Agricultural trade reform
Benefits for Australian broadacre agriculture

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Queensland Regional Outlook Conference
Toowoomba, 21 May 2003

Australian agriculture is highly dependent on world markets. A large share of 
Australian agricultural production is exported, while Australian farm prices 
closely reflect world prices. Fundamental reform of global policies affecting 
agriculture would reduce distortions to world markets and increase both world 
prices and trade opportunities for Australian farmers.

While progress in the agricultural negotiations of the WTO’s Doha Round has 
been slow to date, those negotiations provide an opportunity to achieve funda-
mental reform of distorting policies across agriculture. With Australian agri-
culture being highly dependent on world markets, such reform would deliver 
financial benefits to Australian farmers. Reforms, such as those proposed by the 
Cairns Group would lead to a reduction in distortions to agricultural markets 
and increases in Australian farm gate prices, farm cash incomes and land 
prices.
Introduction

The future profitability of Australian farmers is highly dependent on world markets. Most of any increase in farm production will need to be sold on world markets, where Australian farmers are essentially price takers. Overseas agricultural and trade policies that distort trade by limiting imports or increasing exports from these countries will depress world prices and limit trading opportunities for Australian farmers. International efforts to reform these policies would therefore be expected to improve world market conditions and in doing so improve the financial health of Australian farmers.

Current WTO agricultural negotiations that are part of the new Doha Round offer the opportunity to reform policies that affect agricultural trade. Analysis in this paper indicates that agricultural liberalisation can result in significant gains to Australia. In particular, it is estimated that the Cairns Group negotiating proposal would result in a $2.1 billion increase in Australian gross national product (GNP) by 2010. Importantly, this benefit would flow on to Australian farmers. For example, it is estimated that average farm cash incomes for broadacre and dairy farmers would increase by $10 900 and $15 500 respectively. Global agricultural policy reform would also lead to an increase in farmers’ wealth, with the Cairns Group proposal leading to an estimated 17 per cent increase in average land prices.

Agriculture in the Australian economy

The farm sector is a critical component of Australia’s export performance, accounting for approximately 20 per cent of the total value of Australian goods and services exports in most years. This continued export contribution has been possible because Australian farm production has experienced almost continual growth for decades, despite an ongoing reduction in the prices received for farm products relative to the prices paid for farm inputs (farmers’ ‘terms of trade’) (figure A).

To meet the challenge of not only maintaining but increasing production in the face of declining terms of trade has required increased agricultural productivity. For example, total productivity for broadacre farms increased on average by 3.5 per cent a year over the period 1977-78 to 2000-01. Over this period the trend in improvements has been greatest for cropping industries, with productivity increasing on average by 4.5 per cent a year (Hooper, Martin, Love and Fisher 2002).
Australian farmers dependent on world markets

Australian farmers are critically dependent on world markets, with a large proportion of Australian agricultural produce exported. In addition, prices that Australian farmers receive for their products are closely linked to world prices. As such, it is inescapable that the fortunes of Australian farmers are linked to world market conditions.

Large share of production is exported

Agricultural production has been generally increasing in Australia, primarily as a result of productivity gains. Primary producers have adopted new technologies and efficiency gains have been realised from progressive industry restructuring. In contrast, domestic consumption of many agricultural commodities in Australia has either not kept pace with output increases (for example, sugar and wheat) or has shown little if any growth (for example, beef and butter).

As a consequence Australia’s agricultural industries have generally become heavily export dependent. This growth in the export share of farm output, particularly since the early 1980s, is illustrated in figure B.
Australian farmers will continue to improve their productivity, resulting in increased agricultural production. It is likely that virtually all of the increased production will need to be exported, making the farm sector even more dependent on world markets.

**Prices heavily influenced by world markets**

The influence of world market forces on the prices realised by Australian farmers can be illustrated by comparing agricultural commodity prices in Australia with world indicator prices. World indicator prices are generally taken to be export commodity prices from large exporting nations. While Australian prices may differ in magnitude from world indicator prices because of differences in commodity specifications and transport costs, prices for Australian commodities tend to mirror price movements in world markets.

Short term aberrations in the relationships between Australian and world prices can be caused by supply or demand shocks. For example, drought in Australia may result in increased demand for grain, resulting in domestic prices spiking in relation to world prices.

The relationships between Australian and world indicator prices for four major commodities — wheat, beef, milk and sugar — are illustrated in figure C. US prices have been adopted as world indicator prices because US trade is large in these commodities. The

![Diagram C: Australian and world prices](image-url)
United States is both a major market and competitor for Australian agricultural commodities. US prices have been converted into Australian dollars to remove the effect of exchange rate variations. The four Australian commodity prices closely track world indicator prices with only sporadic, temporary deviations.

Australian farmers are essentially price takers in a global market and, as shown in the above examples, the prices they receive for their products are inextricably linked to world prices. In addition, most of any increase in farm production will need to be sold on world markets. Consequently, the financial future of Australian farmers is linked not only to world market conditions, but also to the policy settings in other countries that influence these markets.

**Impacts of agricultural policies on world markets**

Three main policy instruments are used to maintain high farm incomes in protected markets: tariffs to restrict market access; domestic subsidies for farmers; and export subsidies to dispose of surplus production. These support mechanisms are somewhat interdependent but all contribute to higher returns to farmers.

In countries with protectionist policies, higher and more stable domestic prices stimulate production. In addition, the higher internal prices lead to lower consumption, which together with higher production lead to reduced imports or increased exports. As a result of reduced import demand and increased export supplies, world market prices are lower and more volatile than they would be without protection. Lower world prices reduce the export incentive for efficient producers from open market economies such as Australia and many developing countries.

The main countries where very high levels of support persist are the European Union, the United States and Japan. The 2002 US farm bill locked in high levels of support for years to come. The European Union may shift to less distorting arrangements for some of its farm support, but further distortions to international trade are expected once ten central and eastern European countries join the European Union in May 2004. The very large proportion of farm income that is derived from government support provides an indication of how significant support is to farmers in some major countries (figure D).

The high levels of agricultural protection provided to farmers around the world limit the returns to Australian farmers by reducing world prices and constraining trade opportunities. It is in Australian
farmers’ interests to reduce agricultural support globally. Such actions will reduce the competition from subsidised farmers faced by Australian producers on world markets, increase consumption in the large protected markets and lead to higher world market prices. Less distortion in world markets translates into higher and more stable prices for Australian exporters and producers of agricultural products. Therefore, multilateral trade reform matters for Australian farmers and rural communities.

In the reform process it is important to recognise that any immediate adjustment losses are likely to be outweighed by larger and long lasting gains throughout the economy (see box 1). There are potential advantages from multilateral approaches to reducing agricultural protection because reform pressures are then not confined to farmers in a single country, and reforms may be easier to achieve politically when other countries reciprocate. Furthermore, the simultaneous reduction of farm protection by many countries offers the greater prospect for increasing world prices, which can partly compensate those who lose subsidies.

**Box 1: Adjustment costs from reducing protection**

Reducing or removing protection can result in adjustment costs for industries. Costs of adjustment are often concentrated in regions where supported industries operate. This can impede public acceptance of reforms that will eventually benefit the national economy. The costs can also be highly visible and relatively immediate. In contrast, the benefits from reform are diffused throughout the economy, not highly visible and accumulate over a long time period. The relative immediacy of the costs of adjustment and the longer term nature of the benefits can focus public concern on the costs of adjustment arising from removing protection. Adjustment costs depend on the mobility of resources. Some displaced physical resources may be highly specialised, resulting in large losses to investors. Others may be adaptable to alternative uses, thereby limiting adjustment costs.

Of particular concern to communities is the cost of adjustment to labor forces. The provision of support would usually have kept employment in an industry above profitable levels under market conditions. However, it would also probably have reduced employment elsewhere, both by competing labor away from other activities and because it would have reduced incomes in the community generally.

Where the withdrawal of protection results in a contraction of industries, it is an empirical issue whether it will reduce total employment for the economy. Misallocation of resources will be reduced, providing, over time, higher incomes for the community at large and alternative employment opportunities. But adapting to the changed environment can be costly for those directly affected. If labor markets are flexible and displaced people are mobile and have adaptable skills, adjustment costs will be less than if those people are immobile and lack skills to adjust to alternative occupations. Education and training are critical elements for improving the adaptability of people and reducing costs of adjustment toward an internationally competitive economy. Some of the costs of adjustment can be reduced through early announcement and / or the phasing in of support reductions.
Domestic trade reform

While it is often easier politically for a country to reduce protection when other countries do likewise, it is often not well understood that it is also in the interests of an individual country to liberalise its own trade barriers, both in agriculture and in other sectors.

Countries benefit from trade largely through specialisation. Different countries have quite different sets of natural, human and technical resources. Trade allows each country to channel its resources into the industries in which its resources are used most productively relative to other traders. Some specialisation is obviously based on the abundance of high quality resources that are important to particular industries. For example, Australia’s large agricultural sector reflects Australia’s greater abundance of productive land relative to other resources and compared with other countries (Roberts 1997).

A large country with a diverse resource base may have the ability to produce most of its goods and services domestically. However, to do so it would need to divert resources from its most efficient industries to those for which there are more efficient suppliers on the international market. So there will always be better options for any country than the pursuit of self sufficiency in all goods and services.

The important question is not whether a country has the resources to produce a particular good. Rather, it is how much export income or replacement of imports of other goods will be lost by not putting the resources to their most productive use. Trade liberalisation internationally — whereby both barriers to trade and industry support policies are reduced — allows all countries to share in the gains from making the best use of resources worldwide, rather than constraining each country to what can be achieved within its own borders.

The benefits from pursuing open market policies are illustrated by comparing two similar countries, China and India. Both countries had an abundance of labor but a small manufacturing base before the 1980s. Yet, income growth has differed markedly between them.

Over the 1980s and 1990s, China pursued policies promoting greater openness (figure E) compared with India’s gradual opening over the same period, as measured by the trade to gross domestic product.
(GDP) ratio (figure F). This has coincided with China’s income growth accelerating at a higher rate than India’s income growth rate, which also increased. In short, there is anecdotal evidence to suggest that China’s greater openness was accompanied by income growth that accelerated at double the rate of India.

Multilateral trade negotiations for agriculture

The World Trade Organisation (WTO) is a forum for multilateral bargaining to reduce barriers to trade. There have been a number of ‘rounds’ of multilateral trade negotiations since the original General Agreement on Tariffs and Trade (GATT – the predecessor to the WTO) was established in 1947. The most important of these from an agricultural perspective are the Uruguay Round (from 1986 to 1994) and the current Doha ‘Development’ Round.

The Uruguay Round outcome

The Uruguay Round of trade negotiations was a historical step toward the liberalisation of agricultural trade — for the first time agricultural trade was brought fully under international trade rules.

For ease of negotiation, most agricultural policies were allocated to three categories — market access, domestic support and export competition. Market access is concerned with tariffs, import quotas and other nontariff barriers that restrict access to domestic markets. Domestic support covers direct payments to farmers, price support schemes, farm input subsidies, and the like. Export competition includes policies related to export subsidies, export credits and food aid. In addition to launching agricultural policy reform for all member countries, developing countries were able to commit to less demanding policy reforms and longer time periods for implementation compared with developed countries — so-called ‘special and differential treatment’.

While the agreed limits and reductions still allow for substantial protection, it was significant that, for the first time, WTO members made a commitment to reduce subsidised exports, cut the value of trade distorting domestic support and to further reduce market access barriers. Details of the main elements of the Agreement on Agriculture are provided in box 2.

The reductions in subsidised exports in particular, and also in some cases the increase in market access, led to improved world prices and increased trade volumes. However, despite the commitments that were made the amount of support that can be provided internationally remains very large. This means that the task of substantially advancing international agricultural policy reform lies ahead.
Progress in the Doha negotiations

A new comprehensive round of trade negotiations, called the Doha Development Round, was launched at the fourth WTO Ministerial meeting that was held in Doha, Qatar in November 2001. Significantly, the Doha Ministerial Declaration provided a strong mandate for the agricultural negotiations. On agriculture, the Doha declaration committed WTO
members to ‘comprehensive negotiations aimed at: substantial improvements in market access; reductions of, with a view to phasing out, all forms of export subsidies; and substantial reductions in trade-distorting domestic support’ (WTO 2003). Integral to these negotiations is special and differential treatment for developing countries.

The Doha Ministerial mandate set a deadline of 31 March 2003 for negotiators to agree on the ‘modalities’ for the agricultural negotiations. These are the rules about issues such as the size and method of cuts to tariffs, export subsidies and domestic support, the time frame for phasing in the cuts, and the nature and extent of any concessions for developing countries. As part of this process, the Cairns Group and the United States both put forward comprehensive and ambitious proposals for liberalising agricultural trade. However, other WTO members such as the European Union put forward only minimalist proposals.

In an attempt to bridge the gap between the positions of many of the WTO members, Chairman of the WTO agriculture negotiations Mr Stuart Harbinson put forward a draft modalities paper in February 2003. The Cairns Group and the United States, while not satisfied with the extent of ambition in the Harbinson proposal, signaled that it at least provided a basis for negotiations. However, the European Union and Japan believed that the draft was too ambitious and unbalanced (Fischler 2003a,b; Kamei 2003). Consequently, agreement on modalities was not possible by the 31 March deadline. Negotiations on technical issues on agriculture are scheduled to continue in the lead up to the Cancun Ministerial meeting in November 2003. At this stage it is unclear whether it will be possible for the WTO members to reach agreement on modalities in either the leadup to Cancun or at the Ministerial meeting itself.

Despite the failure to reach agreement on modalities to date, the Doha Round of WTO agricultural negotiations provides an opportunity to achieve fundamental reform of distorting policies across agriculture. Given the dependence of Australian agriculture on exports, it will be important that the negotiations result in reforms that significantly increase access to markets globally and significantly reduce support measures that distort agricultural production and trade.

Impacts of agricultural trade reform

The effects on Australia of the Cairns Group proposal for agricultural trade reform were modeled using ABARE’s global trade and environment model (GTEM). GTEM is a dynamic computable global general equilibrium model of the world economy that provides
a suitable framework for analysing international and domestic policy reforms as it takes into account the interactions between sectors within countries and the linkages between countries brought about by trade and investment. It uses an ABARE revised GTAP version 5 database that is based on information on countries and regions of the global economy for the year 1997.

The general approach to analysis using GTEM is to determine a ‘business as usual’ baseline or reference case of expected values for the relevant variables under the assumption that no policy changes, apart from previously announced regional trade arrangements, occur over the period of time that is considered. For this analysis, the reference case is projected for the years 1997 to 2010. In the reference case, assumed growth rates for various countries determine the changes in key variables. It is then assumed that policy changes do occur, and the model is used to determine how the relevant variables deviate from the reference case levels. The difference between the reference case values and those from the policy change scenario indicates the impact of the policy change.

The three key elements of the Cairns Group proposal are evaluated simultaneously under the policy change scenario. Export subsidies and all forms of production and trade distorting domestic support are eliminated. On market access, bound tariffs are reduced significantly using the ‘Swiss’ formula. A coefficient of 25 is used for developed countries. For developing countries, bound tariffs are subject to smaller reductions:

- on initial bound tariffs of 0–50 per cent, the Swiss formula with a coefficient of 50 is applied to reduce tariffs in this range to 25 per cent or lower.
- on initial bound tariffs of 50–250 per cent, tariffs are reduced by 50 per cent.
- on initial bound tariffs over 250 per cent, tariffs are reduced to 125 per cent.

Least developed countries are exempt from undertaking reform. Full details of the Cairns Group proposals are provided in Cairns Group (2002a,b,c). Information on bound and applied tariffs, subsidies and domestic support are taken from the notifications made by WTO members and from the OECD.

In undertaking the policy change scenario, the applied tariffs implemented in the model are only reduced when the required cuts to bound tariffs are sufficient that the new bound tariffs are less than the current applied tariffs.

### Swiss formula

This formula for tariff reduction places an upper bound on tariffs and reduces higher tariffs proportionately more than lower tariffs. The formula is represented as follows:

\[
\text{Final tariff} = \frac{A \times \text{initial tariff}}{A + \text{initial tariff}}
\]

Where the coefficient \( A \) is the upper bound on all tariffs.

For example, under the Cairns Group proposal, an initial bound tariff for a developed country of 40 per cent would be reduced to a final bound tariff of 15.4 per cent (using a coefficient of 25), whereas an initial bound tariff for a developing country of 40 per cent would be reduced to a final bound tariff of 22.2 per cent (using a coefficient of 50).
As such the reduction in applied tariffs is less than the reduction in the bound tariffs described above.

The Cairns Group market access proposal calls for tariff quotas to be increased by 20 per cent of domestic consumption for developed countries and by 14 per cent for developing countries. This aspect of the Cairns Group proposal has not been incorporated in the current analysis. In markets where the final above-quota tariff restricts above-quota imports, the actual impact of the Cairns Group proposal on trade may be greater than estimated in this analysis.

It is assumed in the simulation that reforms are to take place during the period 2005 to 2010. As there is no account of the productivity improvements that can arise from trade reform, the estimates from the simulations may underestimate the effects of the Cairns Group proposal.

Impacts on Australian broadacre agriculture and dairying

It is estimated that implementation of the Cairns Group proposal would lead to an increase in Australian GNP of A$2.1 billion a year by 2010. This represents the difference between the estimated GNP in the year 2010 under the Cairns Group scenario and the reference case, or ‘business as usual’ estimate for 2010. Global reforms result in less distorted markets and higher export prices for Australian products. This translates into higher farm gate prices, which provides an incentive for farmers to increase production. The estimated price changes for Australian broadacre agriculture and dairy, relative to the 2010 reference case, are presented in figure G. These price changes would be a permanent consequence of global policy reform. While prices will continue to fluctuate in response to other changes, prices will continue to be higher as a result of global reform than they would be in the absence of reform. Higher prices for Australian agricultural products generally would be expected to result in an appreciation of the Australian dollar. The price impacts shown in figure G are after an assumed exchange rate appreciation in the policy change scenario.

The likely increase in agricultural commodity prices arising from cuts to protection in key world markets will translate into higher farm incomes in Australia. A simple representation of the possible size of the increase is given in table 1, which shows the improvement in average farm incomes in key

<table>
<thead>
<tr>
<th>Increase in farm cash incomes from agricultural trade reform</th>
<th>Average farm cash income 2001-02p</th>
<th>Change in farm cash income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$/farm</td>
<td>$/farm</td>
</tr>
<tr>
<td>Wheat and other crops</td>
<td>168 100</td>
<td>19 800</td>
</tr>
<tr>
<td>Mixed livestock–crops</td>
<td>100 500</td>
<td>12 600</td>
</tr>
<tr>
<td>Sheep</td>
<td>51 100</td>
<td>6 400</td>
</tr>
<tr>
<td>Beef</td>
<td>71 800</td>
<td>7 300</td>
</tr>
<tr>
<td>Sheep–beef</td>
<td>57 400</td>
<td>7 400</td>
</tr>
<tr>
<td>All broadacre</td>
<td>92 700</td>
<td>10 900</td>
</tr>
<tr>
<td>Dairy</td>
<td>105 700</td>
<td>15 500</td>
</tr>
</tbody>
</table>

p Preliminary estimates.
industries assuming that world markets are reformed in line with the current Cairns Group proposal. The information in table 1 is based on farm incomes in Australia in 2001-02, and are derived by increasing farm receipts in line with the expected higher Australian farm gate prices presented in figure G.

The increased demand for agricultural products from Australia increases the demand for land. As such, Australian land prices are estimated to be 17 per cent higher in 2010 under the Cairns Group scenario. Consequently, the wealth of Australian farmers would increase as a result of fundamental policy reform.

When discussing the likely impact of trade reforms on farm incomes it is important to note that any permanent or sustained increase in farm gate returns will lead to resources shifting into agricultural production from other sectors. In practice, existing farmers will invest and expand their agricultural production, while new farmers and investors will also be attracted to the sector. At the same time, the number and structure of farms in Australia will continue to be influenced by other factors, including technology change, growth and incomes in other sectors and lifestyle choices. In general, however, sustained higher and more stable farm gate prices in Australia brought about by agricultural trade reforms will lead to higher and more stable farm incomes. This will clearly be beneficial to farmers, along with rural communities more generally.

**Concluding comments**

Current WTO agricultural negotiations that are part of the new Doha Round offer the opportunity to reform policies that affect agricultural trade. However, progress has been slow to date, particularly with the failure of negotiators to reach agreement within the agreed timeframe on issues such as the size, method and timing of cuts to tariffs, export subsidies and trade distorting domestic support. Negotiations on technical issues on agriculture are scheduled to continue in the leadup to the Cancun Ministerial meeting in
November 2003. At this stage it is unclear whether it will be possible for the WTO members to reach agreement on modalities in either the leadup to Cancun or at the Ministerial meeting itself.

Despite the failure to reach agreement on modalities to date, the Doha Round of WTO agricultural negotiations provides an opportunity to achieve fundamental reform of distorting policies across agriculture. With Australian agriculture being highly dependent on world markets, such reform would deliver financial benefits to Australian farmers. Reforms such as those proposed by the Cairns Group would lead to a reduction in distortions to agricultural markets and increases in Australian farm gate prices, farm cash incomes and land prices.

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