Globalization and its Impact on the Australian Agri-food System

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Introduction
What does globalization mean? Carbaugh (2005) describes globalization as the process of greater interdependence among countries and their citizens. It consists of increased integration of product and resource markets across nations via trade, immigration\(^1\), and foreign investment. It also includes non-economic elements such as culture and the environment. According to Carbaugh, globalisation has political, technological, cultural and economic dimensions. Martin Wolf says that globalisation is about a movement towards greater integration of countries, as both natural and man made barriers to international economic exchange continue to fall. Wolf goes on the say that a necessary consequence of such a process of integration is the increased impact of economic change in one part of the world on what happens in other parts of the world. Globalization is not new. The economic historian Angus Maddison has calculated global and per person income for the last 2000 years, and his figures show that global growth recorded its greatest increase in the middle part of the nineteenth century (Table 1). This was a period when new inventions such as the steam engine, steel hulled ships and the telegraph shrank distances between countries, leading to a period of increased global integration – in other words, globalization.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (000)</th>
<th>GDP (mill.1990 US$)</th>
<th>GDP per person (1990 US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>230 820</td>
<td>102 619</td>
<td>445</td>
</tr>
<tr>
<td>1000</td>
<td>267 573</td>
<td>116 787</td>
<td>436</td>
</tr>
<tr>
<td>1500</td>
<td>438 428</td>
<td>248 308</td>
<td>566</td>
</tr>
<tr>
<td>1600</td>
<td>556 148</td>
<td>330 982</td>
<td>595</td>
</tr>
<tr>
<td>1700</td>
<td>603 490</td>
<td>371 269</td>
<td>615</td>
</tr>
<tr>
<td>1820</td>
<td>1 041 834</td>
<td>695 346</td>
<td>667</td>
</tr>
</tbody>
</table>

\(^1\) According to Carbaugh, the latest wave of globalization, which he says began about 1980, is characterized by more limited labour flows than was the case 100 years ago.
The most profound influences driving globalization are technological change, which has resulted in dramatic decreases in transport and communications costs; and policy changes (Wolf 2004). Reduction of trade barriers, negotiated since the Second World War under the auspices of the GATT and its successor organisation, the WTO, were a key policy change for the member countries of the WTO. These reductions helped pave the way for the emergence of a global system of production, distribution and consumption in which firms are able to assemble inputs from around the world and to service an equally global marketplace. Ruggiero (1996) says that this “in turn has accelerated the movement of global investment, as firms learn that the best way to achieve comparative advantage in production, in sourcing, in distribution, and in technology is to establish a direct presence in foreign markets.”

2 Whether the GATT and the WTO increase trade has been questioned by Rose (2005). He concludes after an analysis of trade between countries, based upon gravity models that bilateral trade cannot be dependably linked to membership in the WTO or its predecessor organisation the GATT. He suggests that trade may have grown faster than income because of higher rates of productivity in tradables, falling transport costs, regional trade associations, converging tastes, the shift from primary products towards manufacturing and services, growing international liquidity and changing endowments.

The Australian economy has always been part of the global economy, given the importance of immigration and imported capital, and the exporting of agricultural

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2 [http://www.wto.org/english/news_e/pres96_e/pr055_e.htm](http://www.wto.org/english/news_e/pres96_e/pr055_e.htm)
and mineral commodities. However, only over the last couple of decades has the view become widespread within Australia that there are substantial benefits to the Australian economy from all parts of the economy becoming more outward oriented. Australian manufacturing, for example, was shielded from the global economy through tariffs and non-tariff barriers almost from the time that Australia became a country in 1901. This began to change in the 1970s when tariffs were cut and other forms of government intervention (such as import quotas, production subsidies and statutory marketing authorities) wound back or removed. To a large degree, the change in approach was influenced by the success of economies with an outward focus, such as those in East Asia. Deregulation of the economy (particularly public utilities providing infrastructure and services), and the floating of the exchange rate have assisted the globalization of the Australian economy. The benefits to the economy from this are substantial. According to estimates from DFAT (2005), one in five Australian jobs depends upon exports, and one in four depends on exports in the regional economy. Further, a 10 per cent increase in exports would create another 70 000 new jobs. The gains thus far from a more open global economy are reported by DFAT to have put another $1 000 in the pockets of every Australian family every year since 1986.

The Australian economy has performed well over recent years. Per person income growth has averaged around 3 per cent since 1991. Unemployment is low and inflation has been stable. It is believed by many that this owes much to economic and policy reforms that have occurred over the last 20 years, but a skilled multilingual workforce strong in IT and finance no doubts has helped. Foreign direct investment has been flooding in: in 2004, FDI was US$42 billion, which compares with China’s US$60 billion with 65 times as many people. American Express has based its Asian regional operations center in Australia and Air France runs its Asian sales operation out of Australia. Deutsche Bank

3 Besides “protection all around”, the White Australia Policy and centralized industrial relations ensured that the domestic manufacturing sector was largely insulated from the rest of the world.

uses Sydney and London as its two global hubs for processing foreign exchange transactions (Economist 2005).

**Changes in agriculture’s role in the economy**
In the first half of the 20th century, agriculture accounted for around a quarter of Australia’s output and between 70 and 80 per cent of Australia’s exports. Since then, as the Productivity Commission (2005) explains, agriculture’s relative importance within the economy has been in steady decline.

- Agriculture’s share of GDP fell from around 14 per cent in the early 1960s to 6 per cent in the early 1980s. Over the last two decades, it has ranged from between 4 and 6 per cent.
- Agriculture’s share of employment has more than halved since the late 1960s when it accounted for around 9 per cent of the workforce.
- Australia’s reliance on agricultural exports declined from over two-thirds of total exports in the early 1960s to just over one-fifth in 2003-04.

Australia is one of the most urbanized countries in the world with over half of the population living in five cities, and 85 per cent living in towns. The economy is based overwhelmingly on services, which make up close to 80 per cent of output.

**Agricultural trade**
Australia’s trade intensity (the ratio of the sum of exports and imports to GDP) is much lower than many other countries. In 2001, Australia was third last among the OECD countries on this index, ahead only of the USA and Japan. Batterby and Ewing argue that Australia’s geographic isolation has much to do with Australia’s relatively low trade intensity. They say that if Australia were located

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5 Trade intensity as a measure of trade performance is far from perfect since the country’s size in terms of GDP can distort the rankings (Battersby and Ewing 2005).
6 The measure of geographic isolation is based upon distance to trading partners and trading partners’ GDP and other variables including population and whether countries share common borders. The measure was calculated for 1950 and for 1998 for the OECD countries and the G20 countries not members of the OECD. The least remote country is Luxembourg, while the most remote is New Zealand. Australia was the second
where the United Kingdom is, then Australia’s level of trade would have been about 50% higher than it was through the 1990s. Australia’s geographic isolation increases the cost of trading which lowers the level of international trade, and provides natural protection for many Australian industries\(^7\).

In 2002, Australia with a 2.9 per cent share of world agricultural exports was the sixth largest exporter of agricultural products after the European Union, the United States, Canada, Brazil and China. Commodities where Australia was a major force include wool (65 per cent of global exports are Australian), mutton and lamb (25 per cent of exports are from Australia), beef (15 per cent come from Australia) and wine (9 per cent of global exports come from Australian wineries)\(^8\). Nonetheless, over the last four decades the importance of agriculture to Australian exports has fallen, with the decline particularly sharp between 1963-64 and 19834-84 (Table 2).

Table 2 Composition of Australia’s exports by sector, 1963-64 to 2003-04

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most remote. Japan was the 30\(^{th}\) most remote country, between China and India. Australia and Japan each became less remote between 1950 and 1998 by 13.5 per cent and 19.8 per cent, mainly reflecting the growth of China.

\(^7\) The Industry Commission Annual Report for 2001-02 provides examples of how technology has helped with globalization. The cost of a three minute telephone call to the UK fell from about $350 in 1926 (in 2002 dollars) to $13 in 1980 and to about 65 cents in 2003. A 20 word telegram cost about $1200 in the 1890s as compared with the cost of a local telephone call in the early 2000s. The unit cost of freight has fallen by about 70\% in the 10 to 15 year period leading up to 2001-02.

\(^8\) The Productivity Commission (2005) point out that there are two broad classifications for defining agricultural exports:

a) Industry based classifications – this uses the Australian and New Zealand Standard Industrial Classifications (ANZSIC). Businesses are classified according to the predominant activities undertaken by them. Under the ANZSIC, the exporting industry is typically the industry that performs the final activity to complete the processing or production of the good in question. Exports of processed agricultural products (such as wine, frozen beef, canned food, UHT milk and cheese) are classified as manufactured exports, despite most of the value coming from agriculture.

b) Commodity based classifications – this includes the UN Standard International Trade Classification (SITC), the Trade Exports Classification (TREC) used by the Department of Foreign Affairs and Trade; and the Balance of Payment (BOP) classification used by the ABS. Most of the data discussed here is based upon the commodity classification.
<table>
<thead>
<tr>
<th>Sector</th>
<th>Average for the three years ended</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(%)</td>
</tr>
<tr>
<td>Agriculture</td>
<td>68.0</td>
</tr>
<tr>
<td>Mining</td>
<td>1.9</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>13.6</td>
</tr>
<tr>
<td>Services</td>
<td>16.5</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Productivity Commission (2005), p.60

The Productivity Commission points out that while exports of total goods and services have grown at an average rate of about 6.3 per cent a year since 1974-75, agricultural exports have grown at only 3.5 per cent a year. This stronger growth in manufacturing and mining has transformed Australian merchandise exports from primarily agricultural into a mix of agricultural, mining and manufacturing exports\(^9\). This is in stark contrast to the late 1950s when just under 50 per cent of Australia’s merchandise exports were accounted for by a single product, wool. Service exports have been growing strongly. As an example, education service exports grew by 13 per cent to reach A$5.9 billion in 2003-04, making them Australia’s third largest export. Bovine meat exports and wheat exports, both of which also grew strongly in 2003-04 were worth A$4.6 billion and A$4.2 billion, respectively\(^{10}\).

Australia has been a strong supporter of the WTO and before it the GATT, an organisation Australia joined in 1948 when it was first formed. Australia has been critical of government support of agriculture in the EU, the USA and Japan and was instrumental in the establishment of the Cairn Group of countries. The

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\(^9\) The value of Australia’s rural exports in 2005-06 is expected to be A$31 007 million, as compared with A$33 428 million in 2000-01. Exports of minerals in these same years were A$84 815 million and A$57 912 million, respectively. Australia’s most important commodity export is metallurgical coal followed by iron ore pellets, crude oil and thermal coal. Beef and veal is the 8\(^{th}\) most important commodity export, and the most important one of rural origin.

Cairns Group considers itself the third force in WTO negotiations on agriculture, after the US and the EU. Despite Australia’s strong support of the multilateral negotiations, Australia has recently entered into a number of bilateral trade arrangements. Singapore, Thailand and the United States are countries where free trade agreements have been signed. Negotiations are underway with Malaysia, the United Arab Emirates, the ASEAN countries and China to determine whether bilateral trade agreements can be put in place with each of these countries. A feasibility study is underway to consider a free trade agreement with Japan.

Despite its strong support for freer trade, Australia has attracted its share of criticism from other countries.

- In 1975 Australia introduced a quarantine measure requiring salmon products to be heat-treated for certain prescribed durations and temperatures prior to importation into Australia. The result of Australia’s measure was to prohibit imports of fresh, chilled and frozen salmon, effectively limiting imports of salmon to either smoked or canned salmon. Australia’s reason for prohibiting the importation of fresh, chilled and frozen salmon was to protect Australia’s salmon population from the introduction of pathogens that could be responsible for various fish diseases. Strong support for the ban on imports came from the Tasmanian salmon growers and some sport fishing groups. Support for Canada’s position came from two Australian research organizations, the CSIRO and the Bureau of Resource Science. On June 12, 1998, a WTO Panel found that Australia’s ban on fresh, chilled and frozen salmon from Canada was not based on a risk assessment; was maintained without scientific evidence; and reflected an arbitrary and unjustifiable distinction in levels of protection that resulted in discrimination or a disguised restriction on trade, in violation of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures. Following an appeal by Australia, the WTO
Appellate Body upheld the Panel rulings on October 20, 1998. Australia failed to meet the WTO deadline and on July 15, 1999, Canada submitted a request to the WTO Dispute Settlement Body to retaliate against Australia by an amount of $45 million annually. Negotiations, a further WTO Panel to investigate Australia’s fish import policies followed by further negotiations, eventually resulted in Australia agreeing to provide access for Canadian salmon to Australia in 2000.  

- Australia has blocked access for New Zealand apples since 1921 on the grounds that New Zealand apples may be a pathway for fire blight, a plant pathogen that is not present in Australia. New Zealand has long contended, on the basis of the available scientific evidence, that fire blight cannot be transmitted via trade in mature apples. A Closer Economic Relations (CER) agreement came into force between Australia and New Zealand in 1983. Under this agreement, total free trade in goods and services was achieved in 1990 (five years ahead of schedule) with the elimination of all tariffs and quantitative restrictions except for five product sectors subject to special exemptions. In Australia, there has been criticism of McCain Foods for using potatoes from New Zealand to supply McDonald’s in Australia. There has also been criticism in Australia of the two dominant supermarkets - Woolworths and Coles Myer - using cheap imports for their house brands rather than Australian products. In 2003, the United States (with New Zealand as a Third Party) took Japan (with Australia as a Third Party) to the WTO Dispute Settlement Body regarding this disease. The WTO ruled that the scientific evidence suggests a negligible risk of possible transmission of fireblight through apple fruit. Despite this ruling, Australia has maintained its ban. In June 2005 the New Zealand Government lodged a complaint against Australia at the WTO Phytosanitary Committee.

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11 Details of the case may be found at [http://w01.international.gc.ca/minpub/Publication.asp?FileSpec=/Min_Pub_Docs/103345.htm](http://w01.international.gc.ca/minpub/Publication.asp?FileSpec=/Min_Pub_Docs/103345.htm)
Other examples of criticism leveled at Australian policies include the preferential taxation treatment given to an Australian company exporting leather for car interiors; the restricted access of pork to the Australian market; and the sole exporter power given to the Australian Wheat Board.

Australian agriculture has also been the target for criticism from special interest groups such as the People for the Ethical Treatment of Animals\(^{12}\). Galvanizing public opinion in support of a particular cause has been made easy through the Internet. The Australian wool industry, for example, has been criticized through the practice of mulesing; without the use of anesthetic, farmers remove the skin on the inner part of the hind legs of young sheep to lessen the incidence of blowfly strike. Animal activists have placed pressure on companies such as Benetton, Gap Inc, Nordstrom and Eddie Bauer not to sell products made from Australian wool while this practice – which they consider to be cruel - persists. Another industry to face criticism is the live animal export industry. This industry earns Australia hundreds of million of dollars per year from the export of live sheep to the Middle East and from exports of live cattle to Indonesia and the Philippines, in particular. The allegation made by critics of these industries is that the animals are not treated humanely. These issues – and others like them – have become prominent global issues.

**Population changes**

Australia’s population was 20.1 million at the end of June 2004. The proportion of the population born overseas in 2001 (the year of the most recent Census) was 23.1 per cent, slightly above the 22.8 per cent born overseas in 1996. People from the United Kingdom were the largest overseas born group (25.4 per cent) followed by those from New Zealand (8.7 per cent), Italy (5.4 per cent), Vietnam (3.8 per cent) and the PRC, excluding Hong Kong, Macau and Taiwan (3.5 per

\(^{12}\) http://www.peta.org
Only a small fraction of new entrants to Australia go into agriculture. Occupations such as the professions, IT, managerial and administrative duties are the most common.

According to the National Farmers’ Federation, there are at least 50,000 jobs available in the agriculture industry across all commodities and in all parts of the country, and the number is growing. Low levels of unemployment nationally and a drift in the population to the cities have contributed to this shortage. Many backpackers work on Australian farms through the Working Holiday Maker Visa. These allow young people to work in Australia for a period of 12 months, providing they do not work for a single employer for more than 3 months. The government has recently agreed (from 1 November 2005) to allow a second 12 month working holiday visa to be available to those who have worked in an agricultural seasonal job for at least three months during the previous 12 months.

**Dietary changes**

Over the past 40 years Australians’ eating habits have undergone many changes. New cultural influences, health considerations, changes in relative prices of different foods and substitutes, product marketing and so on have played a part. One important change involves beef and veal consumption. It grew from 40 kg per person in the late-1960s to a peak of 70 kg in 1976-77. Ten years later, reflecting changing attitudes to red meat, consumption had fallen to 36 kg in 1995-96. The small increase to 37 kg per person in 2002-03 was expected to precede a period over the next several years during which time consumption of beef and veal will run at about 35-36 kg per person.

Consumption of chicken meat increased by from 24 kg in 1988-89 to 35 kg per person in 2002-03. The Australian Bureau of Agriculture and Resource Economics (ABARE) expects it to exceed consumption of beef/veal in 2003-04.

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Between 1988-89 and 1998-99, sheep meat consumption fell from 22 kg per person to 16 kg, with a further decline to 14 kg expected in 2003-04. New technologies, many of which have been introduced from Europe and the USA, have seen the poultry industry become a closely controlled, vertically integrated industry. An estimated 85 per cent of poultry meat in the early 2000s was being produced under contracts (Productivity Commission 2005).

Another industry where globalization has resulted in a major change is the pig meat industry. Producers have been able to exploit economies of scale through the introduction of technologies, most of which have been developed overseas. Pig meat consumption remained relatively constant through the 1990s at around 19 kg per person. It has since increased slightly and was expected to peak at 22 kg in 2003-04 before easing back to around the 20 kg mark. Seafood consumption remained in the 10-11 kg per person range during the 1990s but recent data suggests it may now almost rival sheep meat's consumption rate.¹⁵

There are other changes occurring to the type of foods Australian eat and this would be due, at least in part, to Australia having a more diverse population with different tastes. For example, twenty years ago, there was one variety of lettuce grown (the iceberg variety), but now there are many others, including cos, coral green, butter and mixed leaves. Some are grown hydroponically and others in glasshouses.¹⁶

**Technical change**

As noted earlier in this paper, technology has played a major role in globalization. Computers and the Internet are perhaps the most visible example of this new technology. Farmers use computers and the Internet for record keeping, organizing business activities, and receiving and sending information on prices, market opportunities and production practices. In farming families, computers

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¹⁵ [http://www.abs.gov.au/Ausstats/abs@.nsf/0/29550F34FEE00FC5CA256F7200832FDA?Open](http://www.abs.gov.au/Ausstats/abs@.nsf/0/29550F34FEE00FC5CA256F7200832FDA?Open)

¹⁶ Interestingly, the third most important vegetable by value is the mushroom, after potatoes and tomatoes.
and the Internet provide social contact and are used as an educational resource for children. In 2000, a study found that farming families connected to the Internet used it primarily for weather reports, market analysis, and educational and banking services.\textsuperscript{12}

**Other issues**

Globalization is generally believed to have helped developing countries such as Thailand, Indonesia, China and India increase their income levels. With increased income levels, diets in these countries are expected to change towards ones where livestock products play a greater part. FAO data show that this change is occurring, with the index of livestock production per person in China increasing from 49.2 in 1990 to 119.1 in 2004. In India, the change was from 82 to 105.6 and Indonesia from 94.4 to 126.7.\textsuperscript{17} Australia should be able to benefit from these developments through increased livestock exports and also through providing services to countries where the livestock industries are expanding. The types of services that Australian firms are able to provide include the design of production and processing facilities, waste management and veterinary services.

Globalization has created opportunities for foreign firms to take over the ownership of Australian firms. This is a continuation of what was happening over 20 years ago when Japanese firms and individuals were investing in the Australian beef industry. It is a development not restricted to agriculture: it has also been happening in the mining industry. Recent examples in agriculture include the Italian dairy company Parmalat Finanziaria SD.p.A. taking over Pauls Limited;\textsuperscript{18} the New Zealand firm Fonterra taking over Bonlac; and the Philippine multinational San Miguel buying National Foods Limited.

The German grocery chain Aldi is a recent entry into the supermarket industry. This has forced the two firms that dominated food retailing (Coles Myer and

\textsuperscript{17} FAOSTAT data, 2005
\textsuperscript{18} http://www.accc.gov.au/content/index.phtml/itemld/87295
Woolworth) to adopt new marketing strategies such as increased use of home brand products sometimes sourced from overseas suppliers, rather than an Australian supplier. This has become a controversial issue with populist media commentators and local politicians critical of the supermarket policy of sourcing from the cheapest supplier.

**Concluding comments**

Australia’s agri-food system has been forced to be globally competitive for many years. The reason for this is that much of the output produced by the beef, wheat, wool, sugar and dairy industries (Australia’s major rural industries) had to be sold on export markets since the domestic market was too small to absorb the production from these industries. Policy changes in Australia have helped these industries lower costs, improving their ability to compete in an increasingly integrated global economy. The major challenge that globalization is likely to pose for Australian agriculture may be the increased scrutiny of management practices used in agriculture by well organized lobby groups. The environmental impact of tree clearing and the degradation of the waterways are issues that have been hotly debated in Australia. Greater international exposure of these and related issues by groups such as Greenpeace and People for the Ethical Treatment of Animals can be expected in the future. This exposure may well have a major effect on Australian agriculture.

**References**


