

## **Emerging world market opportunities for Australian agricultural commodities**

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Markets for Australian agricultural commodities have altered markedly over the past two decades. Fluctuations in world income growth, changes in the relative prosperity of different countries and shifts in economic and trade policies in overseas countries have all influenced the incomes of Australian farmers and the composition of exports. The impact of these changes has been substantial at various times and has tended to mask longer term trends in the markets for agricultural commodities. The purpose in this paper is to provide a review of the short term outlook for agricultural commodities and to assess the likely impact of factors influencing the medium and longer term outlook for Australian agricultural produce.

Prior to the early 1970s, demand for most Australian agricultural commodities had been quite stable for many years. Wool had come under increasing competition from synthetics, but it was not until the entry of the United Kingdom to the European Community that major changes were seen in the pattern of Australian exports. At the same time some Australian industries (for example, dairy and horticulture) experienced significant adjustment pressures which culminated in the introduction of a range of adjustment assistance schemes.

Since that time, there have been many factors influencing the markets for Australian agricultural products. During the 1970s, markets were affected by major transfers of income between rich and poor countries due to changes in oil prices, decisions by the Soviet Union and subsequently China to import grains, and a strong growth in incomes in developing countries. As a result of these factors, there was a rapid growth in demand for grains while demand for meat and fibres fluctuated. Over the same period, the European Community increased assistance given to farmers, thereby turning the Community from a net importer to a net exporter of agricultural products, and reducing demand for Australian commodities such as dairy produce.

In the early 1980s, there was continuing growth in demand for agricultural commodities due in large part to policies which resulted in increasing government stocks of grain. However, in the mid-1980s there was a sharp downturn in world prices for grains associated with slower import growth by developing countries and centrally planned economies, many of whom were facing debt servicing difficulties. The stagnation of import demand was accompanied by significant growth in export supplies, particularly in the European Community and the United States.

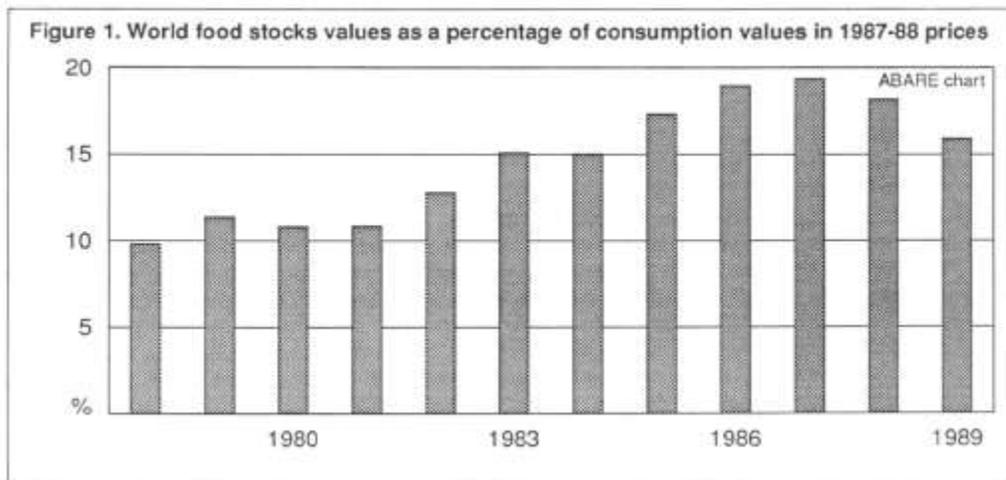
More recently, droughts in the United States have sharply reduced stocks of grain, and prices are rising. Nevertheless, many of the factors which have affected demand for and supply of rural products remain relevant to the medium to longer term outlook for Australian agriculture. An assessment of this outlook is presented in subsequent sections of this paper, immediately after a review of short term prospects for agricultural commodities.

### **Short term prospects**

The short term prospects for agricultural commodities on world markets are favourable compared with the market conditions experienced in the years immediately prior to 1987-88. After falling to their lowest post-war levels in real terms in the mid-1980s, prices began a modest recovery in 1987-88. A rise in the demand for agricultural commodities and restricted production of a range of commodities in many countries caused a drawdown of stocks (figure 1). In 1988-89, drought over large agricultural areas of North America cut back production causing world stocks to fall further.

Prices for most agricultural commodities are expected to remain buoyant in 1989-90 although some decline in wool prices is now likely (1). In many countries the supply increase in response to higher prices is still slow for a number of agricultural commodities and this is likely to continue to provide price support.

Because stocks of most agricultural commodities are low, prices of many commodities will be sensitive to short term supply disruptions which may arise from adverse weather in key producing regions.



Reduced grains and oilseeds stocks in the wake of the 1988 North American drought will continue to underpin prices in 1989-90. However, with favourable weather conditions this season over the North American corn and soybean belt, supplies of coarse grains and oilseeds are likely to be adequate and their prices are likely to ease by the end of the year. Low world wheat stocks and a poor 1989 US winter wheat crop point to higher wheat prices in 1989-90, although price rises are likely to be restrained by adequate supplies of oilseeds and coarse grains which compete with wheat on world animal feed markets.

World sugar consumption is estimated to have exceeded production for the fourth consecutive year, causing world stocks of sugar to decline again at the end of 1988-89. There is little scope for stocks to rise in 1989-90 as consumption continues to rise and only small production increases are expected. Prices therefore are likely to rise and will be highly sensitive to any crop failures.

Unlike cereals and oilseeds, high prices for fibre commodities have been largely underpinned by strong demand growth, particularly in China. Technical improvements in textile and apparel processing, fashion trends favouring natural fibres, and world income growth are likely to support the demand for wool and cotton. Wool prices, however, are expected to be under pressure from an expansion in world wool supply and some substitution by other fibres as a result of the high wool prices over the last two years. In Australia, wool production is expected to increase markedly and this expansion is coinciding with an easing in the underlying growth in demand.

For cotton, demand has stabilised but reduced plantings in the United States should result in lower stocks in 1989-90, boosting cotton prices.

The outlook for beef is buoyant because of a major boost in demand and low cattle numbers in the Pacific Basin. Prices have risen in response to the increase in import demand for beef in Japan and the Republic of Korea, which should expand further as restrictions on imports are dismantled over the next three years. The US market for manufactured beef is also buoyant due to low cow numbers and low slaughtering as herd rebuilding gets under way. Price rises in the US market are, however, restrained by increasing competition from pig and poultry supplies. In Australia, higher domestic beef prices will increase the demand for other meats.

### **The medium term outlook**

Although prices for agricultural commodities are expected to remain firm in the short term, there are several factors operating in the market that could see prices drop in the medium term. The poor supply response to current high prices has arisen through reduced investment in agriculture after a period of low prices, and government policies introduced in some countries in the mid-1980s to reduce surplus production. The return of average weather patterns could boost production, particularly of grains. Policies restricting the incentive to increase production may be removed if buoyant prices and low stocks continue. Already, the US government has reduced the set-aside requirements for farmers who want to participate in the 1989 farm programs. The high set-aside requirements in previous years accentuated the falls in stocks and price rises that arose after last year's drought (2). The reduction in the US set-aside requirements could result in substantial increases in grain production in coming years. China and the Soviet Union, two major consumers of grain, have also implemented policies designed to expand grain output.

The main features affecting the medium term outlook for agricultural commodities are outlined below.

### **Demand in the medium term**

Population growth, per person income growth and the stage of economic development in developing countries are important determinants of trends in the demand for agricultural commodities in aggregate. The way in which demand for agricultural commodities responds to changes in price and income, and changing consumer preferences, affect demand for individual agricultural commodities.

#### *Population growth*

Population growth leads to increases in the demand for most food commodities. Fast population growth in developing countries over the last two decades has been a major source of the large increase in aggregate demand experienced over that period. Population in developing countries grew at around 2.25 per cent a year, compared with 1.28 per cent for the developed countries (3). Population growth in both the developing and developed countries is expected to slow over the next decade to around 2.00 and 0.60 per cent a year respectively. As a result, population growth is expected to be less of a feature in future growth in demand for agricultural commodities.

Changes in the age distribution of the population are also likely to have an impact on both the level and pattern of demand for agricultural commodities. Generally, the population is ageing in developed countries. US and Australian research indicates that expenditure on food by people over 60 years of age declines because of declining income and lower physical activity (4)(5). As the average age of the population increases and a larger proportion of the population becomes elderly, a small decline in average food expenditure is likely. For Australia, studies have shown that after allowing for household size effects, the net effect of the projected ageing of the population is an 8 per cent decline in average food expenditure per adult by 2001 (5). However, this decline is likely to be more than offset by the effects on consumption of rising real incomes per person.

#### *Economy growth slows*

World economic growth, the other major determinant of aggregate demand for agricultural commodities, has slowed since the 1960s and 1970s. In many developing countries, lower export earnings due to a drop in the prices of primary commodities or reductions in the volume of oil exports lowered economic growth rates, particularly in Africa and South America. Economic growth in Asia, while lower than in the 1960s and 1970s, is expected to continue at a relatively high rate. Forecasts for growth rates are provided in table 1.

### **Table 1: changes in real gross domestic product**

Period	South-East Asia	China	OECD
	%	%	%
1975-79	8.3	6.5	3.1
1980-84	6.1	8.6	1.9
1985-89	5.5	9.8	3.4
1990-94	5.0	7.3	2.9
1995-99	5.0	7.5	3.0

Sources: Asian Development Bank 1988, Key Indicators of Developing Member Countries of ADB, Vol. XIX, July 1988; OECD Main Economic Indicators (various issues).

Growth in incomes of developing countries has a large impact on aggregate demand. Studies have shown that in low income countries the response of the quantity of food consumed to increases in income is higher than in higher income countries (6).

#### *Growth in developing countries*

The current account imbalances of the United States, the Federal Republic of Germany and Japan will have a major impact on economy growth in developing countries (7). Failure by the US administration to significantly cut the US budget and current account deficits, could result in considerable volatility in US interest rate and exchange rate markets and ultimately slow the US rate of economy growth. Although unlikely, the risk of US recession exists. Such a recession would depress world trade, which could slow income growth in developing countries dependent on export markets for generating growth in their own economies. Because the potential for growth in demand for agricultural commodities is greatest in developing countries, lower income growth in these countries would weaken world demand for agricultural commodities. By contrast, Germany and Japan have large current account surpluses.

A reduction of the surplus in these countries would result in an increased import demand, particularly for manufactured goods.

#### *Debt in developing countries*

High debt levels have stalled economic growth in some developing countries, particularly in Africa and South America. High debt levels arose because of an unusually large inflow of capital into developing countries during the 1970s. In the early 1980s developing countries experienced difficulties in servicing their debts because of increased interest rates, appreciation of the US dollar and lower commodity prices. Increased export revenue to debtor countries is now largely used to service debts rather than increase consumption of agricultural commodities. High debt levels have adversely affected demand for agricultural commodities in many Latin American and African countries, where the potential for increased demand for agricultural commodities as incomes rise would otherwise be high. Cereal imports by the heavily indebted countries, for example, continued to grow in the 1980s but by less than half the amount of that in the mid-1970s.

#### *Consumer preferences*

Changing consumer attitudes will also influence the consumption of agricultural commodities. Diet diversification toward livestock products, vegetable oils, sugar, fruit and vegetables in the middle income developing countries can be expected to continue. Part of the change in diets is due to rising incomes. Once an adequate level of nutrition is reached in developing economies, further increases in income, as well as increasing overall food consumption, serve to direct consumption away from staple foods such as grains toward meat and vegetables. Increasing urbanisation combined with changing social attitudes are

also significant. In Asia, for instance, where there has been a major move of population to urban centres, there have been changes in lifestyle leading to a demand for easier to prepare meals, which has favoured a shift toward processed wheat and meat products and away from traditional unprocessed cereals such as rice and maize. Social attitudes, however, will determine the extent to which diets in developing Asian countries come to resemble Western diets. For example, per person meat consumption in Japan remains far less than in the United States and Australia. This disparity is in part due to the high price of beef in Japan but the preference of Japanese consumers for seafood's and vegetables has also had an influence on meat consumption (8).

### *Technology change*

Technological change may also affect demand for many agricultural commodities. For example, higher flour extraction rates and greater efficiency in formulating animal feeds have reduced cereal inputs per unit of output. However, to the extent that such technologies lower production costs, use of commodities should increase as demand for the cheaper end product expands.

### *Overall demand growth*

Overall, world demand for agricultural commodities should continue to grow, albeit at a moderate pace compared with the 1970s. The greatest scope for growth in demand is in the middle income developing countries. Income growth in these countries, although slower than in the recent past, will continue to boost demand for agricultural commodities. Demand for meat products, processed cereal products and vegetables is likely to increase markedly, while the demand for food grains will grow at a similar rate to population growth. Because demand for meat is likely to rise, so too should the demand for feed grains rise. Although low income developing countries also have a great potential for growth in demand for food, debt problems continue to hamper income growth in these countries, constraining their growth in demand for food.

Excluding short term impacts on demand such as may arise from debt servicing problems; growth in aggregate demand for agricultural products in developing countries will depend on their growth, population growth, prices of agricultural commodities, and prices of non-agricultural commodities. This can be expressed mathematically as follows:

$$Q^* = N^* + \epsilon_{ia} I^* + \epsilon_{pa} P^*_a + \epsilon_{pn} P^*_n$$

where  $Q^*$  is the annual growth in aggregate demand,  $N^*$  is annual population growth,  $I^*$  is annual income growth,  $P^*_a$  and  $P^*_n$  are annual percentage changes in price of agricultural and non-agricultural products, respectively, and  $\epsilon_{ia}$ ,  $\epsilon_{pa}$  and  $\epsilon_{pn}$  represent the responsiveness of demand for agricultural products to changes in incomes, agricultural prices and non-agricultural prices, respectively. That is,  $\epsilon_{ia}$ ,  $\epsilon_{pa}$  and  $\epsilon_{pn}$  are the elasticity's of demand with respect to income, agricultural prices and non-agricultural prices, respectively.

There are few estimates of the responsiveness of demand for agricultural products in these countries. However, the available estimates have been used in conjunction with forecasts of population and income growth and price changes to generate estimates of growth in demand for agricultural commodities to the year 2000 (table 2). These estimates indicate that growth in aggregate demand for agricultural products by developing countries should be around 5 per cent a year over the next decade. The estimates are based on continuing moderate income growth, some decline in agricultural commodity prices, and a moderate increase in non-agricultural commodity prices.

In developed countries, because consumption of food has reached near-saturation levels, growth in aggregate demand will be limited, although growth rates for particular foods could be higher. Changing consumer tastes, improved food quality and new methods of packaging and marketing have resulted in substantial changes in demand for some agricultural commodities in many developed countries. To the

extent that consumers' tastes continue changing and further advances are made in packaging and marketing of traditional commodities, demand growth for some agricultural commodities could be high.

### **Supply in importing countries**

The implications of the projected moderate growth in aggregate demand in developing countries for world trade in agricultural commodities largely depend on the extent to which production of agricultural products increases in key importing countries. The natural environment in Asia and Africa is characterised by a severe land area constraint, or fragile soil systems (9),(10). Currently, just over half of the arable land in Asia and Africa is cultivated. But it is unlikely that the other half will be recultivated, because the high cost of clearance and development and poorer quality of the soils are likely to make recultivation of this land unprofitable. Consequently, the long term growth in food production in the key importing countries will become increasingly dependent on increased productivity and increased intensity of production (9).

Factors that affect growth in production over the longer term include output prices, input prices, and technological change and productivity, and government policies.

### **Table 2: growth in aggregate demand for agricultural commodities**

Year	Income elasticity of demand		Agricultural prices change		Agricultural price elasticity of demand		Non-agricultural cross-price elasticity of demand		Population growth		Aggregate demand growth
	%	%	%	%	%	%	%	%	%		
<u>Developing countries</u>											
1990	2.6	1.0	-1.3	-0.9	-0.1	1.9	2.2	5.8			
1991	2.7	0.8	0.8	-0.9	0.3	1.7	2.2	4.1			
1992	3.2	0.8	0.8	-0.9	0.3	1.7	2.1	4.4			
1993	3.4	0.8	0.9	-0.9	0.3	1.7	2.2	4.7			
1994	3.9	0.8	0.8	-0.9	0.3	1.7	2.2	5.1			
1995	3.9	0.8	0.7	-0.9	0.3	1.7	2.1	5.0			
1996	3.9	0.6	-0.6	-0.9	0.4	1.5	2.0	5.5			
1997	3.9	0.6	-0.6	-0.9	0.4	1.5	2.0	5.5			
1998	3.9	0.6	-0.6	-0.9	0.4	1.5	2.0	5.5			
1999	3.9	0.6	-0.6	-0.9	0.4	1.5	2.0	5.5			
2000	3.9	0.6	-0.6	-0.9	0.4	1.5	2.0	5.5			
<u>Developed countries</u>											
1990	2.5	0.3	-1.3	-0.2	-0.1	0.5	0.6	1.6			
1991	3.1	0.3	0.8	-0.2	0.3	0.5	0.5	1.4			
1992	3.0	0.3	0.8	-0.2	0.3	0.5	0.6	1.5			
1993	3.0	0.3	0.8	-0.2	0.3	0.5	0.6	1.5			
1994	3.0	0.3	0.8	-0.2	0.3	0.5	0.6	1.5			
1995	3.0	0.3	0.7	-0.2	0.3	0.5	0.5	1.5			
1996	3.0	0.3	-0.6	-0.2	0.4	0.5	0.6	1.8			
1997	3.0	0.3	-0.6	-0.2	0.4	0.5	0.5	1.7			
1998	3.0	0.3	-0.6	-0.2	0.4	0.5	0.6	1.8			
1999	3.0	0.3	-0.6	-0.2	0.4	0.5	0.5	1.7			
2000	3.0	0.3	-0.6	-0.2	0.4	0.5	0.5	1.7			

Sources: ABARE 1989; World Bank (1988) Report No. 814/88, Volume 1, November 1988, Sarma, J.S., 1986, International Food Policy Research Institute Research Report 57, Washington, D.C.

Technological change has been responsible for much of the increase in agricultural production over the past two decades and will be crucial to any future growth in production (9). There is potential for further growth in yields of cereal crops, particularly for coarse grains which have not yet benefited as much from genetic improvements as have wheat and rice. Improved cattle breeds also continue to be developed. Further, there is still considerable scope in developing countries for adoption of technologies currently used in developed countries. It is likely, for example, that meat production will continue becoming more intensive, and that more effective and less costly animal diets based on cereals will be employed. Adoption of improved distribution and marketing systems, including more efficient use of refrigeration, will also boost productivity.

The scope for improvements in feed efficiency and output in meat production is quite large for some developing and centrally planned nations. The Soviet Union produces nearly 60 per cent less beef and veal per head of cattle and 70 per cent less pork per hog than the United States (11). Much of the difference has been due to poorer feed conversion efficiency in the Soviet Union mainly because of poorly balanced stock feeds. Better quality feeds, higher in protein and lower in energy content, would improve productivity considerably. Recent policy initiatives by the Soviet Union are designed to encourage increased feed efficiency. Adoption of more efficient feed diets, combined with improved productivity in cereal production, would see Soviet imports of coarse grains drop. This could have a significant impact on world markets, as the Soviet Union is the largest importer of coarse grains. However, import demand for protein feeds such as soybean and pulses should continue to increase as it has during the 1980s.

A factor that has impeded growth in production of agricultural commodities in some developing countries has been the growth in other sectors of the economy. Disparities in growth rates led to a move of resources from agriculture to other sectors of the economy, as use in other sectors became more profitable (12). In some countries, such as Brazil and other South American countries, policies have been enacted that have encouraged the expansion of the manufacturing sector to the detriment of agriculture. Many of these policies are currently being dismantled because of budgetary problems (12, 13), although some countries such as Argentina are continuing discriminatory practices.

Some governments, particularly in Asia, have adopted self-sufficiency policies which have increased production of some commodities dramatically, lowering import demand for these commodities. Indonesia and Korea, for example, switched from being large importers of rice to being net exporters, contributing to lower trade volumes and lower world prices for rice. The continuation of such policies in importing countries could have a detrimental effect on import demand in the long term. In China, liberalisation of grain procurement policies in the late 1970s led to substantial rises in producer prices for grains and to an expansion of grain production in the early to mid-1980s. More recently, farmers in China have switched to more profitable crops such as vegetables. As a result China has increased its imports of grain, particularly wheat. In an endeavour to increase grain production the government has recently increased purchase prices for grains.

Although production of agricultural commodities in key importing countries is likely to increase, recent studies have indicated that import requirements are also likely to increase (9),(14). One study concluded that the net food deficit in the third world would be around 110 Mt of cereals by the year 2000, compared with 75 Mt in 1985 (9). These studies also indicate that the import demand for feed grains and other animal feeds would benefit most, as growth in livestock production in developing countries is likely to continue to exceed growth in feed grain production.

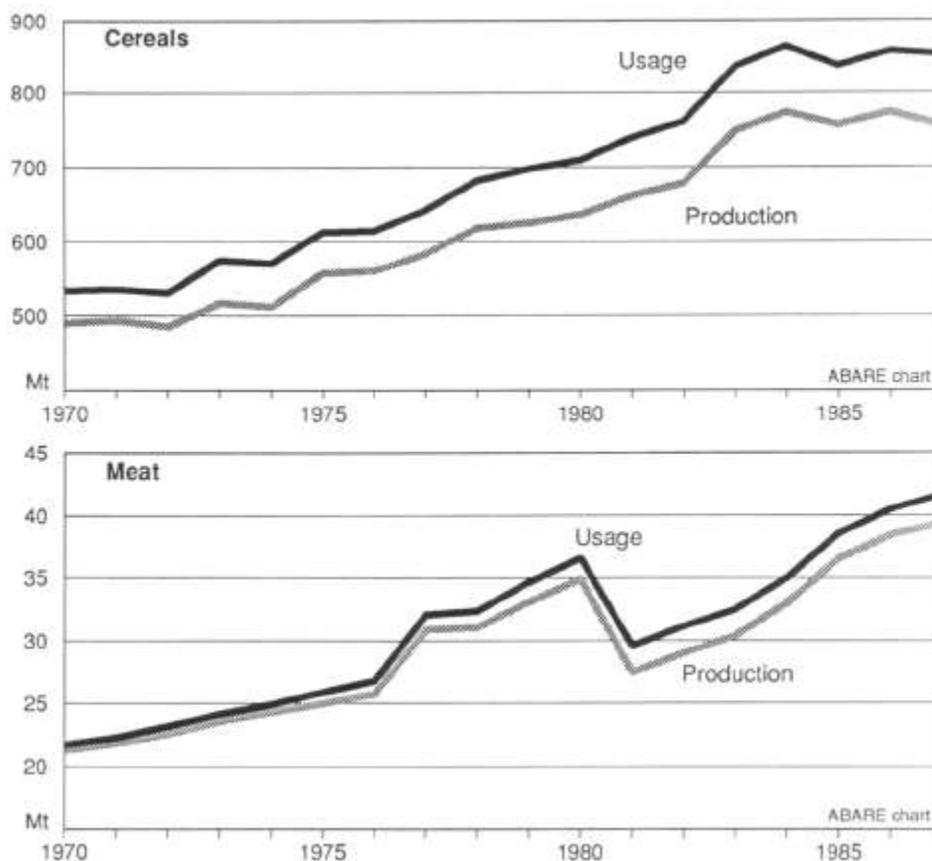
### **Regional developments**

Australian agricultural commodity exports to the East Asia region have grown markedly over the last decade while agricultural exports to traditional European markets have declined. East Asia is a growing market for Australian agricultural commodities because of the high economic growth rates, low

availabilities amongst East Asian countries of natural resources for primary production, and Australia's proximity to this region.

Economic growth in East and South-East Asia has increased the costs of producing agricultural commodities relative to the costs of agricultural production in Australia and other exporting countries of the Pacific Basin. As East Asian economies become more efficient in their manufacturing industries, resources are attracted away from the traditional primary industries, increasing the cost of inputs to the primary sector (15). Consequently, these countries find it necessary to import increasing quantities of agricultural commodities to fill the growing gap between demand and production (figure 2).

**Figure 2. Production and usage of agricultural commodities in Asia**



Growth in income per person has been associated with increases in the demand for meat. Domestic production of livestock and poultry has increased to meet this demand, leading to a substantial increase in the demand for feed grain. Japan, Korea and Taiwan have sharply increased their use of cereals as livestock and poultry feed over the past twenty years (9). This increase in demand has largely been met through imports, with up to half of total grain imports in recent times being used for livestock feed. Shortages of arable land in East Asia will severely constrain the expansion of cereal crop production.

Prospects for further growth in imports of agricultural commodities to East Asia are dependent on continuing economic growth in the region and may be increased if there is a dismantling of protective regimes in some countries. Because agriculture contributes less than 25 per cent of gross domestic product in these countries (table 3), the moderate income growth forecast for the South-East Asian region is likely to come about by large increases in production in the manufacturing sector, further drawing resources away from the agriculture sector. It is likely that the path of industrialisation taken by Korea and Taiwan will be followed by other East Asian developing countries, given their comparative advantage in

labour intensive manufacturing processes and their abundance of cheap labour (16). With growth in agricultural production expected to be limited, especially for feed grains and beef, it is likely that imports of these commodities to the region will expand.

Opportunities for further growth in imports by these countries will also depend on the extent to which agricultural producers in the region are supported by government policies. Recent moves toward liberalisation of beef imports into Japan and Korea should see increased imports of beef into these countries, but may reduce the scope for increased feed grain demand as imports of meat displace domestic production.

The challenge facing Australia is to gain further access for our exports to growing East Asian markets. While bilateral negotiations go some of the way toward achieving this objective, significant reductions in trade barriers in the East Asia-Pacific region require multilateral concessions. Regional

**Table 3: growth indicators of selected developing Asian countries**

Country	Change in real gross domestic product 1986-87	Agricultural production	
		Share of 1987 gross domestic product	Change 1986-87
	%	%	%
Indonesia	3.2	23.9	1.6
Korea, Republic of	11.1	13.3	-0.9
Malaysia	4.7	21.4	3.7
Philippines	5.1	29.8	-4.5
Singapore	8.8	0.7	2.2
Taiwan	11.2	5.5	2.9
Thailand	6.6	22.3	-1.7

Source: Asian Development Bank, Key Indicators of Developing Member Countries of ADB Vol. XIX July 1988.

Trade discussions may provide some scope for reducing trade restrictions, benefiting East Asian countries by enhancing trading opportunities for manufactured goods and providing the impetus for further growth, while benefiting Australia through increased agricultural exports to the region.

### Prospects for Australia's agricultural trade

Australia's ability to compete in the developing Asian market will be affected by two factors. The first is the capacity of our major export competitors to expand production to supply the new markets, and the export subsidy policies pursued by these countries. There is considerable capacity in the United States to expand output of feed grains and meat if prices for these commodities rise, or if government policies are altered. Australia's trade with Asia has been affected by the export subsidy policies of the United States and Europe, which enabled these countries to dispose of surplus supplies to the growing Asian markets at some expense to Australian exports to the region, particularly grain exports to China. For instance, the price discrimination effect of the US Export Enhancement Program is estimated to have eased the Australian wheat industry between \$A215m and \$A337m over 1986-87 and 1987-88 (17).

The second factor that can hamper Australian's exports to the region is the cost of production, distribution and marketing of these commodities. Government policies in Australia affect the marketing costs of agricultural commodities. It has been estimated, for example, that savings of approximately \$10/t (in 1986-87 dollars) could be made in the Australian grains industry through the removal of regulations which have inhibited the efficient storage, handling and transport of grain (18). Work practices in the meat

processing industry also adversely affect meat processing costs, reducing the competitiveness of export supply (19). There are government policies affecting other sectors of the economy that increase the cost of producing agricultural commodities. These include tariffs on manufactured goods such as textiles, and restrictive work practices on the waterfront. The farm sector as a whole would be likely to receive substantial benefits from a reduction in assistance to all industries through decreases in the prices of inputs used by the agricultural sector (20).

A country will generally export those commodities which intensively use inputs that are abundant in that country relative to other countries. Australia has ample arable and pasture land compared with other more heavily populated countries where these inputs are relatively scarce, giving Australia a comparative advantage in the production of commodities which use land intensively. A simple way to measure Australia's comparative advantage in commodities is to compare a particular commodity's share of Australia's exports with that commodity's share of world exports (12). The measure indicates that Australia has a comparative advantage for wool, and a moderate comparative advantage for cereals and meat (table 4). This measure reveals little comparative advantage for Australia in the export of horticultural products for the industry as a whole. Of course, certain regions may enjoy a comparative advantage in the production of horticultural products. Furthermore the results should be treated with some caution because the revealed comparative advantage measure can be distorted by domestic policies which affect trade patterns. A country may be exporting a commodity because of export or domestic producer subsidies rather than a relative abundance of inputs used intensively in the production of that commodity. The commodities considered here are generally not affected by producer and export subsidies in Australia but there are considerable distortions in many of the world markets in which Australian trades.

**Table 4: revealed comparative advantage of selected Australian agricultural exports (a)**

Year	Wool	Meat	Cereals	Citrus fruits	Apples
1975	11.3	2.6	1.8	0.1	0.7
1976	12.7	3.4	1.7	0.1	0.6
1977	12.6	3.4	1.8	0.0	0.3
1978	11.1	3.6	1.8	0.1	0.4
1979	16.6	4.5	1.5	0.1	0.4
1980	10.0	2.2	1.9	0.1	0.3
1981	12.8	2.7	1.6	0.1	0.3
1982	12.2	2.2	1.7	0.1	0.4
1983	14.4	3.1	1.5	0.2	0.3
1984	12.7	1.9	1.7	0.1	0.2
1985	12.2	1.3	2.1	0.1	0.1
1986	12.0	1.4	2.2	0.1	0.2
1987	12.3	1.9	2.0	0.2	0.2

(a) Ratio of the commodity's share in Australia's exports to that commodity's share in world exports. A number greater than unity is evidence that Australia has a comparative advantage in the production of the particular commodity.

Source: FAO, *Trade Yearbook*, 1987, Rome (and previous issues).

There may be opportunities for expanding exports of agricultural commodities other than our major traditional exports. For example, in the past few years, Australian exports of specialty horticultural crops to the Asian market have risen significantly, but from a low base. In the last year, exports to the region have stabilised. There is some evidence that Australia enjoys a comparative advantage in the production and export of some speciality horticultural commodities such as mangoes and avocados (21). Such a comparative advantage could have arisen from the required labour skills and technology developing more rapidly in Australia than in the rest of the world, or from Australia's advantage as an out-of-season

supplier of horticultural crops to Northern Hemisphere countries, or as a result of the decline in unit labour costs in Australia.

It is apparent that significant problems can arise with the marketing of new products. In the case of the speciality products referred to above, shipment is generally in small container loads or by air, thereby making it necessary to command premium prices if farmers are to recoup the high transport costs. Considerable price uncertainty is also a problem with marketing of new products. Exports of fresh fruit products to Asia have been hampered by inadequate market research and follow-up sales service on the part of exporters, a lack of detailed knowledge at all levels of the marketing chain, inadequate product quality, poor post-harvest care, poor packaging and presentation, and irregularity in export supply (22). Investigations into ways of overcoming these perceived problems have been undertaken by various organisations and further work is continuing. There is also a high risk that restrictive trade practices could be imposed on imports of Australia's speciality export commodities. India for example, the world's largest importer of legumes, has placed a temporary tariff on imports of legumes from time to time depending on the size of the domestic legume crop.

### **Concluding remarks**

Increased demand for Australia's traditional agricultural commodities continues in overseas markets, with many markets experiencing some growth. Asian markets in particular represent the major source of this growth in demand, with the impetus being provided by relatively high rates of economic and population growth in these countries.

As these countries continue to industrialise and their markets grow, markets for Australian value-added food and other exports will also emerge. For Australia to take full advantage of any emerging opportunities, further investment in new technologies may be required to ensure that product development, marketing and infrastructure will be able to keep pace with the requirements of rapidly enhancing markets.

Economic policies in competing exporting and importing nations will play a significant role in the future development of Australian agriculture. In the event that multilateral reforms to the international trading system are introduced, Australia's prospects for agricultural trade with Asia and our traditional customers in developed countries would be enhanced. The competitiveness of rural industries in this environment would be further improved by the modification of domestic policies which create distortions in the economy and effectively disadvantage export industries. For example, the results of research indicate that the general reductions in assistance announced in the 1988 May economic statement, which will be completed by 1992, may result in annual net savings of around \$470m for the rural sector (7).

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