Existing market access and long-term trading relationships with key importers. Preferred supplier in many cases where quantity is available.</p>
<p>Exchange Rate</p> <p>Predictions are that the Ukrainian Hryvnia (UAH) will remain devalued for the medium term.</p>	<p>Seasonality</p> <p>Grain-producing season differs from Black Sea region – meaning a period of overlap in grain supply with heightened competition is somewhat avoided.</p>
<p>Low Supply Chain Costs</p> <p>Low supply chain costs mean Ukrainian grain can be competitive even in distant Asian Markets.</p>	<p>Quality</p> <p>High protein and high gluten, quality Australian wheat is favoured by many end users.</p>
<p>Farmland values</p> <p>Farmland and lease rates are cheap compared to the rest of Europe, encouraging investment in the sector.</p>	<p>Time</p> <p>As the wheat production systems in Ukraine, Argentina and Russia are still developing, Australia has time to adapt and grow to better compete.</p>
<p>Scale</p> <p>Up to 20 per cent of crop production in Ukraine is produced by large scale, sometimes vertically integrated 'Agri Holdings' – that is, highly efficient corporate farming enterprises over 10,000ha (noting some are over 100,000ha).</p>	<p>Location</p> <p>Australia's close proximity to Asian markets supports significant advantages in freight costs (when freight cost is isolated from total landed cost).</p>
Weakness	
<p>Quality Specifications</p> <p>Processes to grade and customise wheat supply for specific customer needs are poor and there is currently little will to improve in this area. Ukrainian wheat is also generally high in moisture content and low in protein.</p>	<p>Competitor Intel</p> <p>Australia lacks an industry representative in Black Sea region – not building market intelligence first hand.</p>
<p>Low Labour Productivity</p> <p>A general lack of qualified farm labour exists.</p>	<p>High Cost of Production</p> <p>Comparatively low yield, higher per-hectare input costs, and higher supply chain costs.</p>
<p>Land Ownership</p> <p>Medium and large-scale farming businesses are not permitted to own the land they operate. They must lease, with lease terms available of up to 50 years.</p>	<p>Co-ordinated Approach</p> <p>Highly fragmented industry, inefficient co-ordination and poor transfer of information from end users to plant breeders and grain marketers.</p>
<p>Trust and Relationships</p> <p>Major Asian buyers will not contract directly and would rather purchase through traders.</p>	

SWOT ANALYSIS (CONT.)

Ukraine	Australia
Opportunity	
<p>Supply Chain Cost Management</p> <p>Significant upside for cost improvements via supply chain efficiencies and supply chain investment. Foreign investment into grain transport, logistics, handling and terminals is having flow-on impacts to export competitiveness and market access.</p>	<p>R & D Capability</p> <p>Ability to continue developing higher-yielding varieties with specific quality traits to target specific end users.</p>
<p>Farming practice improvement</p> <p>Many growers operating old-fashioned machinery and farming practices.</p>	<p>Market Development</p> <p>In the Philippines, Australia is seen as supplier of 'feed' wheat. There is opportunity to re-educate the market and differentiate higher quality wheat grades.</p>
Threat	
<p>Corruption</p> <p>Theft of farming inputs and grain in transit is not uncommon.</p>	<p>Volatile Production</p> <p>During local drought years, Australia is forced to retract on export volumes to fill domestic supply. Markets reliant on our wheat are forced to look elsewhere.</p>
<p>Political and Economic Instability</p> <p>Investment into wheat farming, the supply chain or ports could be subdued with further devaluation of the currency or government default.</p>	<p>Blending</p> <p>Asian millers are experimenting with blending Australian wheat and Black Sea wheat in flour mills – the share of Black Sea wheat in the blends could increase and see Australian become a low volume, high cost supplier of high quality grain.</p>

Source: AEGIC, ANZ

HOW SHOULD THE AUSTRALIAN INDUSTRY REACT TO INCREASING COMPETITION?

What can and should be done about the looming and real threat of competitors exports is, of course, the next logical step in the discussion about the future potential of the Australian wheat industry. The opportunities outlined in the SWOT analysis demonstrate that there is still room to improve the Australian industry, and analysis continually points toward market differentiation as an important factor in maintaining market share and protecting the export value of Australian wheat. Differentiation through both product quality and targeting specific end purpose markets, matching supplier to customer, are where gains appear able to be made. Communication with these markets, and having a continual presence that listens to end-users' requirements and relays that back to the Australian research and development bodies and throughout the supply chain to wheat growers, is also pivotal.

Consistency of supply, along with consistency in available quality, is something which Australia is unlikely to be able to achieve with the climate in which wheat farming operates. This makes it all the more important that the industry is well connected with its end users, and maintains its preferred and trusted supplier image and reputation.

The international models of wheat consumption growth and trade opportunities suggest that Australia's key markets will continue to be those at our doorstep, through the ASEAN and East Asia regions. To contribute its current 12.5 per cent share of the \$100b goal for gross agricultural production, the Australian wheat industry needs to reach a \$12b gross revenue target by 2030. With both this target and a healthy and profitable industry in mind, investment to better equip Australia's growers, supply chain, industry bodies and, indeed, end users to promote and differentiate Australian wheat in a competitive global marketplace would appear to be money well spent.

DAIRY



OVERVIEW

- Australia's history as a low-cost dairy producer is challenged by rising costs of production, with pressure on profit margins increasing further as high global production caps domestic prices.
- Volumes of Australia's major export category, cheese, to key markets of China and Malaysia have increased, however they have done so on a declining share of the total value of the market. This demonstrates that overall demand growth can counteract market share degradation, particularly where 'premiumisation' is differentiating Australian products from the competitor offering.
- As Australia becomes a smaller player in larger dairy markets, a risk emerges. Does the 'premium' product have less longevity or resilience than the bulk commodity trade relationship? In time, will international consumers trust and value other exporters' products in the same way that they do Australian dairy, degrading the premium status of the Australian goods?

AUSTRALIAN DAIRY INDUSTRY

The Australian dairy industry generated around \$3.7b in farmgate production revenue in 2017, representing approximately 6 per cent of total Australian agricultural production revenue.⁸ Australia's 1.51m dairy cows produced 9,015m litres of milk in 2016/17, a figure which declined by 6.9 per cent from the prior year due to production declines following the milk price step downs late in the 2015/16 season. Overall production has, however, been relatively stable over the past 10 years, ranging between a high of 9,806m litres to a low of 9,015m litres.

The Australian dairy industry has achieved large gains in efficiency over recent years, with milk production per cow per annum increasing from 5182 litres in 2006/07 to 5819 litres in 2016/17, representing an increase of 12 per cent over the 10-year period. Consolidation has been a major contributor to gains in productivity through both cow genetics and investment in farm innovation, with a current average herd size of 262 cows across 5789 dairy farms, compared to an average of under 100 cows per farm across 21,994 farms in the late 1980s.⁹

Farmgate milk prices have played a major role in industry consolidation, with large fluctuations in milk price experienced since deregulation in 2000/01 difficult for smaller operators to withstand, when combined with increasing farm expenses per kilogram of milk solids, and decreasing overall return on assets.¹⁰

Australia has traditionally operated as a low-cost producer of dairy products when compared to other producing nations, however a combination of factors, including a drier climate, increasing land and water prices and higher supplementary feed use, are challenging the industry's ability to continue on this basis.

THE AUSTRALIAN DAIRY INDUSTRY HAS ACHIEVED LARGE GAINS IN EFFICIENCY OVER RECENT YEARS

The prices received by Australian dairy producers are largely at the mercy of international dairy markets. The impact of global dairy prices on Australian milk prices are twofold. While only around one third of Australian total dairy production is directly exported, an additional one third of Australian milk is manufactured and consumed domestically, where Australian-made products must be price competitive against foreign imports of products such as cheese, butter, powdered milk and infant formulas. When combining these two major offtake sectors for Australian milk production, the total reliance on world milk markets is estimated by Dairy Australia as up to 75 per cent, a significant figure and one on par with the export reliance of Australian's beef, wheat and wool industries.

8 ABS, *Value of Agricultural Commodities Produced, Australia, 2016/17*

9 Dairy Australia, *Australian Dairy Industry In Focus 2017*

10 Dairy Farm Monitor Project

AUSTRALIAN EXPORTS AND INTERNATIONAL TRADE

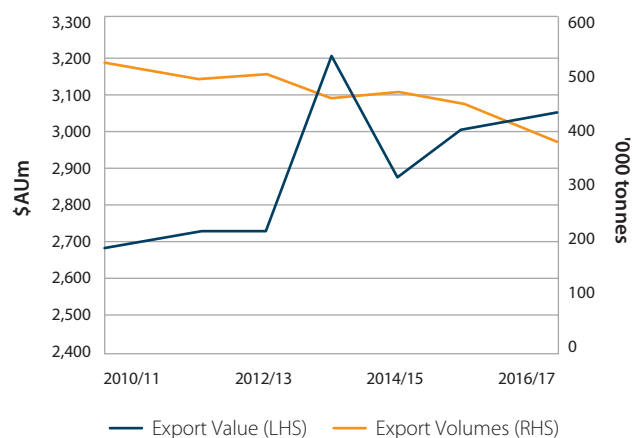
The proportion of Australian milk production that is destined for export markets has declined dramatically since deregulation, from close to 60 per cent in 2000/01 to 37 per cent in 2016/17.¹¹ The major contributing factors have been an increasing Australian population leading to an increase in the proportion of domestic consumption, along with a gradual decline in total milk production. Total export volumes have experienced relatively little change over the period from 2010/11 to 2016/17, while the gross export value of Australian dairy products has experienced modest 2.5 per cent average annual growth.¹² The small growth in export value over this period was assisted in part by an exceptional year in 2013/14 on the back of high global dairy prices, the highest prices seen by the industry since the early 1990s. A surging demand for Whole Milk Powder (WMP) manufactured as infant formula has also played a contributing role in export value trends over the past 12–18 months, offsetting declines in other export categories such as butter and skim milk powder.

Despite somewhat stagnant overall export volumes, Australia remains in the top four dairy exporting countries around the world, which are, in order of share of world dairy trade, the European Union (EU), United States (US), New Zealand (NZ), Australia, Uruguay and Argentina. In terms of export destinations, Australia's top five dairy markets by volume and value are greater China (including China, Hong Kong and Macau), Japan, Indonesia, Singapore and Malaysia. In total, South East Asia and other Asian countries accounted for around 84 per cent of dairy export value in 2016/17.

Looking to the future, in all markets, Australia's three major export categories of Cheese, Whole Milk Powder (WMP), and Skim Milk Powder (SMP), are expected to come under increasing competitive pressure from other major exporting nations, particularly the EU, US and NZ. If Australian production and export volumes continue to be flat, and these competitor nations continue current trends of growing their production and export base, can Australia expect to maintain its share of key international markets? Further, does the anticipated demand for dairy products in key growth markets mean that the Australian industry can actually maintain or grow the gross value of exports that is returned to industry, on a declining market share?

Australia's most valuable manufactured dairy export is cheese. Japan has been Australia's number one export destination for cheese, by both volume and value, for many years. Competition from the EU, particularly the Netherlands, Italy, Denmark and France, has increased in recent years, with the combined market share by value of these nations at 28.9 per cent in 2016/17, compared to 21 per cent in 2008/09. Australia's share of Japan's cheese import market value has declined from over 40 per cent to 27 per cent over the same period.¹³ Both the volume and gross value of cheese destined for Japan is also trending down, with a little over 81,000 tonnes exported in 2016/17 for a gross \$374m, from a five-year high of around 104,000 tonnes in 2012/13 for a gross \$415m.¹²

AUSTRALIAN DAIRY EXPORT VALUE AND VOLUME



Source: ABARES, ANZ

Overall, however, Japan is a growing cheese and broader dairy market with a renewed focus in the country on the nutritional value of milk, and the adoption of more western-style diets among the younger population. Global dairy imports to Japan grew by around 15 per cent year on year from 2015/16 to 2016/17, with the EU capturing a large share of this growth.

When analysing the EU as an export competitor, the sheer scale of milk production – around 154m metric tonnes in 2017 – casts shadows over Australia's annual production average of around 9.5m metric tonnes. So much so that the modest 1.2 per cent annualised growth in milk production recorded by the EU from 2014 to 2017 represents a total of around 5.5m metric tonnes, or 57 per cent of Australia's total milk production. While there are many challenges at play amongst the EU's 28 individual member states, generally speaking, EU producers are supported by good availability of cheaper fodder and supplements, higher farmgate prices and high potential productivity gains, when compared to Australian dairy producers. Direct payments to farmers are also continuing throughout the EU, which is assisting higher-cost-based regions to remain competitive. Compare this to Australian dairy producers, who have historically operated as a low-cost-based industry, but are now faced with higher costs of production, combined with lower farmgate prices due to world production increases, and therein lies some challenges for the Australian industry going forward.

More positively, in other major cheese export markets of greater China, South Korea, and Malaysia, the quantity of Australian cheese exported has increased over the five years to 2016/17, along with the value of exports. Australia's market share of the total value of these markets is however trending downward in China and Malaysia, over the five years to 2016/2017 retreating from 22.8 per cent to 17.5 per cent share of cheese import value for China, and from 41.8 per cent to 32.8 for Malaysia.

¹¹ ABARES – Agricultural Commodity Statistics 2017

¹² ABARES – Agricultural Commodity Statistics – Dairy Products

¹³ UN Comtrade and TradeMap

This demonstrates that a declining market share does not necessarily equate to declining export quantities or gross value for the Australian industry, and that overall demand is growing at a sufficient rate in some markets to counteract market share downturn.

It also represents the importance and opportunity that 'brand Australia', that is, Australian products attracting a premium in some markets, can play to overall trends and industry returns. In China, where Australian dairy products attract a significant premium over the competitor offering, there is opportunity to grow the return back to the Australian industry, while not necessarily competing on bulk commodity sales with much larger milk-producing nations. This is not a new concept, and a premium offering has been a strategy of the Australian dairy industry for some time. The threat however, is that holding a smaller share of a growing market may have less longevity than that of a bulk commodity export relationship, providing vital and competitively priced protein to a surging population. In addition, what length of time may pass before the market reputation and trust in a competitor's product offering grows to the point that Australia is no longer able to hold its place as a premium supplier in the market?

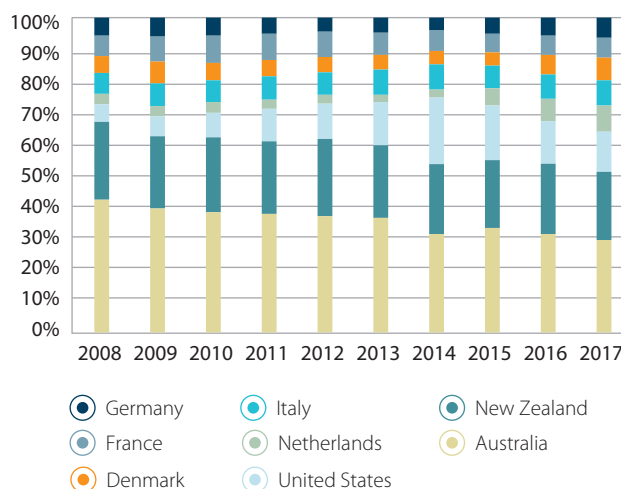
AUSTRALIAN DAIRY IMPORTS

As one of Australia's largest agricultural industries, the dairy industry is unique in its level of global participation due to the presence of large amounts of imported dairy products on Australian retail shelves. Imported dairy goods are widely accepted in Australia, with the majority of imported dairy products in Australia sourced from nearby New Zealand, where cheese, WMP (including infant formula) and butter make up the three largest import categories. Throughout 2016/17, Australia imported record amounts of WMP (including infant formula), cheese, and butter. Of interest, Australia actually imported more butter than was exported throughout 2016/17, and for every 1 kilogram of cheese exported, around 0.7kilograms was imported from other nations.

While Australia may historically have been exporting dairy products that were surplus to domestic consumption requirements, Australian dairy is increasingly becoming an international industry. The large and increasing presence of multinational companies in Australian dairy manufacturing contribute to the global link of Australian dairy, as in times of slower domestic production, these companies have export commitments and orders that may rank above domestic requirements.

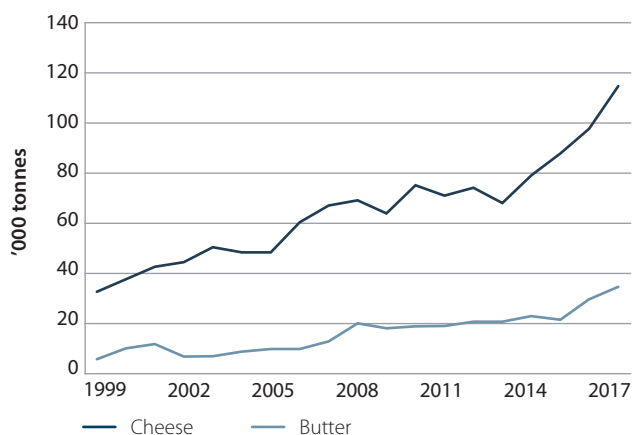
Unlike Australian wheat farmers, who generally benefit from high prices during low domestic production years, dairy producers are more and more reliant on international milk production and global dairy pricing. The gradual reduction in Australian milk production experienced since deregulation has reduced the total proportion of Australian dairy production that is exported, however, imports of dairy products have increased over the same period. This means locally grown and manufactured products have little opportunity to capture premiums in the market due to tight supply, as this would create a situation where imported products are more price competitive than the Australian-made products.

MARKET SHARE OF JAPAN CHEESE IMPORTS - VALUE



Source: UN Comtrade, ANZ

AUSTRALIAN IMPORTS OF CHEESE AND BUTTER

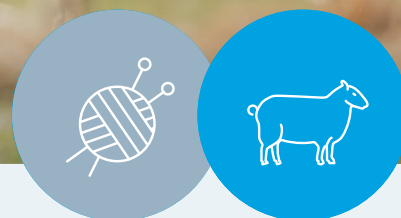


Source: IBIS WORLD, ANZ

The competitiveness of, preference for and acceptance of Australian dairy products in international markets will arguably only increase in relevance to the Australian producer into the future. The Asia and South East Asia region represents a real opportunity for Australian dairy products in terms of growing demand for dairy products, however competition is fierce. The Australian industry must continue to develop markets with trusting relationships based on quality and consistency of products, to ensure that Australian dairy farmers are sufficiently paid for their produce to maintain profit margins that allow for continued investment in and expansion of the industry. Further investment in premium and quality messaging in the Australian domestic market may also be required, to counteract the increasing presence of imported dairy products and the flow-on impacts this may have for local producers.



SHEEP & WOOL



OVERVIEW

- Low global supply of sheepmeat and wool creates a unique time of prosperity across the Australian industry.
- The rate of decline in the national flock has slowed, and there is clear intent to rebuild, when seasonal conditions allow.
- Australia has a wide and varied sheepmeat offtake spread across the globe, adding a level of resilience to market prices that is not enjoyed by the wool industry, which has a dominant reliance on China.
- Australian sheepmeat is versatile, from low value traditional cuts in some markets, to high value premium products in others.
- As the world's largest exporter of wool, Australia is well positioned should demand for fine to medium micron wools continue. With China the driving force behind wool demand and trade, the industry is however increasingly looking for alternative high value markets to offset the market concentration risk that the Australia-China wool trade represents.

AUSTRALIAN SHEEPMEAT INDUSTRY

The Australian sheepmeat and wool industry, when combined, generated around \$7b in agricultural production revenue in 2016/17, contributing almost as much as wheat farming to the agricultural economy for the same period. Of this \$7b in revenue, approximately \$3.55b was generated from sheepmeat and \$3.45b from wool.¹⁴

On the back of a significant decline in the Australian sheep flock since the 1990s, sheep numbers have continued to follow a downward trend over the past 10 years, albeit at a less dramatic rate. Although declining from 85.7m head of sheep in 2007, down to 72m in 2017,¹⁵ the flock has stabilised somewhat over the past five years with a clear intent to rebuild, subject to seasonal conditions allowing producers to do so.

While there has been a downward trend in the national flock, sheepmeat production has been trending upward over the period 2007–2017 with a small average gain of 1 per cent per annum.¹⁶ Productivity gains on farm, driven by an increase in carcase weight of lambs and mutton that is contributable to both genetics and management, and improved lambing rates, have been the major factors at play.

While predominantly a pasture-based system, Australian sheepmeat production is becoming increasingly underpinned by supplementary feeding, which is contributing to an ironing out of seasonal peaks in both producer income and market supply.

A willingness to supplement and incur increasing costs of production have been justified by increasing returns to producers, with record high prices throughout 2018 underpinned by unprecedented export demand.

Australia is the world's second-largest producer of sheepmeat, second behind China, and followed by New Zealand. Of Australia's total sheepmeat production, which over the five years to 2017 averaged 498,000 tonnes carcase weight (cwt) of lamb and 202,000 tonnes cwt of mutton, 56 per cent of total production was exported, which equated to 47 per cent of total lamb production and 80 per cent of total mutton production.¹⁶

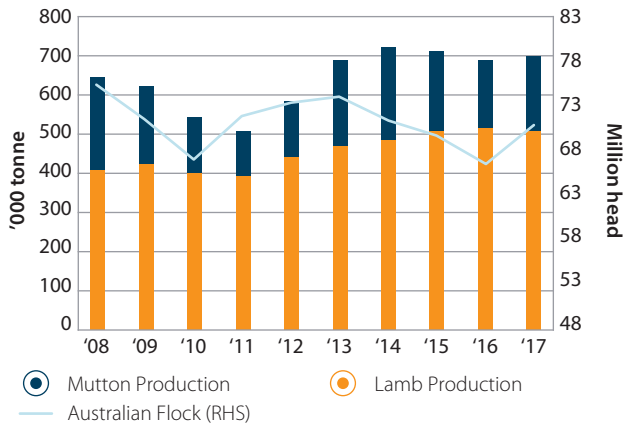
Australian exports of sheepmeat have grown at an average 6 per cent per annum over the 10 years from 2008 to 2017, driven predominantly by increasing lamb exports.

¹⁴ ABS Value of Agricultural Commodities Produced 2010–2017

¹⁵ ABARES

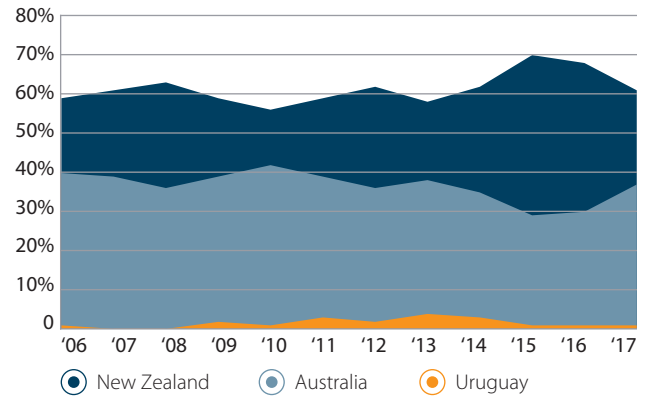
¹⁶ Meat and Livestock Australia

AUSTRALIAN SHEEPMET PRODUCTION AND NATIONAL FLOCK



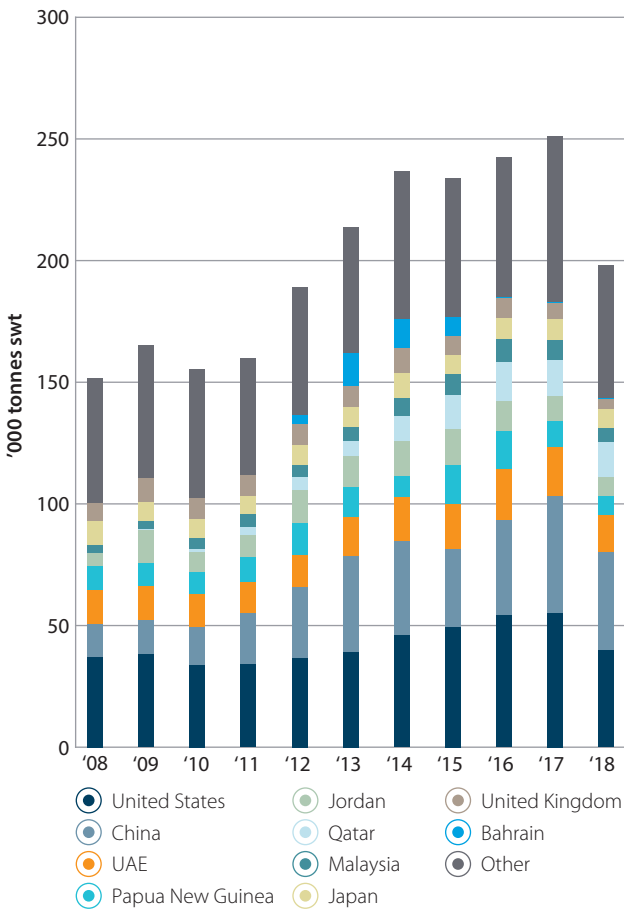
Source: ABS, MLA, ANZ

MARKET SHARE OF CHINA SHEEPMET IMPORTS - VALUE



Source: UN Comtrade, ANZ

AUSTRALIAN LAMB EXPORTS BY DESTINATION (2008-2018 YTD)



Source: MLA, ANZ

SHEEPMET EXPORTS AND INTERNATIONAL COMPETITION

Australia's major export markets for lamb are China, the United States (US), Middle East and North Africa (MENA) and South Korea. For mutton, major markets also include MENA and the US, China, and Malaysia. Sheepmeat export markets are extremely varied, with a vast range of preferences amongst Australia's export markets for age of animal (lamb or mutton), high and low-value cuts, whole or portioned carcasses, and chilled or frozen product.

Growth in sheepmeat markets, as per other Australian agricultural commodities, has predominantly been driven by an increase in consumption in developing countries and regions due to population growth and economic development. In these markets, such as the broad MENA market, sheepmeat is often consumed as a lower value product in everyday and traditional cooking. In developed nations, for instance the US, imported Australian sheepmeat is positioned as a niche or specialty product, with the opportunity for growth on the back of increased awareness of the product combined with increasing populations.

The global sheepmeat market is particularly unique in that Australia has only one major export competitor, being New Zealand. Together, throughout 2017, Australia and New Zealand accounted for 71 per cent of global sheepmeat trade, however accounted for only 8 per cent of global production.¹⁶

The New Zealand sheep flock, like Australia, has experienced a significant decline since the 1990s. Where Australian sheep farms gave way to wheat and cropping operations, New Zealand sheep farms were largely converted to dairy operations and to a lesser extent, beef operations. In total size, the New Zealand flock is some one-third the size of the Australian flock, at around 27m head.

The New Zealand flock has experienced a structural shift away from wool and focused on crossbred lamb production, with lamb's share of sheepmeat in the country increasing from 68 per cent in 1990 to 79 per cent in 2017. The New Zealand flock also differs from Australia in that average lambing rates (driven by high proportion of crossbred ewes) were an average 127 per cent according to Meat and Livestock Australia analysis (MLA) for 2017, compared to Australia's 92 per cent.

Although seeing some productivity gains from a declining ewe base, the New Zealand flock has not been able to sustain lamb production levels at historic figures of between 500,000 tonnes cwt and 600,000 tonnes cwt, with production hovering under 500,000 cwt tonnes since 2010. Exports have, however, been maintained due to an increasing trade volume to China and a decreasing proportion of domestic use.¹⁶

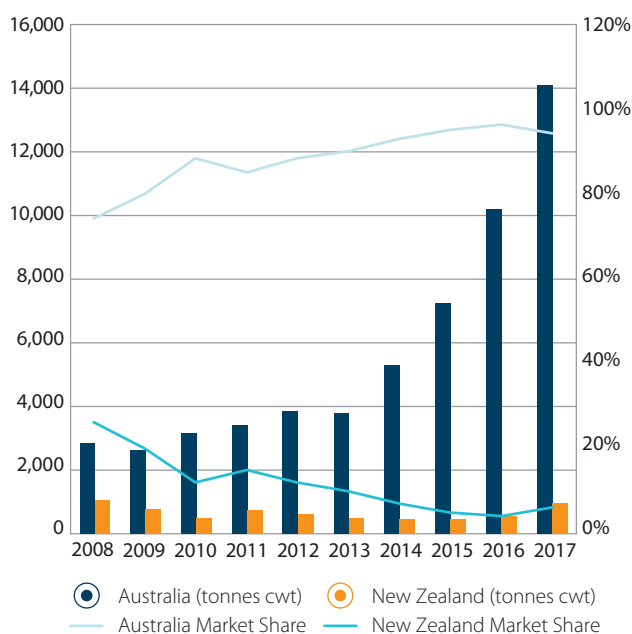
New Zealand sheepmeat is present in all of Australia's top 10 export markets for both lamb and mutton, however New Zealand exports are heavily focused on two key markets, being China and the EU. Throughout 2017, 69 per cent of New Zealand's total sheepmeat exports were destined for China and the EU, compared to 25 per cent of Australian exports. This market concentration has developed due to a free trade relationship between New Zealand and China, which was established in 2008, and a long-standing and substantial import quota for the EU market developed over some 40 years, which is almost 12 times larger than Australia's EU import quota.¹⁶

Over recent years, due to the shortening of supply of New Zealand sheepmeat and a redirection of product towards China, there has been a downward shift in the volume of sheepmeat exported to the EU, from an average 185,000 tonnes per annum cwt for the period 2002–2006, down to 135,000 tonnes per annum average over 2012–2016.¹⁶

This reduction has seen New Zealand fall well short of its approximate 228,000 tonne cwt per annum import quota to the region. Unfortunately, Australian sheepmeat has been unable to fill the gap left by New Zealand due to a restrictive 12.8 per cent (plus up to an additional 3.1 pounds per kilogram) import tariff for sheepmeat imports that exceed Australia's relatively small 19,186 tonne quota. The EU market is a high-value premium-cut sheepmeat market for Australia, and the recent announcement of initial negotiations toward an Australia-European Union Free Trade Agreement that began in mid-2018 is welcome news for the sheepmeat industry.

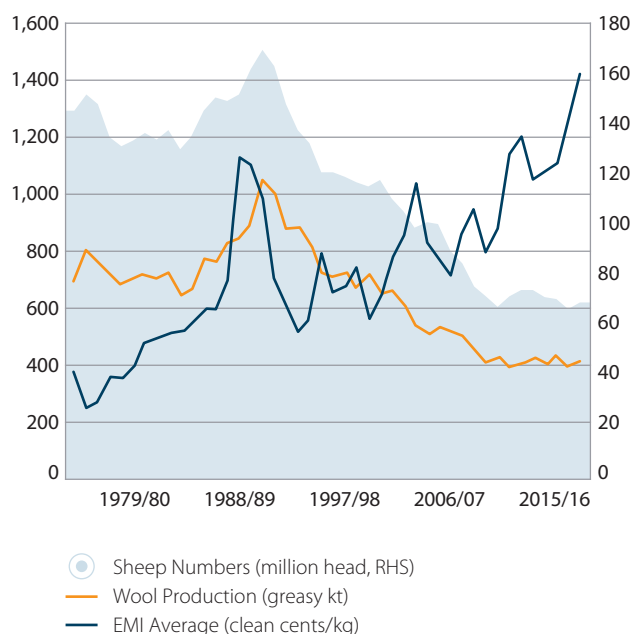
Of interest, however is that the major EU market for both Australian and New Zealand sheepmeat is the United Kingdom (UK), which, following Brexit, is due to exit the EU in March 2019. In 2017, 71 per cent (by volume) of Australian exports to the EU were destined for the UK. Once the UK concludes the exit negotiations with the EU, new trade relationships and tariff schedules will need to be put in place, with the Australian government stating that both Australia and the UK are committed to negotiating an Australia-UK FTA as soon as the UK is in a position to do so.

SOUTH KOREA SHEEPMEAT IMPORTS - VOLUME AND MARKET SHARE



Source: UN Comtrade, ANZ

AUSTRALIAN WOOL PRODUCTION, PRICE AND SHEEP FLOCK



Source: ABARES, ANZ

CHINA - NUMBER ONE FOR SHEEPMEAT

To the Chinese market, New Zealand exports were double that of Australian lamb and mutton throughout 2017 and have benefited from zero tariffs since 2016. While the tariff advantage held by New Zealand is gradually eroding with the implementation of the China Australia Free Trade Agreement (ChAFTA), New Zealand will continue to hold a tariff advantage until 2023 when the Australian sheepmeat tariff reduces to zero. On average, Australian sheepmeat has captured 36 per cent of the value of China's imports over the 10 years to 2017, compared to New Zealand's 62 per cent.¹⁷

As the world's largest producer, consumer, and importer of sheepmeat, changes in demand for sheepmeat in China, driven by both domestic production and consumption trends, can have significant impacts on global sheep prices. A risk mitigant of market reliance on Chinese imports is the continued development of new and varied markets for Australian sheepmeat. South Korea for instance, represents a new and rapidly growing market for Australian sheepmeat, where exports have increased by around four times since 2008, driven mostly by increases in lamb export volumes. Interestingly, Australia has grown market share over New Zealand, with New Zealand holding only 6 per cent of the value of the market in 2017, down from 27 per cent in 2008, compared to Australia's 74 per cent in 2008 which has grown to 94 per cent in 2017.¹⁶

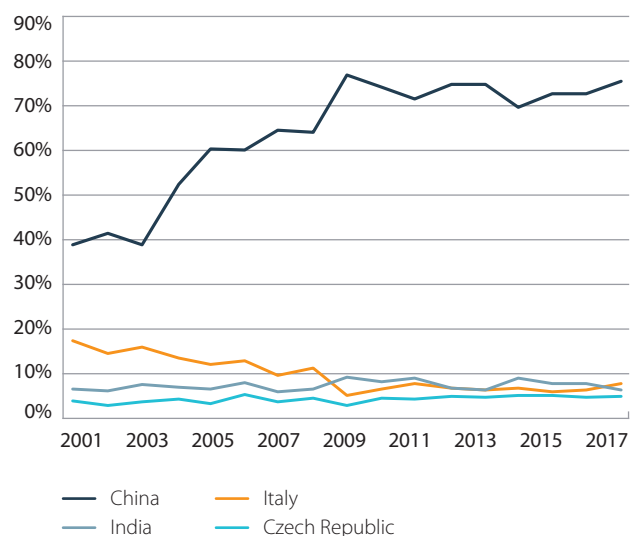
With New Zealand production growth limited by other land uses, Australia is well placed to continue to grow sheepmeat exports through traditional and established markets, and to new importing nations. The challenge for the industry of an increasing reliance on – and, therefore, vulnerability to – the Chinese market, can be overcome to an extent by continual development on other premium markets and strategic branding and exposure to distinguish Australian meat from New Zealand meat. Given wool has a much higher reliance on the Chinese market, and fewer current opportunities to see rapid expansion in alternative markets, a diversification of risk by the sheep industry as a whole into alternative meat markets would appear a sensible strategy to the long-term stability of returns to Australian sheep producers.

WOOL

Australian wool production has tracked sheep flock numbers, as expected, over the past 30 years. Greasy wool production has reduced from over 1m tonnes in 1989/90 to 414,000 tonnes in 2016/17. Like sheep numbers, wool production has stabilised over the past decade, with a renewed focus on wool driven by a 164 per cent increase in average wool prices, based on the Eastern Market Indicator, for the 10 years from 2006/07 to 2016/17.¹⁸

Over this time, Australian wool exports have consistently been dominated by exports to China, with the reliance on China for wool offtake increasing from around 65 per cent in 2007 to 75 per cent in 2017. This increased concentration to one export market is attributable to declining exports to Italy and increasing Chinese demand for Australian wool.

AUSTRALIAN WOOL EXPORTS - PERCENTAGE OF TOTAL ANNUAL AUSTRALIAN EXPORTS



Source: UN Comtrade and Trademap, ANZ

Australia is by far the world's largest exporter of wool, accounting for around 66 per cent of world exports in 2016, followed by New Zealand which was responsible for around 17 per cent. Large variances in micron, with New Zealand exporting much coarser wool, on average, than Australia, means New Zealand wool does not pose a significant threat to Australian exports.

With such high concentration and reliance on one export market, the price of Australian wool is largely dictated by China's appetite for wool, the country's stockpile of wool, and a willingness to pay a premium for the fibre against alternative synthetic fibres. Australia's export strategy to attempt to safeguard against potential price falls from a Chinese retraction from the market is, therefore, based around increasing alternative and growing markets, particularly high-value fashion and activewear markets across the US, Western Europe and North Asia.

In these regions, wool consumption growth is forecast to rise from both local consumer purchases, and increasingly, high net worth Chinese consumers travelling and or sourcing woollen products from retailers within the regions.¹⁹

China's own wool production is also a consideration, however, at present, production is on par with Australia's per annum production, hovering around 400,000 tonnes greasy, and export trends suggest that China would need to increase local production by over 37 per cent, to replace half of what was imported from Australia in 2017. While this may be unlikely in the short-term, China is actively importing Australian merino genetics via the live breeding sheep trade, with the intent to improve domestic production of wool.

¹⁷ UN Comtrade and TradeMap

¹⁸ ABS

¹⁹ Australian Wool Innovation

BEEF



OVERVIEW

- Global beef consumption is increasingly reliant on imports and is driven by strong consumption growth in emerging markets.
- South American beef is forecast to dominate global production as improvements in supply chain, quality and quantity of product continue.
- Strong domestic production and stable consumption growth implies a large exportable surplus from the US, meaning continued competition for Australian beef.
- Australian cattle herd liquidation continues amidst dry weather, with a high female cattle slaughter rate also occurring. The impact of future cattle supplies and Australia's ability to supply export markets will be felt over the short to medium term.
- Further increases in market share for Australia will be largely driven by investments in improving the scale of production.

Of each of Australia's major agri sectors, it is perhaps the beef industry which has been more in the headlines over the past decade than any other. As beef demand has risen globally, with populations incorporating it into their diets as incomes rise, the Australian beef and cattle sector has been a focus of global trade and investment. The main focus has justifiably remained on Chinese demand, where Australia has held a major market share since the relative opening up of beef imports earlier in the decade. However, the importance of maintaining strong beef trade flows to the established markets of Japan, South Korea and the US has remained paramount. Similarly, the importance of the live cattle trade with Indonesia to Australia's cattle industry cannot be underestimated.

As a result of this major trade and demand growth, the beef industry has been a major focus for investment, not only from offshore capital, but domestically, particularly through a number of high profile transactions.

The beef industry has seen its outlook slowed by the recent drought, with the high proportion of female cattle killed, slowing the projected herd rebuild. That said, the beef industry has seen and survived droughts in the past, always working back to a position of strength.

THE GLOBAL BEEF MARKET

Globally, beef production and consumption has increased by around 18 percent since 2000, while beef trade (exports and imports) has increased by around 54 percent. Importantly, the imports to consumption ratio increased from 11 percent to 15 percent between 2000 and 2017, which along with the strong beef trade increase indicates that world beef consumption is increasingly import dependent. Notably, beef consumption has been positively impacted through improved market access, particularly in Asian markets.

Beef is Australia's largest agri sector both in terms of gross value of production and export earnings, at around \$11b and \$7b in 2016/17 respectively. As with the majority of Australia's agricultural produce, around 70 percent of domestic produce is destined to export markets – primarily to four countries (Japan, South Korea, US and China) which account for over 75 percent of exports (both volume and value).

While Australia remains small player globally in terms of beef production with around a four percent share, it is the world's third largest exporter. The global beef landscape has changed markedly since 2000, with the emergence of new players including Brazil and India (in terms of production and exports), and China and Vietnam (in terms of consumption). The rise of Brazil and India, as well as continuing competition from other traditional exporters like the US, Canada and NZ has seen Australia's share of global exports seen a decline from around 23 percent in 2000 to 17 percent in 2017.

Apart from Brazil, which accounts for the majority of beef production and exports in South America, Argentina, Uruguay and Paraguay are also playing increasingly key roles in the South American beef sector. Beef exports from the region increased manifold over the past two decades, with Brazil now exporting nearly 1.3 times that of Australia. In particular, with Uruguay and Paraguay exporting a similar proportion of their domestic beef production, their recent trade access to China continues to challenge Australia's market share.

BEEF IS AUSTRALIA'S LARGEST AGRI SECTOR BOTH IN TERMS OF GROSS VALUE OF PRODUCTION AND EXPORT EARNINGS

Since Brazil first accessed the Chinese beef market in 2015, its exports to China have increased significantly and it became the largest exporter to China, closely followed Uruguay. However, importantly for Australia, China and Hong Kong are the only major export markets which overlap with South American beef trade. That said, as the investment in domestic beef sector in South America increases, quality of production and reliability of supply will continue to improve.

In the United States, tight supplies of Australian cattle and increased US domestic production resulted in a 22 percent drop in beef imports from Australia in 2017 when compared to the five-year average for the period 2012 to 2016. There was a similar trend in exports to Canada, which also saw a 22 per cent reduction in Australian import volumes for the same period.

Whilst total exports to these nations have been reducing, there has been a positive trend for one important category – fresh grass-fed beef to North America as a whole. Consumer awareness of the grass-fed product is high, driven by consumer perceptions of natural production techniques and concern for the environment. Chilled grass-fed beef made up 25 per cent of total export volumes to the US in the year to July 2018, up from 17 per cent on the five-year average from 2012 to 2016.

Conversely, Australia's other two largest export markets of Japan and South Korea have seen negative trends for grass-fed beef imports with a clear growing preference for grain fed product. Japanese imports are dominated by manufacturing beef, although there is a growing trend toward higher quality cuts, for instance striploin, for which imports increased 19 per cent in 2017 from the average of the five years preceding it. In South Korea, beef cuts suitable for traditional South Korean BBQ are growing in import volume, such as brisket and ribs, with imports growing at 18 and 29 per cent respectively against the five-year average.

FREE TRADE AGREEMENTS

Interestingly, while Australia has implemented both the Japan-Australia Economic Partnership Agreement (JAEPA) and the Korea-Australia Free Trade Agreement (KAFTA) with the important Japanese and South Korean markets, there are factors at play that reduce the overall competitiveness of Australian beef against the US, who are our major competitor in these markets.

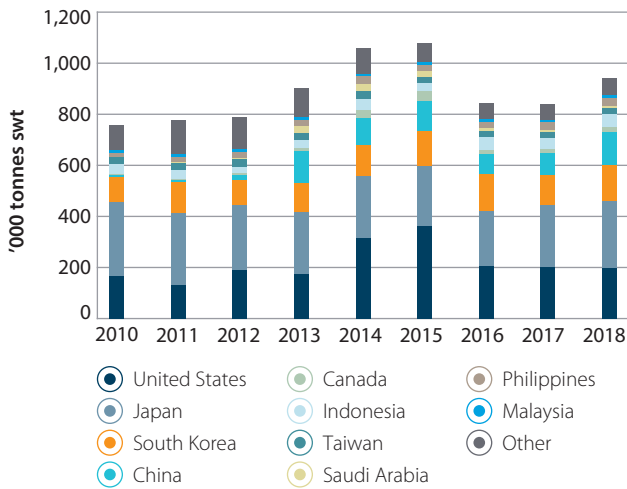
In trade law, safeguards can be used by a country to implement higher tariff levels to protect a specific domestic industry from an increase in imports of any product which is causing, or which is threatening to cause, serious injury to the industry.

Australian beef destined for the South Korean market, as of 2018, attracts a 26.6 per cent tariff, however the safeguard sees this bounce back to 40 per cent when imports exceed the trigger volume. For the three consecutive years of 2015, 2016 and 2017, the safeguard was triggered, causing trade disruptions and, in the latter part of 2017, contributing to the downward trend of the Eastern Young Cattle Indicator (EYCI), the Australian domestic cattle price benchmark. The US holds a 21.3 per cent tariff arrangement with South Korea, therefore sitting at a 5.3 per cent tariff advantage to Australia under normal circumstances, and a considerable 16 per cent differential once our export volumes exceed trigger levels.

For beef exported to Japan, a 38.5 per cent tariff would, under present arrangements, be implemented if total beef imports exceed the trigger amount. This is in contrast to our current standard tariff under JAEPA of 29.3 per cent for chilled product and 26.9 per cent for frozen. If the safeguard is triggered, Australian tariffs would be on a par with the US who have no trade agreement with Japan and pay 38.5 per cent. The safeguard was only introduced to the Japanese market in 2017, and Australia is yet to exceed trigger levels. Their presence, however, leads to the increased importance of the implementation of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP), which has the potential of assisting Australian beef to compete, particularly against the US.

On 8 March 2018, the CPTPP was signed by the Ministers and Senior Officials of Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam. The signing of the agreement allows the next phase, completion of domestic processes to allow the agreement to be put into force, to take place. For the Japanese market, CPTPP would see tariffs on chilled and frozen Australian beef reduce to 9 per cent over 15 years. This is a significant improvement on the current tariff reductions under JAEPA. All eleven CPTPP countries who supply beef to Japan will have similar advantageous tariff reductions, and a safeguard will be applicable for imports exceeding designated levels; the absence of the US from the agreement, and the fact that safeguards will also apply to US imports (if triggered) is a positive outcome for Australian beef.

AUSTRALIAN BEEF EXPORTS (JAN-OCT 2018)



Source: MLA

AUSTRALIAN BEEF EXPORTS

Over the past year, Australia's beef exports have remained sturdy, up 13 percent, driven by strong demand from not only from China, Indonesia and the Philippines but traditional export destinations including Japan and South Korea.

For Japan, an improving domestic economy and rising preference of meat among young Japanese consumers has driven demand for both grass and grain fed beef from Australia.

Overall beef demand from China continues to grow strongly, which is estimated to have imported a record 200,000 tonnes shipped weight (swt) in the first quarter of 2018. Australian exports to China for the first half of 2018 increased by over 40 percent with strong demand seen in both chilled and frozen beef. Despite competition from South American beef, overall exports are forecast to rise by 10 percent in 2018.

While Australia had previously been the largest beef supplier to China, it slipped to third largest by end of 2017 with increasing competition from South American beef. Australia's market share continued to dip, reaching 16 percent for first quarter of 2018.

Trade competition in China will continue to increase with new licenses approved for US, NZ, Canada and Argentina for chilled beef exports. Historically, chilled beef demand in China remained low with a majority of consumers purchasing beef through wet markets, due to cold storage and logistics constraints. Recent Chinese government initiatives to close down wet markets, support large-scale meat production, rising food safety standards and improvements in cold chain are likely to translate into a higher chilled beef demand.

South East (SE) Asia remains another emerging export market for Australia with total exports to region at around 11 percent of Australian beef exports in 2017. Within the region, Indonesia remains the largest market, followed by Philippines. In the first half of 2018, exports to SE Asia increased by 33 percent, with a significant rise in exports to Vietnam.

Looking ahead toward 2030, Vietnam, Indonesia and the Philippines look destined to grow in importance as major beef importers, while Australia's traditional export markets of Japan, US and South Korea continue to remain strong markets.

DOMESTIC BEEF PRODUCTION

Australia's beef cattle herd peaked at 30 million head in 1976/77 and entered into a near decade long liquidation of cattle due to large production surplus in the early 1970s and a demand shock due to the then prevailing economic conditions. Over the next three decades, the cattle herd increased only marginally, adding around five million more cattle up to 2017. A closer look at herd statistics since the 2000s indicates beef cattle numbers today are nearly the same, particularly after recent dry weather conditions driving herd liquidation.

In terms of pricing, the EYCI saw a significant shift in prices for 2015 to 2017 period, but declined during most of 2018. Recent rainfall across the eastern states helped prices bounce back although they remain below the 2015–17 range. According to Meat and Livestock Australia, when Australia's female cattle slaughter rate exceeds 47 percent of total slaughter, the cattle herd enters into a liquidation phase – this figure stood at 49 percent as of September 2018.

LOOKING AHEAD

As the Australian beef sector recovers from the drought, and builds on global export market share, a number of key areas will continue to be discussed. In particular will be the balance of strategies on whether to market Australian beef as a bulk commodity, or whether to continue to enhance the 'brand Australia' concept, underpinned by the perceptions of quality and food safety. For an increasing number of cattle producers, both medium and large scale, moves to market their beef in Asia under their own brand continue to be pursued.

In addition, as with other sectors, the beef industry needs to continue to work collaboratively to enhance the benefits offered by the developments in agtech, data analysis, and the growth of blockchain, with the latter being particularly important in improving traceability.

The fight for market share of beef imports, in China, across Asia, and globally, will only intensify, and all industry players will need to utilise all the opportunities from Free Trade Agreements to not just maintain, but build these shares.

Finally, within Australia, as the industry rebuilds after the drought, structural supply chains will remain under consideration, in terms of reducing margins and increasing efficiency. In this way, the potential scenarios for new integration across producers, processors and exporters looks likely to continue to develop.



WINE



OVERVIEW

- Over the past five years, Australian wine companies have invested in new operating efficiencies.
- After a relatively quiet period for the past seven years, the wine sector is seeing a resumption of larger mergers and acquisitions (M&A).
- Consolidation across the wine industry, similar to other agri sectors, is not seen as a likely path. With many smaller wine growers and labels owned as a secondary interest, the financial need or desire to sell to a larger company may not present.
- Domestically, overall alcohol consumption in Australia is declining, however wine continues to lift its share of this market.
- As demand for quality grapes grows, larger wine companies may increasingly seek to secure as much of a finite supply as possible. This is welcome news for vineyard owners, with the outlook for higher prices remaining strong.

AUSTRALIAN WINE INDUSTRY

While it has long enjoyed a global reputation for its premium products, Australia's wine industry is sometimes forgotten as one of the country's leading agribusiness sectors. The industry provides an excellent model for the strategic aspirations of other Australian agricultural sectors. In marketing to the world, the wine industry has increasingly been able to strike a balance between the high-end products, renowned for their excellence and character, and the commodity (or bulk) wines, which are seen as providing a reliable and quality product at a value proposition.

In this way, the wine industry can be seen as being an early leader in an export strategy which has more recently been replicated by sectors such as beef and dairy. For Australian wine, the incentive to build a strong export brand has partly been driven not just by the domestic market's relatively small size, but by the challenges in reaching domestic consumers in a crowded marketplace, and one largely controlled by two dominant retailers.

While wine is produced in every state and territory in Australia, production remains predominantly concentrated in South Australia and New South Wales. Between them, the two states account for almost 80 per cent of Australia's total wine grape production, while 80 per cent of Australia's premium wine production is grown in South Australia.

Australia's wine grape plantings are estimated at 134,000 hectares (2016/17). While this represented a marginal increase on the previous year, the five-year rolling average has continued to decline. Over the past 10 years, total wine grape area has reduced by around 32,000 hectares or around 19 per cent. Over the same period, however, grape production has gradually trended upwards to a record of 1.9m tonnes in 2016/17. This growth was made possible with significant improvement in yields, which increased by 28 per cent over the past 10 years to 2016/17.

Like other agri sectors, the Australian wine industry operates in production and supply cycles. A rapid increase in the number of wineries from around 2000 led to an oversupply of wine in the market. As a result, wine production in Australia remained flat for the first half of the decade, until 2015. Since that time, the subsequent export demand saw production levels again grow, reaching almost 1.4b litres in 2016/17, the highest level since 2005/06. Notably, while white wine production actually fell by over 5 per cent in the year to 2016/17, red wine production grew by 15 per cent, spurred by ongoing strong export demand.

The underlying factors of rising export demand, combined with detrimental weather conditions in traditional wine-producing regions around the world, is likely to increase pressure on domestic grape supply as growth in grape area plateaus.

Australia's wine industry is characterised by a large number of small players. In 2017, there were an estimated 2,468 wineries and 6,251 grape growers, together employing over 170,000 people (full and part-time). In terms of the supply chain, many wineries enter into grape purchase agreements with growers, often on one-year contracts.

The fragmentation of the Australian wine industry provides a clear indication of the potential for consolidation across the sector. Based on the National Vintage Report of Wine Federation of Australia, small wineries which crush less than 500 tonnes make up the bulk of industry wineries, although they contribute less than 3 per cent of total crush volumes. These wineries largely produce their own grapes and market wine either through cellar doors, websites or directly to local restaurants.

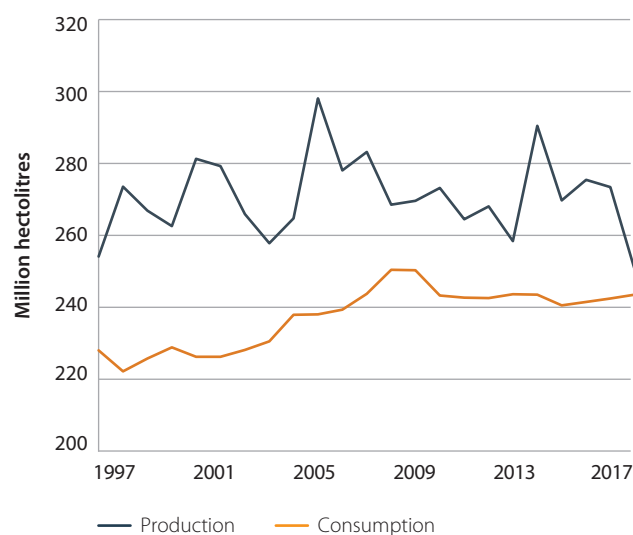
However, the outlook for consolidation also needs to be balanced against the preponderance of ownership of smaller vineyards by non-traditional players, such as city-based business people. For many of these, ownership of vineyards and brands could be seen as a hobby (albeit a complex one), with no financial pressure to sell. For larger wineries to acquire these, the rationale would largely be to gain a niche brand and/or good quality vineyards. As such, consolidation may be a slower process than some anticipate.

Forecasts for Australian grape plantings are subject to reasonable speculation. Based on Australian Bureau of Agricultural Resource Economics (ABARES) official estimates, plantings are forecast to marginally increase to 140,000 hectares, while yield is likely to moderate to 12–13 tonnes per hectare, a combination that would limit production growth over next two years.

Growth in demand, particularly from offshore, has seen a shift in not only how wine grapes are procured by processors, but the intensity and competition for supply.

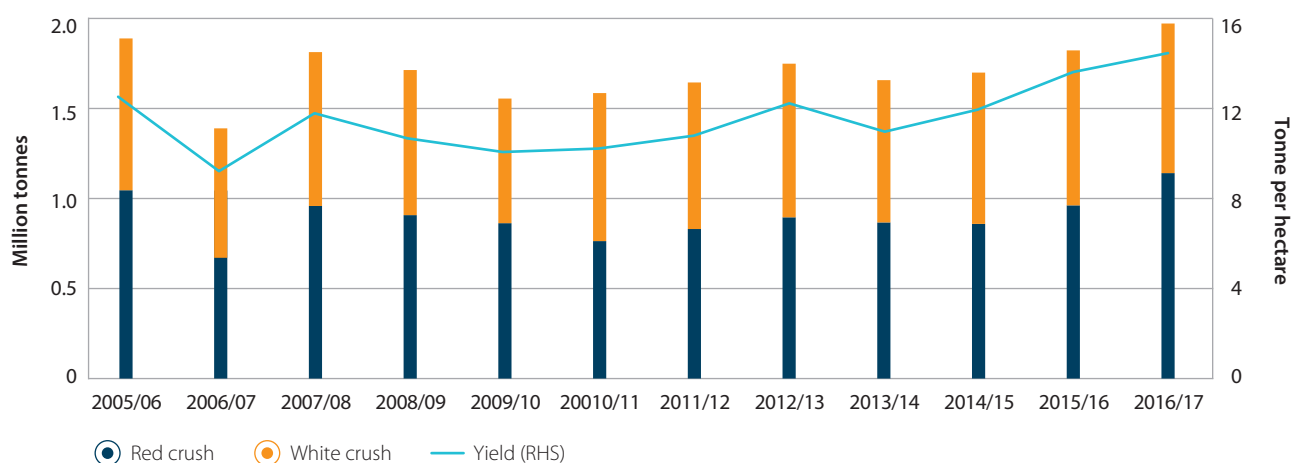
There are, however, a number of factors that may well see this trend change markedly. Assuming that competition for premium grapes remains strong, it is likely that new areas for wine grapes may be developed, with both existing managers and new investors focusing on land which may achieve an attractive return. Adequate water and soil types will obviously be vital considerations, which is likely to see some areas of permanent crops targeted for possible transformation. Much of the new plantings will come as a result of grafting existing acreage to modern varieties, as well as planting in the cooler climate regions in Tasmania and Victoria.

GLOBAL WINE PRODUCTION AND CONSUMPTION



Source: OIV

AUSTRALIAN WINE GRAPE CRUSH AND YIELD



Source: Wine Australia

EXPORTS AND COMPETITION

In 2017/18, wine remained Australia's fifth largest agricultural commodity export by value, earning \$2.8b. This places wine behind beef (\$8b), wheat (\$4.7b), wool (\$4.4b) and dairy (\$3.4b), but ahead of horticulture (\$2.7b) for total value of exports.²⁰

Australia exports around 60 per cent of its wine production, with over two-thirds of this destined for four major markets – US, United Kingdom (UK), China and Canada. In 2016/17, China surpassed the US to become the largest importer of Australian wine, and it now accounts for 25 per cent of Australian wine exports by value.

The positive momentum in the Australian wine sector remains strong. In 2017/18, Australian wine exports rose by almost 20 per cent, the strongest growth in the previous 15 years, with almost every market seeing an increase in exports. The one exception was the US, where Australian exports fell slightly. This can largely be attributed to the changing nature of the US wine market, which is shifting from predominantly commercial to premium wine.

Australia's wine exports to the US have largely been at the less expensive end of the market, a sub-sector which is decreasing. On one hand, this change presents an excellent opportunity for Australian producers at the premium end of the market, who may largely have been focused on China, to diversify their market and take advantage of new opportunities in the US.

However, it also needs to be remembered that together with the UK, the US remains a 'traditional' wine market for Australia – a decade ago, the two countries represented 60 per cent of Australia's exports.

Following the Global Financial Crisis (GFC), and the rise of the AUD to the USD, Australian wines relinquished a reasonable degree of shelf space in these markets, particularly to South American competitors. In the period since then, Australian wines have been working to regain this market share, while at the same time making inroads in the premium markets.

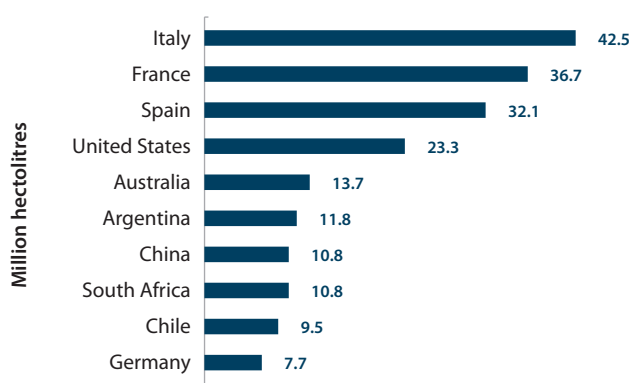
Many Australian exporters to the US continue to face the challenge of having to deal with a number of layers individually – importer/distributor/wholesaler/retailer – rather than going directly, and as a result, margins are compressed. The outlook for this challenge will be intrinsically linked to the AUD/USD. While the AUD remains relatively low, the potential for achieving these goals is stronger.

Globally, the wine sector experienced a record year in 2017, although not in the sense many would have envisaged. Global wine production hit an historic low, falling to around 250m hectolitres (mhl)²¹ a drop of 9 per cent on the previous year. This represented the lowest production level since 1961 and the biggest annual fall in the past two decades.²¹ The major driver in this was Europe, which produces around 60 per cent of the world's wine, where production fell by 15 per cent, primarily in Italy (down 17 per cent), France (down 19 per cent), Spain (down 20 per cent) and Germany (down 15 per cent) due to harsh weather conditions.²² In contrast, wine production outside of Europe rose slightly, by around 2 per cent. In South America, wine production levels recovered following the impact of El Nino in 2016.

However, while Argentinian and Brazilian wine production lifted, to 11.8mhl and 3.4mhl in 2017 respectively, Chilean wine production is yet to post growth following its record low production of 2016, falling a further 6 per cent to 9.5mhl in 2017. In the United States (US), the world's fourth-largest wine producer, 2017 saw a minor 1 per cent drop in wine production to around 23mhl, keeping production levels near record highs.

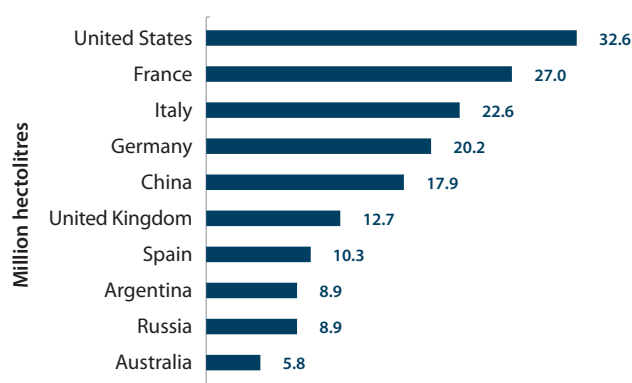
Chinese wine production has continued to gradually decline since 2011, falling to 10.8mhl in 2017. Although China continues to see an increase in vineyard surface area – now sitting second only in vineyard area to Spain – China's climatic conditions continue to make wine growth challenging in many parts of the country. Production in New Zealand in 2017 was on par with the five-year rolling average, however, was down on 2016 levels at 2.9mhl, while South Africa, the world's eighth-largest wine producer, saw production rise after falling for the previous two years due to low rainfall.

2017 MAJOR WINE PRODUCERS



Source: OIV

2017 MAJOR WINE CONSUMERS



Source: OIV

²⁰ ABS Agricultural Commodities Report September 2018

²¹ A hectolitre equals 100 litres

²² The International Organisation of Vine and Wine (OIV)

CHINA HAS EMERGED AS AUSTRALIA'S LARGEST EXPORT DESTINATION BASED ON EXPORT VALUE

While Australian wines are consumed all around the world, over two-thirds of wine exports, both in terms of volume and value, are destined for four countries – the UK, US, Canada and China.

In particular, Asian markets continue to provide strong opportunities over the long-term, whereas in western markets, Australia's position has been threatened by high competition from European wines. Given the relatively low per capita consumption in Asian markets – which are still continuing to develop their taste for wine – the positive perception of Australian agricultural produce, accompanied by strong marketing activities, is likely to position Australian wine for continuing long-term growth.

While the reputation of Australian wines for quality is fundamental to export growth, currency also plays a crucial role in determining the competitiveness of exports against other exporting nations. With around 87 per cent of all wine exported from Australia priced at less than \$5 per litre, a large component of Australian wines are marketed and sold as a bulk commodity, and as such, demand remains largely price sensitive.

One indicator of this is to compare wine exports with the trade weighted index (TWI), a weighted average of a basket of currencies that reflects the importance of the sum of Australia's exports and imports of goods by country. Between July 2014 and October 2018, the TWI fell 15 per cent. Over roughly the same period, wine export volumes grew from 745m litres (2014/15) to 852m litres in 2017/18, an increase of 14 per cent.

While all of the export growth cannot just be attributed to currency depreciation, given other key fundamentals such as lower world production levels, the rise in per capita income levels driving consumption growth (particularly in China), and changing consumer beverage preference in US, currency clearly remains an important driver for export volumes.

AUSTRALIAN WINE HAS LOST GROUND IN KEY EXPORT MARKETS OTHER THAN CHINA

In China, Australian wine is perceived as being fruity and not oak-driven, a factor which has helped increase its import share. Chinese wine consumers are typically young and are increasingly moving away from 'Old World' European wines towards Australian wines instead.

One impediment to the growth of Australian wine exports to China has been Xi Jinping's austerity drive, which saw a 16 per cent drop in Australian exports to China in 2013/14, followed by a rebound the following year.

Alternatively, the signing of the China-Australia Free Trade Agreement (CHAFTA) in May 2015 has helped wine exports to China grow by an estimated 122 per cent from 2014/15 to 2016/17.

THE SIGNING OF THE CHINA-AUSTRALIA FREE TRADE AGREEMENT (CHAFTA) IN MAY 2015 HAS HELPED WINE EXPORTS TO CHINA GROW BY AN ESTIMATED 122 PER CENT FROM 2014/15 TO 2016/17

In the US, Australian wine is perceived as value for money. This has resulted in it not being able to capture a share of the 'Premiumisation' trend, or trading up in value, as seen in the US wine market. In 2016, although Australia exported 7 per cent more wine by volume to the US than did France, its average selling price was USD\$2.8 per litre while that of France, which has the second highest import share by value, was USD\$11.9 per litre.

In the UK, overall imports of wine have been in decline over the last two years, as overall consumption has fallen. In Canada, wine from the US has made up the main source of imports for the past three years. Of this, around 90 per cent is from California.

RISING DEMAND FOR PREMIUM AUSTRALIAN WINES DRIVEN MOSTLY BY CHINA

While the majority of Australia's overall wine exports are in the price range of \$2.50 –\$5 per litre, volume growth in this category has remained stagnant over the past three years. This is largely due to increased competition in the US and Canada, and decreasing exports to the UK. In contrast, Australian wine priced over \$5 per litre remains in strong demand in China, where volume shipments at this price point more than doubled between 2014 and 2017, with the upward trend continuing.

The growth in higher priced wine to China was even more notable over the past 12 months. Exports of wine priced over \$10 per litre more than doubled in 12 months ending June 2018, with over 200 per cent growth seen in the \$200+ per litre category.

As the CHAFTA tariff cuts continue, with tariffs to drop to zero in 2019, Australian wine sales to China are forecast to further improve, with the overall volume mix tipped to continue to move towards premium wines (given two-thirds of volumes shipped to China are in glass bottles).

Looking ahead, while optimism for the Chinese imports of Australian wines remains strong, it is important to keep a realistic eye on this market. Import growth has slowed in some areas, potentially related to regulation, competition from other wine producers, and a return to normal upward demand trend. Going forward, it will be important for all stakeholders in this market to evaluate whether the strong outlook will be sustainable.

HORTICULTURE



OVERVIEW

- Australian horticulture is experiencing enviable momentum, driven by productivity gains and unprecedented domestic and global demand.
- Horticulture is a significant Australian agricultural industry and is the largest employer within Australian agriculture.
- Australia's exports constitute only 1.2 per cent of global fruit exports and 0.3 per cent of global vegetable exports, therefore considerable prospects remain as long as producers can align production with demand from our nearest neighbours.
- There is a disparity between fruit and vegetable pricing in Australia, which in some part, can be attributed to the growing global demand for Australian fresh fruit which has seen Australia become a net exporter, while remaining a net importer of fresh vegetables.
- Questions remain for growers around the viability of capital intensive undercover production systems.

AUSTRALIAN HORTICULTURE INDUSTRY

Horticulture covers the production of a range of commodities including fruits, nuts, vegetables, table grapes, flowers and turf. Whilst horticulture is a significant contributor to Australian agriculture, the vast number and range of commodities that sit within the sector often lead to it not being considered one of Australia's major agricultural industries.

The numbers, however, tell a different story; in 2015/16 horticulture produced \$10.4b worth of produce, or 19 per cent of Australia's total gross agricultural production across 14,300 horticulture businesses nationwide. While highly seasonal in production, horticulture is the largest employer in Australian agriculture, employing 75,000 people, predominantly through seasonal or part-time employment.

In 2015/16, the major commodities produced by the sector were almonds, apples, potatoes, bananas, oranges and avocados. Production areas for the industry are also widespread, ranging from tropical fruit, fresh tomato, capsicum, and zucchini production in Queensland; stonefruit, oranges and grapes in New South Wales, Victoria and South Australia; potatoes, cherries, apples and onions in Tasmania; and almonds, grapes, canning fruit and processing tomatoes in Victoria.

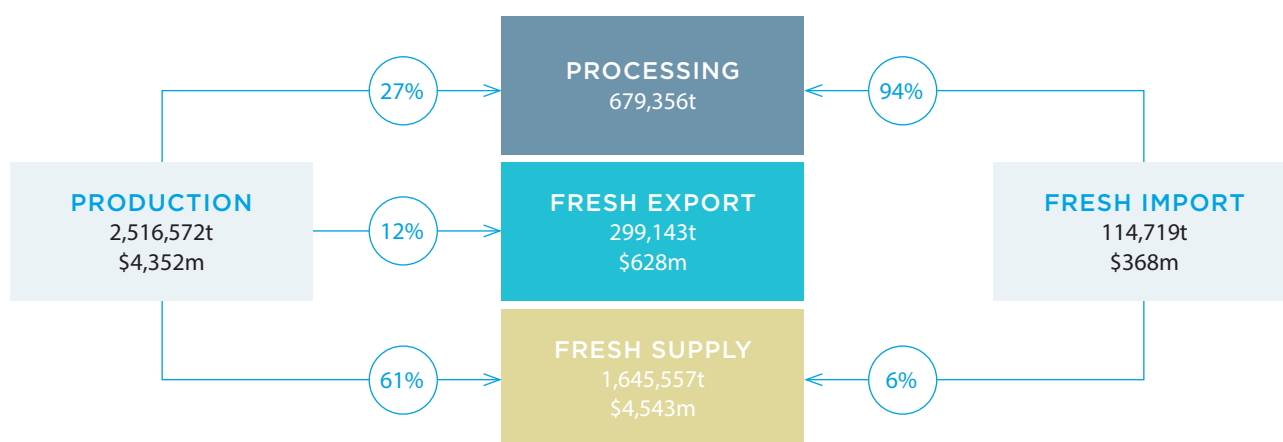
Production in Australian horticulture has shifted in recent years with significant increases in the production of almonds, avocados, macadamias, oranges and cherries, and a reduction in pears, peaches, tomatoes, onions and nectarines.

AUSTRALIAN HORTICULTURE PRODUCTION

	1998	2007	2016	% change 1998–2016
Berry and tropical fruit (ha)	14,685	16,631	25,699	75.0%
Citrus, stone and pome fruits ('000s trees)	21,747	32,217	43,449	99.8%
Grapes (ha)	98,612	173,776	136,270	38.2%
Nuts ('000s trees)	3,378	4,316	14,842	339.4%
Vegetables (ha)	130,601	111,918	118,500	-9.3%

Source: ABS

FRUIT AND VEGETABLE SUPPLY CHAIN IN AUSTRALIA (2015/16)



Source: HIA

DOMESTIC DEMAND AND PRICES ARE ALSO HEAVILY IMPACTED BY THE LARGE AMOUNT OF PROCESSED FRUIT AND VEGETABLES THAT AUSTRALIA IMPORTS

According to Horticulture Innovation Australia (HIA), Australians consume 68kg of fresh fruit and vegetables each year. Over 95 per cent of that supply is sourced from Australian fruit and vegetable producers. Of Australia's production, approximately 12 per cent goes to the fresh export market, under 30 per cent goes into the processing market and over 60 per cent goes into the fresh supply market.

Australia's supermarkets continue to take the vast majority of fresh fruit and vegetables, and according to the Federal Department of Health, around half of all fresh product sales (such as meat, fruit and vegetables) are sold through Australia's two largest supermarket chains, Coles and Woolworths, with 72 per cent of consumers buying through a supermarket.²³ Fresh food (including fruit, vegetables, meat and dairy) also make up a very significant part of supermarkets' sales – accounting for not only up to 40 per cent of grocery chains' revenues, but also acting as drivers of customer patronage.²⁴

Whilst the domestic fresh food market is vital to the majority of horticultural producers, predictions from the United Nations Food and Agriculture Organization are that annual domestic growth in fresh fruit and vegetable consumption will fall from 0.9 per cent per annum to 0.3 per cent per annum, and, as such, many producers are looking to the increasingly lucrative export markets.

Despite the dominance of retailers in sales of fresh fruit and vegetables to consumers, wholesalers dominate buying from producers, taking around 45 per cent of farmers' produce before onselling to a range of retail outlets, including supermarkets.

Retailers will commonly buy through direct sourcing arrangements, however a broker is often appointed to coordinate the sourcing and supply requirements of the retailer. This may include coordinating individual grower supply volumes to meet expected retail demand, and managing quality and packaging requirements.²⁵

DOMESTIC DEMAND

Fresh fruit and vegetable consumption in Australia makes up approximately 13 per cent²⁶ of total food expenditure. And while there is a general trend that expenditure on food consumption declines as a percentage of total household expenditure as incomes increase, the most recent ABS Household Expenditure Survey shows that food expenditure increased 16.1 per cent between 2009/10 and 2015/16, compared to total household expenditure on goods and services which increased 15.3 per cent.

Growth in food expenditure was, however, vastly outweighed by growth expenditure on education and mortgage repayments (43.5 per cent each), medical and healthcare (25.6 per cent) and fuel and electricity expenses (25.8 per cent). Domestic demand and prices are also heavily impacted by the large amount of processed fruit and vegetables that Australia imports, and which has maintained downward pressure on fresh fruit and vegetables as an alternative.

In the shorter-term, Consumer Price Index (CPI) figures released at the end of 2017 showed a 4.4 per cent fall in fruit prices due to warmer conditions in Queensland, resulting in a production glut, and more recently, a hot summer that has increased vegetable prices.

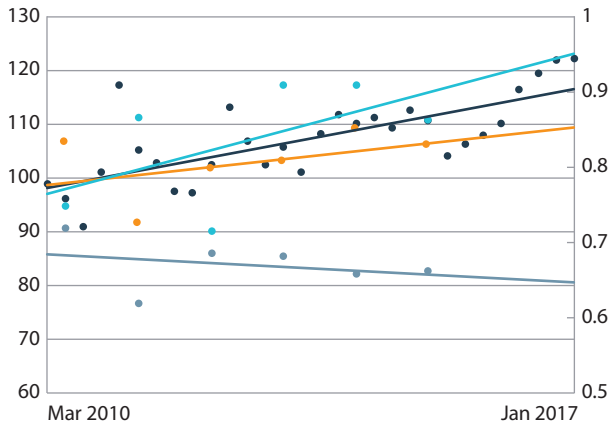
²³ Roy Morgan, July 2015

²⁴ McKinsey & Company (2013) A fresh take on food retailing

²⁵ ABARES, Foodmap

²⁶ ABARES, Food demand in Australia: Trends and food security issues

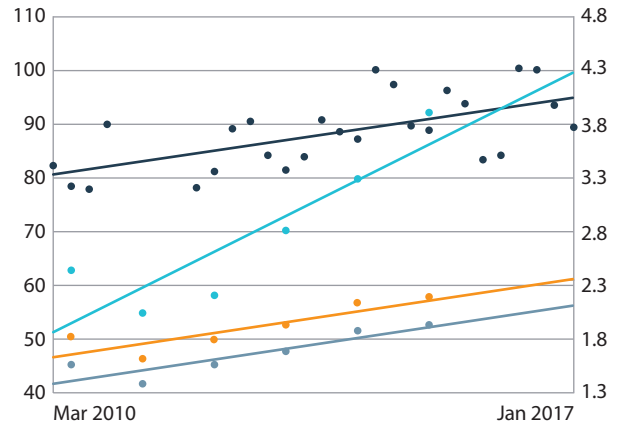
AUSTRALIA FARM TO RETAIL PRICES INDEX (VEGETABLES)



- Retail vegetables
- Wholesale vegetables
- Farmgate vegetables
- Export vegetables

Source: ABS, Comtrade, ANZ

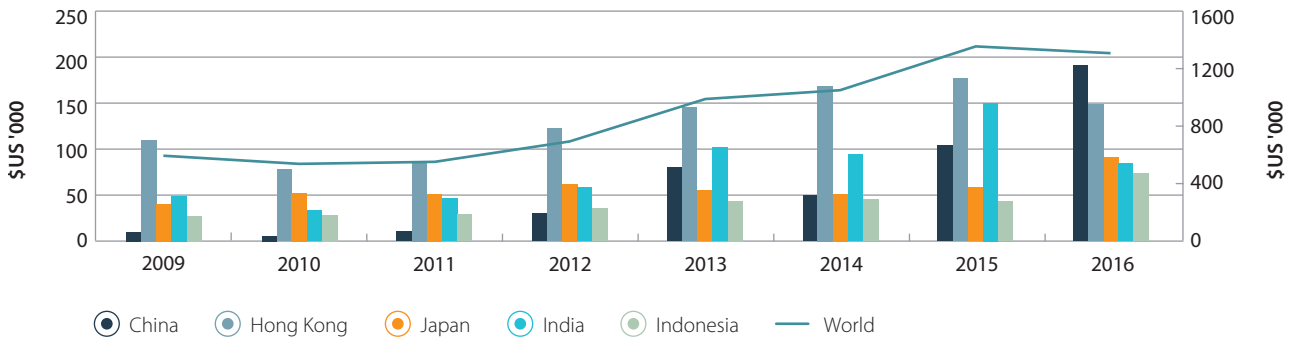
AUSTRALIA FARM TO RETAIL PRICES INDEX (FRUIT)



- Retail fruit
- Wholesale fruit
- Farmgate fruit
- Export fruit

Source: ABS, Comtrade, ANZ

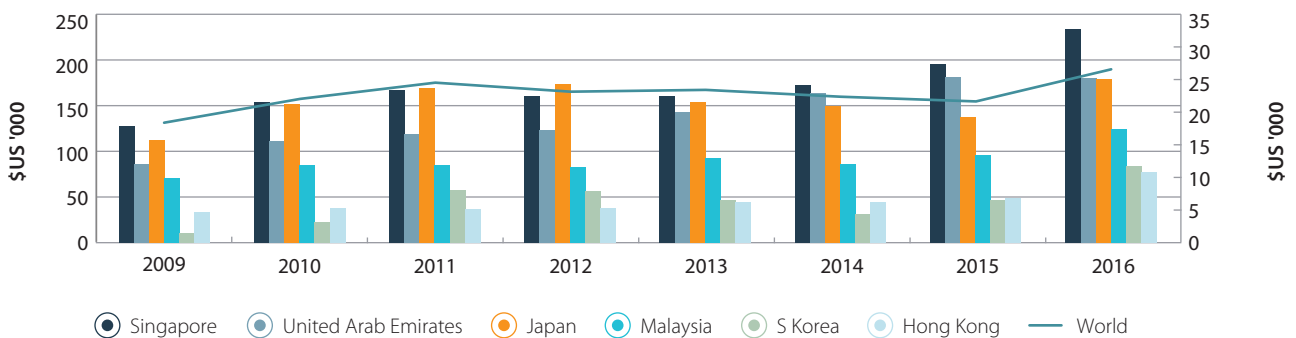
AUSTRALIAN FRUIT EXPORTS BY DESTINATION



- China
- Hong Kong
- Japan
- India
- Indonesia
- World

Source: ABS, Comtrade, ANZ

AUSTRALIAN VEGETABLE EXPORTS (EXCL. DRIED CHICKPEAS AND LEGUMES) BY DESTINATION



- Singapore
- United Arab Emirates
- Japan
- Malaysia
- S Korea
- Hong Kong
- World

Source: Comtrade, ANZ

A longer-term look shows that the retail prices of fruit and vegetables have behaved very differently. Fruit has been showing higher volatility and price spikes associated with tropical weather events, but overall underperforming the CPI, while vegetables show less volatility, but are performing relatively stronger at the consumer end.

The story at the farmgate level, however, is very different. A weighted-index of farmgate, wholesale, retail and export prices for fruit and vegetables shows that while retail prices for vegetables have increased, on average, more strongly than retail fruit prices, the farmgate returns to vegetable farmers actually declined between 2010 and 2015, while vegetable export prices increased at a greater rate than retail prices and in turn, wholesale prices.

It is also of interest that data from the United States Department of Agriculture demonstrates that this pricing trend is also occurring in the United States, with the farmgate share of the retail price of vegetables falling slightly since the late 1990s, while the farm value and the farm share of the retail price of fruit has increased strongly, particularly since 2008. The growing farm to retail margin for fruit in comparison to vegetables, both in Australia and the United States, is most likely due to the relatively low level of international trade in vegetables compared to fruit. This means that alternative, high-value markets have not been developed as a competing demand to domestic retail sales.

Transport industry sources have also suggested that marked advances in cold chain storage and logistics have been more beneficial to fruit producers than vegetable products. This is because vegetables generally have a longer shelf-life than fruit and increasing that shelf-life through better storage and transport options has had limited advantage, as opposed to the fresh fruit supply chain which has gained significant value in both market access and continuity of supply outside of traditional growing seasons.

EXPORTS AND COMPETITION

Export of Australian fresh fruit and vegetables has been growing strongly in recent years and combined, now sits as the fourth largest export group for Australian agriculture, after meat, cereals and wool. In 2016, fruit and vegetable exports reached almost \$3b²⁷ having grown 4 per cent and 3 per cent per annum respectively since 2012. Australia's fruit exports now constitute 1.2 per cent of global fruit exports, however only constitute 0.3 per cent of global vegetable exports (excluding dried legumes).

Fresh fruit and nuts made up the majority of Australia's horticulture exports in 2016 with almonds the largest export commodity (\$US575m) followed by grapes (\$US290m) and citrus (\$US245m). Vegetable export commodities, again after excluding dried legumes, were a small portion of that, with carrots the largest single vegetable export commodity (\$US64m) followed by asparagus (\$US23m) and potatoes (\$US21.5m).

Australia remains a net importer of processed fruit and vegetables and fresh vegetables, however, in recent years, it has become a net exporter of fresh fruit and nuts. By destination, the greatest growth in exports in both fruit and vegetables has been to Asia – with fruit exports to China increasing over 500 per cent in four years. Other growth markets have included Hong Kong, Japan and India. Vegetable exports, while more subdued than fruit exports, have also increased strongly in recent years, particularly to Singapore, Malaysia and the United Arab Emirates (UAE). While Japan remains our third most important vegetable export market, export quantities have remained relatively stable in recent years. Lucrative export markets differ from commodity to commodity, however, typical markets such as South Korea, Japan, China and the Middle East remain some of the highest paying markets for Australian fresh fruit and vegetables.

TYPICAL MARKETS SUCH AS SOUTH KOREA, JAPAN, CHINA AND THE MIDDLE EAST REMAIN SOME OF THE HIGHEST PAYING MARKETS FOR AUSTRALIAN FRESH FRUIT AND VEGETABLES

GROWING CONSUMER DEMAND IN ASIA

The rise of the Asian middle class and associated increase in demand for meat and protein is well documented. The impact on demand for fresh fruit and vegetables is equally as exciting an opportunity for Australian exporters.

Aside from growing global demand for meat and animal products, the lesser-told story is the increase in global consumption of fresh fruit and vegetables. Since the early 1990s, the global per capita consumption of vegetables and fruit (excluding root vegetables) has increased by 3.6 per cent and 12.4 per cent per annum respectively. These are substantial figures in the context of milk consumption increasing 0.8 per cent and meat consumption increasing 1.5 per cent per annum.

²⁷ This figure includes dried chickpea exports which would fall under the standard classification for vegetables for trade purposes. By themselves, chickpeas, lentils and other dried legume exports were almost \$1.5 billion in 2016.

AUSTRALIAN MARKET SHARE OF ASIAN FRUIT IMPORT MARKET

	2007	2016	Change (2007–16)	Change in Australia's exports to Asia	Asian Market Size: 2016 (USD\$'000)
Almonds and other nuts (excl. coconuts, brazil nuts)	3.1%	4.8%	1.7%	475.5%	6,851,556
Fresh strawberries, raspberries, blackberries, black, white or red currants, gooseberries	1.7%	0.8%	-0.9%	104.7%	4,691,835
Citrus fruit, fresh or dried	5.0%	7.3%	2.4%	251.2%	3,619,791
Apples, pears and quinces, fresh	0.4%	0.5%	0.1%	246.4%	3,479,393
Coconuts, Brazil nuts and cashew nuts, fresh or dried, shelled or peeled	0.0%	0.0%	0.0%	308.3%	3,250,254
Grapes, fresh or dried	8.1%	12.8%	4.7%	529.3%	2,961,952
Bananas, incl. plantains, fresh or dried	0.0%	0.0%	0.0%	734.8%	2,820,777
Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried	1.4%	1.8%	0.4%	249.1%	2,383,222
Apricots, cherries, peaches incl. nectarines, plums and sloes, fresh	6.5%	3.7%	-2.8%	243.5%	2,370,371
Melons, incl. watermelons, and pawpaws (papayas), fresh	5.9%	6.9%	1.0%	123.8%	391,650

AUSTRALIAN MARKET SHARE OF ASIAN VEGETABLE IMPORT MARKET (EX CHICKPEAS)

	2007	2016	Change (2007–16)	Change in Australia's exports to Asia	Asian Market Size: 2016 (USD\$'000)
Onions, shallots, garlic, leeks and other alliaceous vegetables, fresh or chilled	0.2%	0.3%	0.1%	5.2%	3,043,199
Roots and tubers of manioc, arrowroot, salep, Jerusalem artichokes, sweet potatoes and similar	0.2%	0.1%	-0.1%	60.6%	2,015,304
Other vegetables, fresh or chilled including asparagus, celery, mushrooms and capsicum	0.0%	0.1%	0.1%	79.5%	1,560,362
Cabbages, cauliflowers, kohlrabi, kale and similar edible brassicas, fresh or chilled	0.2%	0.2%	0.1%	15.5%	871,672
Potatoes, fresh or chilled	5.2%	2.9%	-2.3%	134.9%	783,300
Tomatoes, fresh or chilled	0.5%	0.5%	0.0%	40.6%	668,101
Carrots, turnips, salad beetroot, salsify, celeriac, radishes and similar edible roots, fresh or chilled	2.2%	2.9%	0.7%	156.8%	578,843
Lettuce (<i>Lactuca sativa</i> L) and chicory (<i>Cichorium</i> spp.), fresh or chilled	3.1%	3.6%	0.5%	242.7%	290,259
Leguminous vegetables, shelled or unshelled, fresh or chilled	14.9%	15.0%	0.1%	36.0%	109,822
Cucumbers and gherkins, fresh or chilled	8.3%	15.7%	7.5%	142.0%	61,212

Source: UN TradeMap

IS AUSTRALIA WELL PLACED TO TAKE ADVANTAGE OF THE ASIAN OPPORTUNITY?

The opportunity for Australian exporters to fill the growing demand in Asia for fresh fruit and vegetables is clear and while fresh fruit and nut exports have begun to take advantage of this opportunity, Australian vegetable exporters have less penetration and growth into the Asian market. There are numerous reasons for this, but the largest is quarantine access to Asia's largest market, China.

Currently Australia has a quarantine protocol signed with China for the importation of almonds, citrus, table grapes, cherries, Tasmanian apples, lettuce and asparagus and, more recently, stone fruit.

WHERE ARE THE OPPORTUNITIES FOR FUTURE GAINS?

Once Australia's export of fresh fruit and vegetables is broken into different commodities, it becomes clear that while Asia's fruit import market is much larger than the demand for imported vegetables, Australia's vegetable production – where potatoes and tomatoes are the two largest vegetable harvests – does not align strongly with growth in demand for vegetables in Asia. For Asia's three largest fruit imports (almonds, berries and citrus), Australia's market share has grown for almonds and citrus to 4.8 per cent and 7.3 per cent respectively.

However of Asia's three largest vegetable import commodities Australia's market share is 0.3 per cent (onions), 0.1 per cent (cassava) and 0.1 per cent (asparagus and celery). Our larger market share lies in the smaller vegetable imports of lettuce, carrots and turnips. Indeed, while China imports very little in the way of fresh vegetables, the one major import product of cassava is not highly produced in Australia.

So while Australia's fruit exports to Asia are kicking off, there is still considerable potential for vegetable growers to either align their production more closely with demand in Asia, or to continue to build a value-added brand for growing middle-class demand across Asia.

WHAT ARE THE BARRIERS TO TAKING ADVANTAGE OF THOSE OPPORTUNITIES?

Despite recent success in negotiating Free Trade Agreements with China, Japan and South Korea, the greatest barrier to exports remains market access through quarantine protocols.

While those fresh fruits and vegetables with access to China have performed very strongly, a large number of Australia's major vegetable products and, to a lesser extent, fruit, have not gained market access. Californian strawberries have recently gained access to the Chinese market, providing evidence that there is scope for continuing expansion of trade to Asia.

WHILE THOSE FRESH FRUITS AND VEGETABLES WITH ACCESS TO CHINA HAVE PERFORMED VERY STRONGLY, A LARGE NUMBER OF AUSTRALIA'S MAJOR VEGETABLE PRODUCTS AND, TO A LESSER EXTENT, FRUIT, HAVE NOT GAINED MARKET ACCESS

Other issues facing trade in fresh fruit and vegetables remain the timeliness and safety of cold chain logistics, which is continuing to improve in leaps and bounds – particularly as Australian chilled beef has gained access to the Chinese markets.

On the local production end of the supply chain, producers are faced with increasing energy costs and irrigation water constraints. Access to reliable farm labour also remains an ongoing problem for those producers who require seasonal workers.

An increasing trend toward capital intensive undercover production, reducing exposure to climatic conditions and income volatility, is a response to some of these concerns. This type of horticulture is increasingly attracting attention from larger investors, however at present, almost all undercover production is destined for domestic markets.

The production of premium and consistent quality undercover/indoor horticultural production direct to export markets is therefore an opportunity for the Australian industry.



CONCLUSION

To many observers of global agriculture, twelve years ago saw the start of the momentum in global agri demand and investment.

At that time, US ramped up biofuel production from crops, capital flows into agri escalated, and governments globally implemented food security plans.

The Australian agri sector has ridden this momentum since that time, expertly capitalising on new opportunities in demand, in new markets, and in attracting global capital.

However, the coming twelve years, until 2030, is likely to be tougher. Many of Australia's agri competitors for global market share have 'caught up' in terms of quality, volume and reliability. Black Sea region wheat and Brazilian cattle are two key examples. Ominously, these and other competitors continue to use their structural advantages – including subsidies, scale of production, and trade bargaining power – to start to outcompete.

As Australian agri looks toward 2030, and sizes up the challenge, the industry needs to take stock of factors which are inevitable, and those which it has the ability to influence, and consider how to make the most of both.

Domestically, at a producer level, the continuing consolidation of farms is beneficial to sector output and industry level profitability. As productive and innovative farmers continue to expand their operations, not only will they gain efficiency and scale, but also the opportunity to enhance all parts of their operations, with these developments flowing back to the wider sector.

Australia will remain a major focus for global capital seeking to invest in agricultural. Bluntly, despite the impact of the drought, or the improving state of competing agricultural regions, no other nation can realistically match Australia's combination of quality and scale output, combined with low regulatory risk.

If there is one area of the agri landscape with scope for improvement, it is in streamlining the linkages between capital and agri opportunity. While the investment and joint ventures continues to grow, there is arguably still too much uncertainty on how to access this space, particularly by producers.

As this report has detailed, each of Australia's major agri sectors are world leading in their own way, and there continues to be much that they can learn and replicate from each other.

Perhaps most pertinent at this point in time is Australia's wine industry, which has succeeded in marketing much of its product as one of world leading quality and prestige, in the face of long established competitors.

For the wheat and grain sector, the continuing ability to produce a product specifically for customer requirements – such as for particular noodles, breads or malts – has kept the industry ahead of strong Black Sea region competition in many key Asian markets.

In addition, Australia's beef sector has built a global reputation on safety (i.e. disease free) and traceability, aspects which all sectors need to master.

As this paper has also detailed, the changes in market share of major importers by 2030 will require forward planning by Australian agri sectors, much of which is underway. While China will remain the focus market for so many Australian exports, the outside opportunities grow, serving to dilute the concentration risk. With many Australian exporters having cut their teeth on their China strategies over the past decade or longer, now is the time to be implementing similar strategies for Vietnam, Indonesia, the Philippines, and other growing markets for Australian food and produce. While India remains proudly close to self-sufficiency in many products, it would be a brave agribusiness which did not at least keep half an eye on this global giant, for where the opportunities may be in the longer term.

Australia's agri sectors are very well positioned to take on the global competition and, over the next twelve years, lift export market share, volume and value. But it will need to take new levels of collaboration, vision and innovation across all parts of the supply chain, including the regulators and financiers, to make this happen.

The challenge is here.

CONTACTS

MARK BENNETT

Head of Agribusiness & Specialised
Commercial, Business & Private Bank
T: +61 3 8655 4097
E: mark.bennett2@anz.com

IAN HANRAHAN

Head of Food, Beverage & Agribusiness,
Australia – Institutional Banking
T: +61 7 3947 5299
E: ian.hanrahan@anz.com

CONTRIBUTORS

ALANNA BARRETT

Associate Director Agribusiness
Research, Business and Private Bank
T: +61 2 5933 0209
E: alanna.barrett@anz.com

VIVEKA MANIKONDA

Senior Analyst, Institutional
Client Insights & Solutions
T: +91 8067 953 036
E: vivekasri.manikonda@anz.com

MICHAEL WHITEHEAD

Head of Agribusiness
Insights, Institutional
T: +61 3 8655 6687
E: michael.whitehead@anz.com

MADELEINE SWAN

Associate Director Agribusiness
Research, Business and Private Bank
T: +61 3 8654 5821
E: madeleine.swan@anz.com

DISCLAIMER

The distribution of this document or streaming of this video broadcast (as applicable, "publication") may be restricted by law in certain jurisdictions. Persons who receive this publication must inform themselves about and observe all relevant restrictions.

1. Disclaimer for all jurisdictions, where content is authored by ANZ Research:

Except if otherwise specified in section 2 below, this publication is issued and distributed in your country/region by Australia and New Zealand Banking Group Limited (ABN 11 005 357 522) ("ANZ"), on the basis that it is only for the information of the specified recipient or permitted user of the relevant website (collectively, "recipient"). This publication may not be reproduced, distributed or published by any recipient for any purpose. It is general information and has been prepared without taking into account the objectives, financial situation or needs of any person. Nothing in this publication is intended to be an offer to sell, or a solicitation of an offer to buy, any product, instrument or investment, to effect any transaction or to conclude any legal act of any kind. If, despite the foregoing, any services or products referred to in this publication are deemed to be offered in the jurisdiction in which this publication is received or accessed, no such service or product is intended for nor available to persons resident in that jurisdiction if it would be contradictory to local law or regulation. Such local laws, regulations and other limitations always apply with non-exclusive jurisdiction of local courts. Before making an investment decision, recipients should seek independent financial, legal, tax and other relevant advice having regard to their particular circumstances.

The views and recommendations expressed in this publication are the author's. They are based on information known by the author and on sources which the author believes to be reliable, but may involve material elements of subjective judgement and analysis. Unless specifically stated otherwise: they are current on the date of this publication and are subject to change without notice; and, all price information is indicative only. Any of the views and recommendations which comprise estimates, forecasts or other projections, are subject to significant uncertainties and contingencies that cannot reasonably be anticipated. On this basis, such views and recommendations may not always be achieved or prove to be correct. Indications of past performance in this publication will not necessarily be repeated in the future. No representation is being made that any investment will or is likely to achieve profits or losses similar to those achieved in the past, or that significant losses will be avoided.

Additionally, this publication may contain 'forward looking statements'. Actual events or results or actual performance may differ materially from those reflected or contemplated in such forward looking statements. All investments entail a risk and may result in both profits and losses. Foreign currency rates of exchange may adversely affect the value, price or income of any products or services described in this publication. The products and services described in this publication are not suitable for all investors, and transacting in these products or services may be considered risky. ANZ and its related bodies corporate and affiliates, and the

officers, employees, contractors and agents of each of them (including the author) ("Affiliates"), do not make any representation as to the accuracy, completeness or currency of the views or recommendations expressed in this publication. Neither ANZ nor its Affiliates accept any responsibility to inform you of any matter that subsequently comes to their notice, which may affect the accuracy, completeness or currency of the information in this publication.

Except as required by law, and only to the extent so required: neither ANZ nor its Affiliates warrant or guarantee the performance of any of the products or services described in this publication or any return on any associated investment; and, ANZ and its Affiliates expressly disclaim any responsibility and shall not be liable for any loss, damage, claim, liability, proceedings, cost or expense ("Liability") arising directly or indirectly and whether in tort (including negligence), contract, equity or otherwise out of or in connection with this publication.

If this publication has been distributed by electronic transmission, such as e-mail, then such transmission cannot be guaranteed to be secure or error-free as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. ANZ and its Affiliates do not accept any Liability as a result of electronic transmission of this publication.

ANZ and its Affiliates may have an interest in the subject matter of this publication as follows:

- They may receive fees from customers for dealing in the products or services described in this publication, and their staff and introducers of business may share in such fees or receive a bonus that may be influenced by total sales.
- They or their customers may have or have had interests or long or short positions in the products or services described in this publication, and may at any time make purchases and/or sales in them as principal or agent.
- They may act or have acted as market-maker in products described in this publication.

ANZ and its Affiliates may rely on information barriers and other arrangements to control the flow of information contained in one or more business areas within ANZ or within its Affiliates into other business areas of ANZ or of its Affiliates.

Please contact your ANZ point of contact with any questions about this publication including for further information on these disclosures of interest.

2. Country/region specific information:

Australia. This publication is distributed in Australia by ANZ. ANZ holds an Australian Financial Services licence no. 234527. A copy of ANZ's Financial Services Guide is available at <http://www.anz.com/documents/AU/aboutANZ/FinancialServicesGuide.pdf> and is available upon request from your ANZ point of contact. If trading strategies or recommendations are included in this publication, they are solely for the information of 'wholesale clients' (as defined in section 761G of the Corporations Act 2001 Cth). Persons who receive this publication must inform themselves about and observe all relevant restrictions.

