Consumption Patterns and Food Demand in Australia to 2050

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Key Points

- Australia’s demographic transition to an older, more ethnically diverse and increasingly urban population will shape the nation’s food demand profile to 2050.

- Australia is currently food secure, yet the growth of its agricultural sector may be vulnerable towards 2050 due to decreasing competitiveness in the production of key food commodities and the effects of climate change.

- To satisfy export growth targets while maintaining domestic food security, Australia must think ahead and plan to increase agricultural production and improve sustainability to 2050. This can be achieved by returning to a research and development funding benchmark of five per cent of agricultural GDP.

Summary

The prospects for Australian agriculture in the period to 2050 lie in its capacity to meet growing food demand, both domestically and also in Asia. Food consumption levels in Australia are increasing per capita, and demand will continue to increase, as the population is expected to reach 35.9 Million in 2050. Domestic consumption of many of Australia’s key food commodities, such as wheat and dairy, continues to rise. Local demand for imported, processed products is also increasing, however.

Global diets are becoming increasingly homogeneous, forcing governments to focus on producing and importing food products previously only consumed in Western societies.
Australia’s historical advantage in the production of beef, sheep, wheat and dairy now faces strong competition from foreign producers. To reach government targets for export growth, and also maintain domestic self-sufficiency, Australian farmers must improve their productivity and competitiveness in the global market. This goal faces significant challenges from climate change, resource scarcity, distribution issues and market access. Reductions in public agricultural research and development funding since the early 2000s, have left Australia on the back foot in responding to emerging demand. A return to the previous research funding level of five per cent of agricultural GDP, would assist farmers in meeting those challenges and allow Australia to capitalise on what the Minister for Agriculture, Barnaby Joyce, describes as ‘an opportunity of a lifetime’.

Analysis

Australia is one of the world’s most food secure nations; self-sufficient in key food commodities including meat, dairy and grains. Domestic production currently supplies 90 per cent of domestic food demand; the remaining 10 per cent supplied by imports. The top five partners of Australia’s food imports are New Zealand, the U.S, China, Singapore and Thailand.

Australia currently exports 70 per cent of all the food it produces, maintaining a strong food trade surplus of ($19.2 billion in 2011-2012). Global demand for Australian food products is greatest for unprocessed grains, wheat, beef, sheep and dairy. Australia’s major export partners are Japan, South Korea, the U.S, China and Indonesia.

The current food agenda in Australia focuses on the potential to capitalise on increasing food demand in Asia. It is recognised that growing food demand in the region has the potential to increase agriculture’s share of the national GDP in the post-mining boom economy. Attention should be directed, however, to patterns in domestic food demand and changing diets.

Domestic demand and consumption trends are influenced by Australia’s changing demographic profile. Australia’s population in 2050 will be older, more urban, and more ethnically diverse, and will have higher average incomes. These patterns will influence Australia’s capacity to maintain a trade surplus in food and remain food secure to 2050.

Drivers of Food Demand and Consumption

Population Growth

Predictions of population growth to 2050 and beyond, however, vary considerably. According to the Department of Treasury’s 2010 Intergenerational Report, Australia’s population will rise to approximately 35.9 million people by 2050. Australia’s growing population, coupled with increasing per capita consumption, will increase the pressure on our domestic food system to maintain an economically healthy trade surplus. We can already produce enough food for the growing demand of our domestic market; however this

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would be at cost to our food exports. The agricultural sector will need to improve productivity substantially to meet both domestic and export demands.

*Demographics and Diets*

Australia’s aging population will progressively affect both food consumption patterns and total demand. The percentage of the population over 85 has doubled from 0.9 per cent in 1990 to 1.8 per cent in 2010 and is expected to rise to between 4 and 5.5 per cent by 2056. Those over the age of 75 are most at risk of malnutrition and dietary related disease. This will increase the pressure on food access and nutrition in the aged care sector, and the demand on health care and other service providers. Younger generations have meanwhile experienced a shift in food access, with far more fast food options and supermarkets available, paving the way for high consumption of processed foods and a rise in diet-related health diseases. These trends will ultimately create endemic diet-related diseases to 2050 such as obesity, heart disease, and diabetes, presenting a health and fiscal burden to the economy to 2050.

Growing ethnicity in Australia will drive demand for a number of new and imported food products. The [2011 Census reveals](https://www.cia.gov/library/publications/the-world-factbook/geos/as.html) there are increasingly more Australians who were born in Asia and other parts of the world: first generation Australians now constitute 27 per cent of the population. Australia’s increasingly ethnic demographic is diversifying demand for a wider food range, including imported and processed fruit and vegetable products, halal-certified goods and alternate cuts of meat. This trend is likely to increase as food traditions pass through future generations of ethnic Australians to 2050.

Australia’s population is predominantly urban (currently 89 per cent of the population and growing) and this is largely responsible for the increased demand for convenient processed foods. Australian urbanites are regularly using nearby supermarkets as the ‘local fridge’, making 3-4 trips per day. They have a growing preference for frozen, easily prepared meals, to suit their ‘time poor’ urban lifestyles. Urban food consumption, and its integration with the modern retail and hospitality sectors, is also predisposed to issues of food waste. According to the [2010 National Food Waste Report](https://www.cia.gov/library/publications/the-world-factbook/geos/as.html), Australians waste approximately 1 kg of food per day, amounting to approximately $8 billion per annum. Wastage and growing urban demand will place increasing pressure on the small number of domestic farmers trying to supply Australians with enough food at sustainable and affordable prices.

High domestic demand for processed food products also present food security concerns in Australia by 2050. Australia currently maintains a trade surplus in the food processing and beverages sector. The sector faces significant constraints from high costs and retail price deflation, however, which threaten the long term viability of Australia’s key food processing capabilities. The continuation of domestic dietary trends that rely on processed products, may mean a move away from Australian produce and an increased reliance of food imports by 2050.

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Other evolving consumption trends are also evident through patterns of wheat, seafood and dairy consumption. Wheat consumption has increased by 55 per cent per capita since the 1970s, peaking in 2006. Despite a slight drop in consumption in 2013, the growth in wheat consumption from 2010 to 2013 averaged 12.6 per cent. Seafood consumption has also increased, with Australians now consuming 16 kg of seafood per person annually, making it the fifth largest industry in the agricultural sector.

Demand for dairy products in Australia has also increased steadily over the last five years, establishing Australia as a high consumer these goods, compared to other nations. Consumption of milk in particular has been spurred by Australia’s burgeoning ‘coffee culture’ in urban centres.

Meat consumption in the Australia market has witnessed an increase in the chicken and pork market share by three and two times respectively at the expense of beef and lamb. Chicken consumption has been spurred by the availability of low cost, fast food options for consumers. As of 2011, Australians consumed 111kg of meat per year, contributing to 40 per cent of total household food expenditure.

Changing consumption patterns in Australia do not independently threaten food security to 2050. The domestic agricultural and retail sectors are confident of absorbing domestic demand for the nation’s key food commodities, with the exception of the struggling processed food industry. The sector’s push to supply global demand, driven by maximising value over volume, however, could reduce the share of Australian produce in the domestic market, posing future food security vulnerabilities by 2050.

**Global Demand**

Global trends, shaped by rising average incomes, have prompted an increase in demand for protein, dairy and wheat products. Global diets and crop selection are becoming increasingly homogeneous in line with demand for these products. Meat and wheat, in particular, are significant drivers of global food demand from growing economies. In China, meat consumption has grown from 4kg to 54kg per person per year, in the 50 years up to 2010. Meeting increasing protein demand domestically and in lucrative export markets will pose a significant challenge to Australian producers in the period to 2050.

Wheat consumption is on the rise worldwide, as emerging economies, such as Indonesia, begin to substitute bread-based products for traditional staple foods, such as rice and maize. Australia ranks as the fourth highest exporter of wheat and is well positioned to capitalise on increasing global demand. The effects of climate change on wheat production to 2050, however, may curtail this potential.

Australian food exports have already received a boost due to the increasing demand overseas. Food exports rose significantly between 2011 and 2012; up 12.3 per cent, to $30.5 billion. Unprocessed grains produced a third of those gains during the 2011-12 period. This is symptomatic of the global hunger for grain, driven by the demand for animal feed, in the wake of growing livestock numbers, and the increasing demand for wheat-based products in emerging economies.
Challenges and Opportunities

Opportunities for Australian agriculture to 2050 lie primarily in supplying the increasing demand in Asia. Australia has a long-standing strength production of raw and moderately processed food products. As demonstrated by recent export gains, protein and wheat are among Australia’s most lucrative agricultural products; they will play a primary role in driving growth in agriculture to 2050. These food exports are built on a reputation of consistent quality. Australia’s stable investment climate and geographical proximity to Asian markets are key drivers for opportunities in the sector. The Treasury estimated in 2012 that the share of the agricultural sector in the national GDP could double by 2050, from 2.5 per cent to 5 per cent.

Rising global incomes, particularly in Asia, will improve Australian opportunities in supplying premium produce. Increasing demand for high quality Australian products, particularly in Asia’s emerging hospitality industries, could mimic current demand profiles for our products in export markets such as UAE, Singapore and Hong Kong.

Australia must confront challenges within the sector to take advantage of its existing opportunities. These challenges include distribution issues, resource scarcity, diminishing labour pools, climate change, weakening competitiveness and market access restrictions. If these issues are not addressed, Australian agriculture will not reach its growth targets by 2050.

Distribution and labour

A growing urbanised population has ramifications for distribution in the agricultural sector, increasing food-miles from farmer to plate, placing further strain on existing problems in the rural transport network. The rising price of energy commodities continues to increase costs to the domestic food system, and exporters. This heightens the need to improve the agricultural supply chain (including roads and other infrastructure), because the current inefficiencies limit productivity.

Australia’s substantially urban population, still increasing due to rural migration and the preferences of new international migrants (predisposed to urban living), has left rural centres and agricultural businesses with significantly diminished labour pools. The effect of this reduction in labour is compounded by high average incomes in Australia, affecting Australian agricultural competitiveness in the global market.

With food production requiring significant expansion in the coming decades, limited labour in rural centres will pose a challenge to food security and Australian food production. To meet increasing domestic demand, while maintaining export targets, it is crucial that key resources, including labour, are available.

Resource scarcity

The Department of Agriculture admits that the agricultural sector can only grow if it can produce more food with the same, or fewer, natural resources. Land availability, once the historical advantage for Australian agriculture, is now a significant constraint. Australia’s
total area sown to crops has remained stagnant at 25 million hectares per year over the last two decades. Consequently, future land development schemes must focus on food security and attract more backing from state and federal governments.

Current energy, water and land scarcities all limit the capacity for growth in Australia’s agricultural sector. Rising global costs of agricultural inputs, such as fertilisers and pesticides, are affecting the profit margins of domestic producers. Furthermore, soil acidification from input misuse could also have long-term effects on sustainability. Diminishing water resources have long posed a problem for Australian farmers, who have proved to be amongst the most resilient to drought in the world. Irrigation levels in Australia’s most productive agricultural region, the Murray-Darling Basin, have been capped since 1995. Pressure on water resources may, by 2050, prove to be insurmountable without the construction of major public infrastructure projects.

Research and technical adjustment is imperative for the sector’s growth. Development of new breeding methods, drought resistant crop strains and improved irrigation systems, are some of the many ways Australian farmers could maximise current resources to improve agricultural production.

Climate change

Australia’s ability to increase, or even maintain current production, faces distinct challenges from the effects of climate change. A recently released IPCC report serves as a reminder of the threats Australia faces from rising temperatures to 2050 and beyond. The report argues that, under current production conditions, by 2050 the anticipated three degrees of warming (from a 1980-99 baseline) will reduce the value of stocks of beef cattle and sheep by four per cent. Similarly, dairy production will decline in all regions, except Tasmania, if there is one degree of warming from the 2014 level.

Of greatest concern is the vulnerability of Australia’s largest staple crop, wheat, to drought conditions. Australia’s wheat production decreased by 60 per cent in 2008 after an extended and severe drought, barely satisfying domestic demand. Droughts of similar severity are expected to become more frequent in the future, and so pose a threat to Australia’s primary food commodities. The current high production and exports of key commodities must not mask the vulnerability of these products to climate change, nor the food security implications for the period to 2050.

Competitiveness and market access

Proximity alone does not ensure that Australia can capitalise on the ‘Asian food bowl’. Australia cannot compete purely on price in many key food products against South American and Eastern European producers. Despite Australia’s historical strength in beef and lamb production, it faces steep competition in the future from other exporters – namely Brazil and India - to supply China and other emerging Asian markets. In a speech at The Australian’s Global Food Forum earlier this month, VISY Executive Chairman Anthony Pratt warned that Australia continues to lose ground to more aggressive competitors, and has less than five years to capitalise on the opportunity to become a food bowl for Asia.
A key driver of Australia’s current food security status is food affordability. Australian families spend an average of 17 per cent of their incomes on food, ranking in the world’s top five countries for food affordability. Australian producers must retain their competitiveness and affordability in the domestic market, otherwise imports will likely increase in Australia; a trend which will leave Australia vulnerable to expected global food price hikes to 2050.

The complexities of current market access conditions for Australian exporters are limiting their opportunities to establish a market share for Australian food products in key markets, such as China. Australian dairy producers, for example, missed out on a key opportunity for gaining market share in China after the 2008 Melamine scare; allowing New Zealand, which has had a Free Trade Agreement with China since 2008, to fill the gap. New Zealand’s access to foreign markets is an advantage for their dairy industry, which accounts for one third of global dairy sales. As Australia continues to push for a FTA with China, it is quickly losing ground in the race for market access, against competing exporters.

**Current Strategies**

The DAFF National Food Plan White Paper, produced by the previous government, estimates that agricultural productivity will need to improve by 30 per cent to reach the government’s target of a 45 per cent increase in the value of agriculture and food related exports to Asia within ten years. Government funding for agricultural research, development and education (R, D & E) was approximately $700 million over the 2011-12 financial year, amounting to 2.4 per cent of agricultural GDP for that year. Of this funding, $236 million was allocated to the industrial transformation research programme focusing on food related research, future food shortage issues, processing and product opportunities. There is little evidence of an increase in government funding levels, with some economists suggesting there has in fact been a decrease. An increase in R, D & E funding is critically important to satisfy domestic and trade demands of Australian food products to 2050.

Market access for agricultural goods, has been a key focus of the Coalition government. Prime Minister Abbott’s recently completed trade mission to North Asia concluded negotiations with Japan over a Free Trade Agreement (FTA) and signed an FTA with South Korea. Japan’s decision to reduce tariff barriers on Australian beef and dairy is said to be worth $2.8 billion over the next 20 years, while the FTA with Korea is expected to increase Australian agricultural exports to the Asian nation by 75 per cent over the next 15 years. These FTA’s with Japan and South Korea highlight the possible benefits of improved market access for growth in the Australian agricultural sector.

The Australian government has signaled its awareness of the handicap of high labour costs in the agricultural sector. Its refusal to grant Australia’s largest food processor, SPC Ardmona, $25 million was supported by government claims that the company’s tentative financial situation was due to unsustainably high wages, which are wide-spread in the domestic processing industry. While extensive government intervention is unlikely in the short term, the Coalition government is likely to towards workplace reform in the future to improve competitiveness.
The imminent release of the Department of Agriculture’s White paper on the Competitiveness of the Agriculture Sector in late 2014, and possible policy outcomes beyond, is expected to identify and take advantage of the global demand for food products in which Australia maintains strategic advantages in production. Maximising food production, through crop relocation and investment promotion, has been announced as key terms of reference for the paper.

**Conclusion**

Treasury’s prediction that agriculture will grow from its current 2.5 per cent contribution to national GDP to reach five per cent by 2050, is unachievable without driving up productivity in the agricultural sector, using current, or fewer, resources. Considerable productivity growth is the only solution to feeding both Australia’s population and maintaining the government’s lofty targets for export growth to Asia.

Australia’s advantages the production of key food products, such as beef, wheat and dairy, resulted from the government’s key focus on research and development in the agricultural sector from the early 1950s. Since the early-2000s, however, total factor productivity (TFP) in Australian agriculture has been almost stagnant; running at less than one per cent. A reduction in research intensity since the late 1980s is largely responsible for this decline. Prominent agricultural economist Dr. John Mullen and Mike Keogh, the Executive Director of the Australian Farm Institute, argue that a return to a research intensity of five per cent of Agricultural GDP per annum, is essential for sustained productivity growth. Intensifying efforts to achieve the sustainability for Australian farming systems must be of primary concern. This involves improving efficiency in water use and agricultural inputs, remedying soil and land degradation issues and using adaptive strategies to improve resilience in response to climate change. Without an increase in R, D & E, Australia will fall behind competitors, whose governments have placed a greater emphasis on public investment in agriculture.

Consumption levels per capita continue to rise, which will have a compounding effect on food demand, and put pressure on self-sufficiency of key food products. Demand for imported and processed foods is likely to grow steadily, reflecting rising incomes and growing demographic ethnicity.

Currently, there is little risk that Australia will be a net food importer by 2050. Under current conditions, however, there will be challenges in ensuring domestic food security, while continuing to expand export markets. Shortfalls in public investment, labour, land and water resources must be addressed to prevent Australian farmers falling behind global competitors. Without meaningful reform, export growth potential will suffer in the long term, as domestic food security is prioritised over foreign markets.

FDI will be investigating these issues closely, as part of our ongoing study into Australia’s food systems in 2014.

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