A Bridge Too Far?

An Australian Agricultural Perspective on the Australia/United States Free Trade Area Idea

A report
for
the Rural Industries Research and Development Corporation

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Economics • Policy • Strategy

Contents

Tables

Boxes

Figures

Executive Summary

This report by ACIL Consulting Pty Ltd (ACIL) has been prepared for Australia's Rural Industries Research and Development Corporation, a government-funded organisation which allocates a portion of its funds to the exploration of topical farm policy issues. Its purpose is to review, from the Australian farm sector's perspective, the proposal for a free trade agreement (FTA) between Australia and the United States of America (US).

Our assessment is that the economic benefits of the FTA to Australia as a whole are, at best, very finely balanced. The impact on Australian farmers is likely to be negative, especially if domestic political considerations in the US prevent genuinely free trade in the most sensitive industries — sugar, dairy and meat. Given this, the case for the FTA must rest on broader strategic arguments, the articulation of which has not been clear to date.

Trade diversion effects, the diversion of government resources away from other trade initiatives, and the disaffection of countries that on the whole are more important trading partners, all threaten the worth to Australia of a special trade agreement with the US. Note "special": it is unlikely to be genuinely "free".

The official view seems to be that these problems are illusory (or at least can be readily overcome) and that they are small relative to the gains to be had. This is not ACIL's view, nor that of several other commentators.

ACIL doubts the robustness of the quantitative support advanced to date by commentators for the US FTA idea. For example, the Centre of International Economics' (CIE's) work for the Department of Foreign Affairs and Trade (DFAT) in 2001, which argued that, on balance, such an agreement would be trade creating, found that if it started in 2001 it would be raising real GDP by 0.33% annually and real consumption by about 0.4% by 2010 relative to otherwise.

Modelling results

Modelling commissioned as part of ACIL's research indicates there is room for doubt that a free trade agreement with the US (even one covering all protection and all products) would be of benefit to Australia.

The reasons are complex. They relate to the fact that much of the increased bilateral trade with the US would be trade diverted from Asia. There is also the fact that, given the current low levels of protection we now have and the relative price insensitivity of Australian commodity

sales, any parallel opening up of export opportunities has to be substantial if Australia is to obtain a positive national income result.

ACIL's modelling has projected that a bilateral deal with the US involving a phase-in of **complete free trade** over 5 years from 2005 would be slightly detrimental to the Australian economy.

One reason ACIL's results differ from those of the CIE is that ACIL has not assumed the FTA will, of itself, induce a significant productivity increase throughout Australia's service sector as a result of greater awareness of US managerial methods. ACIL is not at all convinced that this is a plausible assumption to make, but it is central to CIE's analysis. The qualifications to the CIE's results have tended to be lost in their subsequent promotion.

As for agricultural commodities, not surprisingly our results show large increases in the volume of trade in sugar in particular and, to a lesser extent, in dairy products and meat. As with the CIE's projections, the net increases for these products are generated by increased sales to the US which are bigger than the amounts diverted from China, Japan and Korea. Whether these increased sales to the US would be allowed, given the real-politik of US agricultural protection, is another matter.

Arguments for an FTA with the US

Australian Government documents supporting the idea of pursuing an FTA with the US have argued that:

- an FTA could, in certain circumstances, produce a net welfare gain to Australia of US$2 billion (or about A$4 billion);
- it would strengthen overall economic relations between the two countries, in particular additional investment from the US;
- there would be wider spin-offs and additional dynamic effects "from closer economic links with the world's biggest and most competitive economy and heartland of the information economy";
- Australia would be disadvantaged if it did not have an FTA with the US and meanwhile the US concluded its planned Free Trade Area of the Americas (FTAA) — an agreement among 34 North and South American countries — planned by 2005, as several of Australia's most active agricultural trade competitors will be involved; and
- an FTA with the US would not undermine the WTO or the Doha round.

These arguments need to be viewed against the many official statements that have appeared over the years championing the multilateral trading system ideal. Australia's leadership of the Cairns Group has been essentially a multilateral initiative and in many forums Australia has led

the debate in complaining about the untoward effects on outsiders of the rules adopted by trading blocs such as the European Union.

Reasons for caution

The pros and cons of bilateral FTAs have been discussed for centuries. The complexities involved are not merely theoretical oddities, but have practical implications for what a bilateral negotiation can achieve.

A significant reason why Australia could be worse off under an FTA with the US than otherwise is that such an agreement would be likely to have a deleterious effect on the prospects for advancing other forms of trade liberalisation. The fruits of freer trade with the US would not, as some seem to believe, simply add to any gains we might obtain in the Doha round within the WTO or from unilateral cuts in protection at home.

Then there is the issue of feasibility. Leaving aside ACIL's quantitative results which cast doubt on them, if we are to receive even some of the modest potential gains to agriculture and Australia as a whole from an FTA with the US that have been suggested by earlier work, it will be necessary for the US to undo the *Farm Security and Rural Investment Act* (the formal name of the most recent 'Farm Bill') it passed on 13 May 2002. It is hard to see, in the light of the recent Farm Bill outcome, that the US would agree significantly to liberalise access for Australian agricultural exports under an FTA. Better access to the Australian market is likely to cut little ice with the domestic lobbies in the US behind agricultural protection.

Quibbles about the limitations of earlier analysis published by DFAT aside, the detailed results of both the 2001 CIE's simulations and ACIL's indicate that the prospect of trade being created by a US/Australia hinge on increased access for agricultural products and on the benefits of domestic liberalisation.

Even if it were good for the economy as a whole (and this should always be the main consideration), the exclusion of agriculture could quite feasibly lead to the *shrinkage* of Australian agriculture (because of the twisting of the Australian economy caused by selective liberalisation — working through both direct price effects and the consequent change in the exchange rate).

Beyond the modelling results, the possibility is that an FTA with the US could undermine Australia's participation in the WTO and its multilateral negotiations. Among other things, credibility effects need to be considered. If an FTA were pursued without agriculture, Australia's insistence in the Doha round that agriculture be included would be seriously undermined.

The idea of going ahead without agriculture if negotiations prove difficult has been promoted by some supporters of an FTA. One argument is that

the declining relative importance of agriculture in Australia's trade reduces its importance in other respects. However, the decline in agriculture's trade significance can be attributed in significant measure to import restrictions of the very type the US applies.

An FTA with the US that included a selective reduction in import barriers in Australia (eg, removal of tariffs on industrial products, reduction or removal of tariffs on textiles, clothing, footwear and cars) could greatly irritate other important Australian trading partners, such as China and Japan.

Finally, a US FTA could be a distraction both of officials' time and of Government interest. The US, for example, might feel that it had done enough if it had moved somewhat to meet Australia's demands in the FTA context and might be less interested in meeting those demands in the WTO context.

The primacy of the multilateral option

Australia is a small player on the world scene and, despite its generally warm relations with the US, has limited access to US officials' time. Thus a relevant issue is whether Australia could do better by:

- focussing on further gains in trade with Asia (currently a much larger export market for Australia than the US), focusing our attention on the WTO's Doha round; and
- undertaking unilateral cuts in our own protection.

Concentrating on the WTO Doha round could serve Australia better and in the end might achieve greater liberalisation of US agricultural trade than if we engaged in a parallel bilateral negotiation.

ACIL's modelling projects full multilateral trade liberalisation to be an overwhelmingly preferable course for Australia than either unilateral liberalisation or free Australia/US trade.

ACIL's conclusion is that both Australian farm and Australian national interests will be best served if our negotiators devote their time and energies to the pursuit of global trade liberalisation in the WTO Doha round.

1. Introduction

1.1 Context

This is a report by ACIL Consulting Pty Ltd (ACIL) for Australia's Rural Industries Research and Development Corporation. (The Corporation is a government funded organisation which allocates a portion of its resources to researching, on behalf of the Australian agricultural sector, topical farm policy issues.) The report's purpose is to assess the pros and cons of a free trade agreement (FTA) between Australia and the United States of America (US) **from an Australian farm sector point of view** and to advise on what that implies for our negotiators.

The idea of an FTA with the US has been looked at on and off for the last two decades. Most recently it arose as an issue in late-2000. There have since been a number of statements from both sides expressing in-principle support, but all have recognised the desirability of careful consideration before proceeding.

Some parts of Australian industry have been very supportive, while others, notably the Australian mining and farm sectors, have been more cautious. Within agriculture, dairy representative bodies, for example, are understood to have pledged significant time and energy to the pursuit of the inclusion of dairy issues in an FTA. Another interest group that has been especially supportive has been the Australian wine industry. It has helped bring together a forum of business interests in Australia that is seeking to promote the concept. A body of such firms also exists in the US — also formed largely as a result of initiatives by wine, packaging and other sections of Australian industry that have an interest in exports to the US.

Australia's international efforts on wine include the signing in 1994 of an agreement with the European Community which provided a springboard for expansion of Australian wine exports onto the European market. More recently, Australia has participated in the New World Wine Producers (NWPP) Forum, a joint industry-government group from wine producing countries established in 1999. The NWPP group met in Toronto from 17-19 December 2001. The meeting was marked by the signing of a Mutual Acceptance Agreement on oenological practices (MAA) by NZ, Australia, Canada, Chile and the United States. The Treaty means that differences in winemaking practices can not be used to erect barriers to trade between the signatory countries. Now negotiations are underway on an agreement on labelling in NWWP countries.

Australian wine industry interests appear to favour the pursuit of an Australia/US FTA because they consider it would help lock in these

initiatives. But participation in multilateral fora such as the Codex Alimentarius Commission (which deals with food standards generally), the Office International de la Vigne et du Vin (OIV) (which sets wine standards) and the WTO is also continuing.

1.2 This paper

The paper begins with comments on the last World Trade Organisation (WTO) multilateral trade negotiating round and the current Doha round of multilateral trade negotiations. It then looks at unilateral reform and asks whether a Australia/US FTA might be a useful supplement to these approaches. Subsequently, the results of quantitative modelling work undertaken for this study to compare the outcomes of the three approaches is reported. Finally conclusions are presented.

The paper assumes some knowledge on the reader's part of the nature of the WTO and its predecessor, the GATT, the nature of multilateral trade negotiations and the fact that agricultural protection is at very high levels in many of Australia's export markets.

2. The Uruguay Round

At the multilateral trade round that preceded the current Doha round, the Uruguay round (1986-1994), agriculture was on the agenda for the first time in substantive form (although previous rounds had had an Agriculture Group and had achieved modest liberalisation at the fringes).

An Agreement on Agriculture (known as the Uruguay Round's Agreement on Agriculture - or the URAA) provided a framework for opening markets and reducing market distortions, under the headings of market access, domestic support and export measures. The URAA required:

- all (other than quarantine) non-tariff barriers to agricultural imports to be eliminated and replaced by bound tariffs or ceiling bindings and in some cases tariff rate quotas;
- bound tariffs to be scheduled for phased reductions; and for farm production subsidies ('domestic support') and export subsidies also to be reduced.

Industrial countries were to implement these reforms between 1995 and 2000, while developing countries were given until 2004.

Alongside the URAA were:

- the Agreement on Sanitary and Phytosanitary (SPS) Measures intended to limit the use of quarantine import restrictions to cases that could be justified 'scientifically';
- new policy notification and review requirements; and
- a Dispute Settlement Understanding to improve the process of resolving trade conflicts.

At the time it appeared that export subsidy reduction and substantial liberalisation of agricultural trade was achieved in the Uruguay round. For developed countries (the main markets of interest to Australia) over the period 1995 to 2000:

- the average tariff cut for agricultural products was 36% (with a minimum of 15%);
- domestic support in total was cut by 20%;
- the value of export subsidies was reduced by 36%;[1]
- agricultural products were henceforth to be protected only by tariffs with other protective measures converted into tariff equivalents.[2]

However, as some of the equivalent tariffs were too high to allow any real opportunity for trade, in many instances a system of tariff rate quotas was

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1 WTO Agriculture Negotiations: *The issues and where we are now*, WTO, 8 April 2002.

2 Except for Korea, and the Philippines for rice.

created to maintain existing import access levels. Lower tariffs apply within the quotas and higher rates for quantities outside them.

The other main achievement of interest to Australia at the Uruguay round was improved dispute settlement procedures. Previously, GATT members were not obliged to act on the decisions of dispute settlement panels, but since Uruguay they have been obliged to accept a final dispute settlement decision or face trade sanctions. This has been used by Australia, which won disputes with:

- the US on lamb tariffs; the tariff was reduced; and
- Korea, about restrictions on retailing of beef; Korea liberalised its rules.

In practice, the gains achieved in the Uruguay round have been largely lost at the end of the round and since, by erosion of the obligations through the adoption of particular kinds of "modalities" or detailed rules of application (see Box 1). Major importing countries, notably the US, the EU and Japan, have exploited the loopholes and fine print of the modalities to evade liberalisation. New types of protection have replaced the old.[3]

Box 1: WTO Agricultural "Boxes"

The Agriculture Agreement of the Uruguay round classifies agricultural support into three "boxes":

- The amber box for domestic support measures considered to distort production and trade; the agreement was that the total value of these measures must be reduced.
- The green box for subsidies that do not distort trade—they were required to be government funded (not achieved by charging consumers high prices) and were not to involve price support. Allowed measures include direct income support to farmers which is not related to (ie de-coupled from) current production levels or prices.
- The blue box was meant to include products exempted from the general rule that subsidies linked to production must be reduced — it covers payments directly linked to acreage or animal numbers, under schemes which also limit production by imposing production quotas or by requiring farmers to set aside part of their land.[4]

The three are otherwise known as the bad box, the good box and the strange box.

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3 For further discussion, see

- *Multilateral Trade Negotiations - what is required to reform domestic agricultural support through the WTO,* ABARE Current Issues October 2000.
- *Must the Good Guys Always Lose*? Speech by David Trebeck to a Rabobank meeting, Amsterdam 2 May 2002, on www.acilconsulting.com.au

4 WTO *op.cit.*

Reduced prices for some agricultural products since the Uruguay round have added to protectionist pressures. "Liberalisation" that cannot survive a price slump is cosmetic. Thus the Uruguay "achievement" was ephemeral.

Cosmetically, the US replaced measures such as deficiency payments and price support loans with contract payments and market loss assistance.[5] The EU has frequently pursued the strategy of setting unrealistic base rates and broadly defined average reductions, allowing retention of protection on sensitive production — for example, with textiles. Other countries have circumvented their commitments on export subsidies through the use of protectionist state trading enterprises, new levels of food aid and subsidised export credits.[6]

Events outside agriculture were sometimes not much better and in a few areas have also had adverse implications for agricultural trade. A poignant example of an agricultural Uruguay modalities agreement that has worked against the interests of Australian farmers is the procedure that was adopted for phasing out the notorious Multi Fibre Arrangement (MFA). The MFA was longstanding GATT-endorsed pact under which developed countries had imposed import quotas on apparel and textiles from less developed countries and newly emerging industrial countries to protect their domestic industries. Indirectly, the MFA had inhibited world demand for fibres such as wool. At Uruguay, the MFA countries agreed to phase out their import quotas over ten years from 1995 under a new deal called the WTO Agreement on Textiles and Apparel (ATC). But, unbeknown to most people, the ATC includes products previously not subject to MFA-style restrictions and the broader coverage has enabled member countries to delay their liberalisation of quotas until the end of the period. The US and the EU, for example, met their ATC obligations in Stages 1 and 2 of the phase-out without actually liberalising any quotas.

Agricultural support in OECD countries is now back to where it was prior to the Uruguay round at approximately 40-50% in producer subsidy equivalent terms and 35% in consumer tax equivalent terms.[7] The recent *US Farm Security and Rural Investment Act 2002*, however, seems likely to increase average protection above this level by raising subsidies.

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5 Roberts, Ivan and Jotzo, Frank (2002), "US Farm Bill: an Australian perspective on its impact," *Australian Commodities*, 9 (2), June quarter, p. 365-9.

6 WTO, *op.cit.*

7 OECD, quoted in *Solving the Problem—The political economy of agricultural reform*, Centre for International Economics, for the Rural Industries Research and Development Corporation, October 2000. Later figures are of much the same order.

For all its shortcomings, the Uruguay round ‘broke the ice’ with agriculture and has produced a framework which can be built upon in the Doha round.

3. Current Environment for the Doha Round

The Doha Ministerial Declaration signed in Doha, Qatar in November 2001 included a section on agriculture (paragraphs 13 and 14) which stated amongst other things:

> "… we commit ourselves 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"

These are the so called 'three pillars.'

The agricultural section also says: "…[we] confirm that non-trade concerns will be taken into account" — a reference to the EU notion of "multifunctionality" — see below.

The new commitments are meant to be established by 31 March 2003 for implementation in January 2005. Well before the Doha meeting, the main players submitted proposals which are summarised in *Multilateral Negotiations* (ABARE) October 2000 and in WTO newsletters.

The chance that the January 2005 date will be met seems slim — historically, most GATT/WTO deadlines have slipped and this time the scope for resistance from protected sectors and for disagreement among member nations seems as great as ever.

A proposal made by the US before Doha seems to have been intended to move towards the liberalisation envisaged in the Doha declaration. However, it has subsequently been defeated by the US Farm Security and Rural Investment Act 2002 which after protracted bargaining, was passed on 13 May 2002.

Despite US statements to the contrary, the new Farm Act cannot be reconciled with a policy of agricultural liberalisation. It represents a response to political pressures from domestic farm interest groups which have been exacerbated by falls in some agricultural prices. In most of the product groups that have had the highest protection historically (and certainly the two product groups — sugar and dairy products — that most interest Australia) its provisions dominate the late July 2002 *Trade Promotion Authority Act* which nominally empowers the President to initiate deals at trade negotiations such as Doha. Under the "fast track" authority in the former *Trade Promotion Authority Act*, the US Congress could only accept or reject a deal, not change it. In the versions that were being discussed in the relevant Senate and House of Representatives committees in June, clauses requiring the President to have prior consultation with Congress before any negotiating position on agriculture could be finalised were always present.

US politicians representing protected farm interests insisted on such over-rides as a condition of allowing the Act through Congress. They signal the unwillingness of the US to reconsider anomalies inherent in the *Farm Security and Rural Investment Act 2002* such as:

- most of the support will go to a minority of the richest farmers; and
- certain commodities have extraordinary levels of protection — eg, sugar and dairy where high domestic prices have led to widespread substitution by alternative products such as high fructose corn syrup and margarine.

The European Union (EU) has always resisted agricultural liberalisation in the GATT/WTO. Its latest means of resisting change is the new concept "multi-functionality," which is rag bag of excuses for continuing to protect agricultural sectors from import competition. They are written up as myriad non-trade objectives that the protection is alleged to serve including environmental protection, food security, rural development, maintaining rural populations, tourism, elements of culture and way of life, social cohesion, stewardship of land, health and safety standards, animal welfare, etc. We regard these as mere excuses because the reasons advanced for them make no economic sense – and, indeed, are just as empty as the traditional rationalisations the EU has offered for protection (infant industry, countervailing power, smoothing the adjustment process, disease prevention and so on). The main flaw of logic is that trade protection measures are less effective and less efficient means of delivering the new objectives than more direct instruments. Kym Anderson is among the many authoritative commentators who has patiently explained this point.[8]

The EU seems to recognise that it must rein in its agricultural protection – or devise a two-tier agriculture policy – in response to the potential budgetary shock and competitive impact of admitting new member states from Eastern Europe, most of which have substantial agricultural production that now survives on much less protection than the EU offers its own producers. A ten-year transitional arrangement gradually to equalise the treatment of farmers in the EU and budding member countries has been proposed, but the matter is far from settled. This and the parallel issue of whether the basis of support for farmers under the Common Agricultural Policy can de-coupled (ie, can be implemented via measures that are linked less to output) are two of the biggest issues facing the EU.

Other European countries, such as Switzerland and Norway, hide under the wing of the EU and apply protection which can be even more extreme. They also show no signs of willingness to change.

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8 Kym Anderson (2000), "Agriculture's multifunctionality and the WTO" *Australian Journal of Agricultural and Resource Economics*, 44: 3, pp 475-494.

The same seems to apply to Japan and Korea, although there have been some signs of movement eg. beef trade liberalisation in Korea, and possible liberalisation in Japan linked to political changes and the ageing of the farming population.

The main forces against these negative influences are the Cairns group of agricultural exporting countries and developing countries more generally (some of which are members of the Cairns group). The Cairns group has made an agricultural proposal in the Doha round which would address most of weaknesses of the Uruguay round and the need for continuing liberalisation. However, there are some signs that the group is weaker than it was. It seems to be mainly reliant on Australian leadership and research, with other countries tagging along — some, eg New Zealand, more enthusiastically than others, eg Canada. (Canada's multilateral agricultural trade position is ambiguous: the protection received by different agricultural industries varies partly by virtue of its privileged access to the protected US market as a NAFTA member – most famously its ability to sell high fructose corn syrup into the US as a sugar substitute).

The main developing countries are irritated by the WTO's failure to include products of export interest to them (including agriculture) in previous rounds in any meaningful way, and by the backsliding from the promising agreements reached during the Uruguay round. As noted by the Productivity Commission:

> "… the back sliding of the agreement on textiles and clothing (ATC) means that most of the improved access to OECD markets under the ATC will not occur until the final phase in 2005. Moreover some OECD countries have resorted to anti-dumping and safe guard measures that have reduced anticipated export gains for developing countries. Similarly, reductions in agricultural protection by OECD countries agreed in the Uruguay round have been offset by new subsidies and other hidden forms of protection (for example administrative procedures)." [9]

Developing countries such as India and Brazil have become more organised and more prominent in WTO affairs than they used to be and are capable of putting real pressure on the major western countries.

Australia has substantial objectives for agriculture in the Doha round. Agriculture still accounts for 26 per cent of Australia's merchandise exports, and would account for much more if access to other countries' markets were not so heavily restricted. The Australian Government's broad objectives in the round relate to market access, export competition, domestic support and export restrictions and taxes. The Australia/Cairns

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9 Productivity Commission (2001), "Submission to DFAT on Australia's Approach to Forthcoming Global Negotiations".

Group proposals at the more detailed level address the ways in which importing countries have avoided their Uruguay undertakings. They focus on definitions of such concepts as base period, aggregate measurement of support, minimally market distorting subsidies, and production limiting arrangements.

On past performance one could be forgiven for being somewhat pessimistic about the prospect for agricultural liberalisation. Although agriculture finally got on the agenda in the Uruguay round and is clearly on the agenda again, supported by the Doha Ministerial declaration, all the signs are that the main importing countries will resist significant liberalisation as energetically as they have done in the past. There will probably be some movement if only to prevent the whole round failing, partly to accommodate pressure from developing countries (some of which are of substantial economic or strategic interest to OECD countries) and partly because Australia and other exporters will be better than they were last time at seeing through some of the "modality" tricks that have been played.

Against this pessimistic background it is useful to consider other approaches which might offer a pathway to liberalisation, and the impact (negative or positive) that parallel negotiations on a Australia/US trade agreement might have.

4. How to Encourage Trade Liberalisation

4.1 Standard criticisms of the WTO

The traditional GATT/WTO approach to reducing trade barriers has been for each country to offer to reduce its barriers (making concessions) in exchange for others doing likewise. Although based on a false premise, that lowering barriers to imports is somehow giving something away to other countries (whereas in fact the main gains accrue to the offering country), it has in practice proved to be a useful mechanism for overcoming opposition and achieving liberalisation—for industrial products. The main players in the earlier GATT rounds were the major industrialised countries which could see benefits in liberalising industrial trade amongst themselves. They did not appear to see such benefits in liberalising agricultural trade, presumably for the standard reason that the costs would have been concentrated (among certain vocal farmers) while the benefits (to the wider community) would have been diffuse. They still behave this way despite evidence that in practice agricultural liberalisation can lead to a stronger agricultural sector as shown by Australia's and New Zealand's liberalisation efforts of the 1980s and 1990s.

The history of GATT and WTO rounds since the late 1940s suggests that the types of pressure which are harnessed in international trade negotiations do not work for agriculture. The above discussion of the Doha round indicates no urgent need to revise this pessimistic impression. For agriculture, international pressures appear inherently less suited to overcoming domestic concerns. It follows that greater progress with agricultural trade liberalisation will require better domestic understanding of its benefits to the liberalising country.

To put it more strategically, it will require an approach which awakens the domestic citizens of countries to the national income foregone from maintaining protection and leads to political pressure to have things changed. This is a view which sees protection as a kind of subterfuge by certain narrow interests in a country against that same country's wider community.

From time to time there have been hopes that this awakening might occur naturally with the passage of time — with Europeans, for example, becoming more aware of the internal EU costs of the Common Agricultural Policy and the concentration of most of its benefits among the richer farmers. However, the world has been waiting decades for such a breakthrough — it continues not to happen, perhaps because the costs are largely hidden through price support policies as opposed to direct government appropriations.

An idea which has been pushed in the past by Australia, and more recently by the Director General of the WTO, is that each country should,

as a matter of international agreement, establish a "transparency agency" which would undertake research and publish reports on the effects of protection policies — something like the Productivity Commission and its predecessors have done in Australia.

Most countries already have a trade policy review process of some form, albeit often with a low degree of transparency, or with a set of rules which mean that the true public interest is not the decision rule. But at least a WTO institution building initiative would not be starting from nothing. When the idea eventually surfaced at the Uruguay round it became diluted and emerged as the Trade Policy Review Mechanism. Assessments of its worth are mixed. For example, the Productivity Commission has remarked:

> "This mechanism has exposed shortcomings … nevertheless it remains an external mechanism largely outside the [domestic] debate about national trade policies".[10]

The case for national transparency agencies, according to the Productivity Commission, is:

> "…the establishment of institutional vehicles within each country to provide information on the domestic costs and benefits of protection and other assistance to industry would not only contribute to better informed debates on trade policy, thus facilitating domestic liberalisation, it would also help to show support for the WTO system".[11]

Given the limited success of implementing this idea to date, Australia could consider the alternative of working indirectly through independent organisations to subsidise research and publication in agricultural importing countries on the impacts of protection. This should cover:

- the equivalence, in terms of damage done, of protection via any measure which differentially advantages local versus foreign suppliers – whether in the form of tariffs, quotas, subsidies or business regulations;
- the overall (negative) impacts of protection on importing countries;
- the lopsided distribution of assistance to those who are already wealthy;
- the undermining of wider strategic interests (eg. the constraining of less developed country (LDC) trade can lead to social and military problems). As President Bush said "when we negotiate for open

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10 Productivity Commission, *op cit.*

11 *Ibid.*

markets we are providing new hope for the world's poor and when we promote open trade we are promoting political freedom";[12]

- the experience (such as New Zealand) which shows (as with industrial liberalisation) that agricultural liberalisation can lead to a restructured and vibrant agricultural sector;
- better alternative use of the subsidy dollars — e.g. on education, health or tax cuts;
- the negative effects of intensive farming on the environment; and
- the regressive effect of import protection affecting food and clothing, which accounts for a higher proportion of expenditure in low-income households than in high-income households.

Analysis and transparency should apply to trade in both goods and services and this applies as much to a country's participation in multilateral initiatives as it does to domestic trade policy. For example, Australia's decision to accede to Trade Related Aspects of Intellectual Property Rights (TRIPS), inspired extension of patent lives without a thorough local review.[13]

4.2 The unilateral liberalisation option

The high profile of the WTO and the natural inclination of trade policy officials to concentrate on it has meant that the merits of unilateral trade liberalisation are rarely considered. Most of the gains from liberalisation occur from domestic liberalisation. As the Productivity Commission says:

> "…importantly the case for reductions in Australia's trade barriers does not rest on notions that foreign countries have already reduced, or will also reduce, their trade barriers. The main benefits of trade reform will come from the economic efficiencies created within a country which opens itself to the pressures and opportunities of international competition irrespective of trade barriers or subsidies which may prevail abroad".[14]

The Commission reports research which concludes that the gains to Australia from unilaterally meeting its own commitments would account for almost 90% of the gains which it would accrue if all APEC countries

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12 The same point was emphasised in the Australian Prime Minister's statement to Congress on 12 June 2002.

13 The WTO TRIPs Agreement has seen increased protection for intellectual property. The US in particular is pressing for strengthening of its provisions, including wider application and better enforcement. All countries have an interest in encouraging innovation; patents and copyright help provide such encouragement. However, the interests of net IP exporting countries such as the US and net IP importing countries such as Australia are not identical, so good and open analysis is called for.

14 Productivity Commission, *op.cit.*, p. 5.

met their commitments.[15] As will be indicated later, the Productivity Commission has recently expressed doubts that Australia can expect the same unilateral returns from future cuts.

A multilateral or even bilateral approach invariably means long delays before liberalisation is achieved. Given that liberalisation is of benefit, such delays have a large negative impact on the economy compared with what it might otherwise achieve if it took action by itself. Furthermore, the likelihood that the international negotiations will at best partly achieve the original objectives can lead to domestic liberalisation being less than should be possible.

The traditional argument for multilateral or bilateral approaches is that Australia needs negotiating "coin"—it must be able to offer improved access to other countries in exchange for the improved access it seeks itself. As noted above, this is based on an economic falsehood,[16] but is the traditional approach. In any case, there are several counter arguments:

- Experience from the time the GATT was created in 1947 shows that in practice Australia has little negotiating coin. Offers of access to the Australian market carry little weight with governments concerned about their own domestic agricultural politics.
- In practice, countries which liberalise ahead of time unilaterally can obtain credit in WTO negotiations for what they have already done.
- As discussed above, the likely drivers of liberalisation for Australia's exports will be domestic politics in overseas countries, and to a lesser extent international strategic considerations, and not what Australia "offers".
- Australia is a small portion of the world economy and world trade, and so carries limited weight.
- Unilateral liberalisation may demonstrate moral leadership which can increase leverage in trade negotiations.

In the recent past, such considerations led the Productivity Commission to conclude that: "… governments should generally proceed with beneficial domestic reforms without awaiting multilateral negotiations."

More recently, in the context of its Review of Automotive Assistance, the Commission has expressed a more cautious view. The Commission's

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15 McKibbin, WJ (1998), "Regional and Multilateral Trade Liberalisation" in Peter Drysdale and David Vines (eds) *Europe, East Asia and APEC: a Shared Global Agenda.* (Cambridge University Press).

16 As Paul Krugman says, "The compelling case for unilateral free trade carries hardly any weight among people who really matter. If we nonetheless have a fairly liberal world trading system, it is only because countries have been persuaded to open their markets in return for comparable market-opening on the part of their trading partners. Never mind that the 'concessions' trade negotiators are so proud of wresting from other nations are almost always actions these nations should have taken in their own interests anyway; in practice countries seem willing to do themselves good only if others promise to do the same". Krugman, P (1997), 'What should trade negotiators negotiate about?', *Journal of Economic Literature* Vol XXXV, no1, pp 113-20, cited in Productivity Commission *op.cit.*

June 2002 *Position Paper* relating to that inquiry, explained that simulations using two well respected general equilibrium models of the Australian economy – the MONASH model and the Econtech 600+ model:

> "… suggest that the resource allocation gains of reductions in assistance to Australia's automotive industry beyond 2005 would be very modest. The Commission's in-house MONASH modelling indicated negligible impacts on household income – either small positives or small negatives – depending on the scenario. The Econtech model showed similarly inconsequential impacts for the wider economy. Both models also highlighted that any (small) resource allocation gains would be offset by (small) terms of trade impacts. This is in contrast to past modelling exercises where terms of trade effects have been swamped by the resource allocation gains from reducing very high protection." (Box 10.1, p.110)

The Commission went on to say that:

> "With the allocative and terms of trade effects being both small and counter balanced, 'dynamic' considerations that are not encapsulated in quantitative modelling assume much greater importance …" (p.111)

and that while:

> "Unlike the allocative benefits reflected in the models, the 'dynamic' benefits do not necessarily become proportionately smaller as tariffs are reduced." (p111)

at the same time:

> "… other dynamic considerations such as short term adjustment impacts, spillover benefits provided by industry and the impact of assistance on Australia's attractiveness as an investment location also need to be taken into account …"(p.111)

These observations may come as a surprise to those who have recognised the productivity improvements Australia has gained over the last two decades from trade liberalisation. However, it appears that further gains will now be more difficult to obtain – at least from unilateral cuts.

Australian tariffs now average only 3.8%. Nearly all of them are 5% or below. Nonetheless, we should not kid ourselves that Australia has no important barriers to trade left in place. In particular:

- the remaining high tariffs are on textiles, clothing and footwear (up to 25% but most around 10%) and motor vehicles (15% reducing to 10% in 2005, although second hand cars are very heavily tariffed);
- Australia, like many countries, has rigid anti-dumping laws which focus solely on injury to the local industry rather than judging what would be in the interests of the whole community, including users of

the product. Even considered on its own narrow terms, the anti-dumping system does not inspire confidence – the determination of 'normal values' by Customs, for example, can be somewhat discretionary. To prevent anti-dumping rules becoming the new post-tariff protective instrument, the rules should be changed to give a better balance between costs and benefits;

- Australia has local content quotas for television and ownership limits on it and other forms of media. Analysis suggests that most local content quotas are redundant in the sense that the media firms choose to have local content above the quota level because that reflects customer demand;
- Australia has a few entry control regulations on service industry participation, such as those applying to medical insurance companies and the medical profession, including some which are relatively more difficult for foreign nationals to satisfy;
- Australia's quarantine rules (in WTO circles quarantine provisions are termed sanitary and phytosanitary (SPS) measures) have attracted criticism from abroad. Quarantine disputes are current or recent with several products, including some from the US — fresh grapes and maize, for example;
- Australia's penchant for single-desk export bodies for farm products is criticised by competing export countries, notably the US whose officials seem to think they are a vehicle for government subsidies. The main target of criticism is AWB Limited whose single-desk status is next due for review in 2004; and
- Australia's overseas investment rules are generally liberally applied but are restrictive in particular sectors such as media, banks and airlines.

Farm representatives should be interested in Australia offering to reduce or eliminate any of the above which can be shown to be inefficient interventions. There are three reasons.

- First, many of the measures *directly* raise the prices of farm inputs or the prices of goods and services purchased by farm households. Entry restrictions in the media and the professions are in this category.
- Second, virtually all forms of protection have adverse implications for the farm sector *indirectly*, by making the exchange rate higher than it would otherwise be.
- Third, we can expect to do better with any requests we make in regard to other countries' protection of their farm industries (say, dairy or sugar) if we accede to those other countries' requests to us to liberalise. It may be time, whether in the Doha round or some earlier forum, for this sort of thinking to be applied to some of Australia's quarantine measures, for example, which are typically raised by

overseas interests wishing to delay the reform of their own protection. An example of a recent statement by a US official which raises the Australian quarantine issue is given in Box 2 below.

Box 2: The US/Australia FTA idea from a US perspective

The following is the text of a NineMSN report based on AAP material which was released on 4 July 2002 under the title: "Australia first for US trade pact: envoy"

Australia was at the front of the line for a bilateral trade agreement with the US but farmers should also try to access European markets, US Ambassador Thomas Schieffer said.

Mr Schieffer, the Ambassador to Australia, said he was confident the two US houses of parliament could agree on trade laws to pass both houses.

Once a trade promotion authority was established bilateral trade agreements could begin, with Australia at the front of the line, he said.

"Australians forgot they had much more access to American markets than to European markets, Mr Schieffer said.

"I think that sometimes Australians forget how much access they do have to the American market," he told ABC Radio. "Australians sell three times as much agricultural products to the United States as they buy".

"So it's not exactly a market that is just shut tight against Australians."

Australia's beef industry needed to try to further access the European market, he said.

"While we buy 378,000 tonnes of beef from Australians, Europeans only buy about 7,000 tonnes a year," Mr Schieffer said.

Nations must figure out a system to gear agriculture toward a market economy with less subsidies, he said.

Quarantine laws, for example, were understandable for Australia but affected market access of various people.

"The United States cannot get processed pork, chicken, feed grains, into Australia," he said.

"All of those things we need to look at, put them all on the table, agree that nobody really has clean hands in this matter and then start a negotiation.

"And I think ... to really to have a chance to work, it's going to have to be on a worldwide basis.

"But having said that, I think that there is a real chance that we can have a bilateral free trade agreement with Australia in the not too distant future."

5. Issues Related to an Australia-US Free Trade Agreement

5.1 Insights into Australia's general policy on bilateral relations

The US President and Congressional committees have often remarked during (especially in discussions about the 'fast track' trade legislation during 2001-02) that there are approximately 200 free trade agreements in existence or being planned around the world and that the US participates in just two of them.

Some FTAs are wide ranging and largely meet the GATT article XXIV requirement that they should apply to substantially all trade between the countries concerned. But many of the other agreements do not.

Australia's direct involvement in FTAs is also limited, with the Closer Economic Relations (CER) agreement between Australia and New Zealand being the purest example. Being broad based, CER is GATT compliant.

Arguably the regional (or non-multilateral) trade agreements of greatest significance to Australia are the European Union (EU) and the North American Free Trade Agreement (NAFTA). They too are GATT compliant, but for Australia their flow-on effects on the rest of the world, especially in agricultural trade, is an issue.

Australia's official position on bilateral trade agreements seems to be fairly open-ended. To our knowledge, there have been no recent official statements specifically on that subject. However, the *1997 White Paper on Foreign Affairs and Trade* (which was prepared under a Coalition Government and stated in its title that it represented the outlook for 15 years), suggests Australia has encumbered itself with few if any doctrinal obstacles to any bilateral initiatives.

Box 3 below contains two extracts from Chapter 4 of the 1997 White Paper — the first is part of a commentary on bilateral relations in general and the second is a statement on bilateral relations with the US in particular.

Box 3: Two extracts on bilateral relations from Chapter 4 of the 1997 White Paper on Foreign Affairs and Trade

Extract 1

"122. While foreign and trade policy strategies must deploy all three approaches - bilateral, regional and multilateral - effective bilateral relationships constitute the basic building block. The greater part of Australia's international efforts is bilateral. Within the framework of strengthening bilateral relationships, Australia develops and nurtures political and market access; exchanges information and intelligence; makes representations aimed at changing other countries' policies and practices which damage Australian interests; promotes commercial relations; negotiates bilateral treaties and agreements; and develops projects of practical cooperation in a wide range of fields.

"123. In handling bilateral relationships, the Government will adopt an integrated approach taking into account the totality of Australian interests. In some instances these interests will be confined mainly to trade and investment; in the more substantial bilateral relationships, the Government will implement comprehensive strategies which integrate Australia's security, economic and political interests with efforts to forge a wider network of contacts in such areas as education, tourism and cultural exchanges. A comprehensive approach to bilateral relationships also involves working closely with the Australian business community to expand market access and other opportunities for trade and investment. It means facilitating institutional links in fields such as the arts, sport, and education. In this way, each strand of the relationship not only has value in its own right, but also contributes to building a broader base from which to develop and advance mutual interests."

Extract 2

"136. As noted in Chapter Two, the United States will over the next fifteen years remain the world's largest economy, leading military power and primary source of technological innovation. The United States will thus continue to be an indispensable element in any configuration for peace, security and economic growth in the world over the next fifteen years. The success of Australian objectives in key areas such as regional security, APEC and trade liberalisation, as well as on disarmament, refugees and many other issues, is greatly influenced by the economic strength and political influence of the United States.

"137. Australia's alliance relationship with the United States is an asset both redefined and strengthened by the end of the Cold War. It is a central component of Australia's defence and continues to provide Australia with beneficial access to technology, military equipment and intelligence. It would seriously complicate the planning of any potential adversary. The Australia-United States relationship complements and reinforces Australia's policy of close engagement with East Asia. Beyond its significance to the defence of Australia, the alliance strengthens United States strategic engagement in the region: an engagement which has underwritten the regional stability on which the East Asian economic miracle has been built. The United States is also the largest export market and largest source of investment funds for many East Asian countries, giving it a major role in underpinning future economic growth in the region. In short, the United States will remain an indispensable participant in the security and economic affairs of the Asia Pacific over the next fifteen years.

"138. A key objective of the Government will be to strengthen further the relationship between Australia and the United States by expanding the already close links that exist at the bilateral, regional and multilateral levels. The Government will be looking, in particular, to broaden its dialogue with the United States on Asia Pacific issues, and to encourage it to accord sustained high-level policy attention to the region. Australian policy objectives will be directed at ensuring a continuing constructive United States engagement with the region, reflected in productive relations between the United States and its key regional partners, as well as in an active US role in regional institutions such as APEC and the ARF. The Government will also work towards expanding cultural and educational links in a way which reinforces a genuinely multi-dimensional relationship.

"139. US trade policy will be an important factor in determining the effectiveness of its leadership in the Asia Pacific and globally. The United States will remain a critical force for regional and global trade liberalisation. At the same time, it is likely to continue to pursue reciprocity in trade arrangements, and future US Administrations can be expected to follow an aggressive approach to opening markets using all available mechanisms to induce its trading partners to adopt measures which suit the interests of US business.

"140. Despite its large trade surplus with Australia, the United States can be expected to continue to advance its interests vigorously on issues which it regards as significant, such as protecting intellectual property. In sectors where the United States is undergoing structural change, such as agriculture, it will continue to look to externalise adjustments through measures such as export subsidies or imposing restrictions on the access to its market. The Government will continue to oppose all such measures. At the same time, the United States remains a key economic partner for Australia, particularly in relation to investment, and the Government will be working to ensure that the wider economic relationship further expands over the next fifteen years."

The extracts cited in Box 3 are now nearly five years old. Allowing for this (and remembering they were written before both the East Timor crisis and the post September 11 war in Afghanistan), the emphasis on wider strategic considerations as influences on Australia's bilateral relations with the US, especially in regard to defence, is striking. Clearly, these wider issues are important and cannot be taken lightly. Also striking is

the long list of trade issues that are routinely covered in our bilateral affairs, both generally and with the US, outside the FTA issue.

A question arising is whether an FTA could add some useful form and structure to the multifaceted US-Australian bilateral relationship. Another is whether the political tensions in both countries that would be associated with attempts to negotiate an FTA would complicate rather than facilitate relations in the many areas where cooperation is already occurring.

5.2 The claimed economic advantages of a US/Australia FTA

The current policy of the Australian Government is to seek a free trade agreement with the US. The Government, through the Minister for Trade, has argued that an FTA with the US has the potential to deliver up to A$4 billion a year to Australian farmers, manufacturers, etc.[17] This is the estimated increase in GDP that would be achieved in 2010 from an FTA phased in from 2001.[18] It is based on modelling which assumes the full removal or at least halving of all tariff and non-tariff barriers, except for agricultural subsidies.[19]

Other arguments which have been advanced for an FTA are:

- It would strengthen the overall economic relations between the two countries, in particular encouraging additional investment from the US (which is already a large source of foreign investment in Australia).
- There would be wider spin-offs and additional dynamic effects "from closer economic links with the world's biggest and most competitive economy and heartland of the information economy"[20].
- Australia would be disadvantaged if it did not have an FTA with the US and meanwhile the US concluded its planned Free Trade Area of the Americas (FTAA) — an intended agreement among 34 North and

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17 The Hon Mark Vaile MP (2002), *Australia US FTA Potential $4b Windfall*, Media release 24 May 2002.

18 The estimate is based on modelling the Minister's Department commissioned from CIE: *Economic Impacts of an Australia-United States Free Trade Area*, CIE June 2001.

19 As Ross Garnaut has pointed out in a review of the subject, there is an incongruity in the modellers' assumption that subsidies remain in place on the same products (eg grain) for which access has been liberalised. He also queries the assumption of no change in Australian IP and other policies which are high on the US request list and for the failure of the modellers to allow for the cost (to the government and to firms) of administering rules of origin, necessary where liberalisation is discriminatory (Garnaut, 2002). These shortcomings will be discussed further in the next chapter.

20 *An Australia-USA Free Trade Agreement — Issues and Implications*, a report by Alan Oxley, APEC Study Centre, Monash University for the Department of Foreign Affairs and Trade. The Trade Minister, commenting on the report, said "Australian business would gain from improved access to the world's largest economy, and there would also be a number of important flow-on effects, particularly in attracting US investment to Australia and expanding linkages with the dynamic US new economy and leading edge US business practices." Mark Vaile, Media Release 29 August 2001.

South American countries, scheduled to be implemented by 2005 — as several of Australia's most active agricultural trade competitors will be involved.

- The Australian Government, or at least its Department of Foreign Affairs and Trade, does not consider that an FTA with the US would undermine the WTO or the Doha round. Its view [21] is:

> "… multilateral trade negotiations through the WTO remain the central tenet of Australia's trade policy. However, regional and bilateral strategies can offer great benefits where the parties are willing to proceed faster and undertake more profound liberalisation than can be achieved by the entire WTO membership. These strategies also serve to build the momentum for multilateral liberalisation and can create useful templates for dealing with new and complex issues such as investment services, competition policy and e-commerce".

5.3 The feasibility issue

An Australian **agricultural** perspective on the proposed FTA with the US would inevitably be less sanguine than the above.

One of the main concerns for the agricultural sector is the apparent lack of feasibility of anything but a very restricted agreement. In particular, it is hard to see that the US would agree to liberalised access for Australian agricultural exports under an FTA, especially in the light of:

- increased US protection in the past two or three years;
- the recent *Farm Security and Rural Investment Act*; and
- the restricted scope which the Trade Promotion Authority Act provides for different agricultural arrangements to be negotiated.

Better access to the Australian market would cut little ice with the domestic lobbies behind agricultural protection. The US representatives would have most of the bargaining power, as it needs the FTA less than Australia (the potential gains to it are about the same in absolute money terms but as a percentage of GDP are less than a tenth of the equivalent gain to Australia)[22]. Two of the main sectors of primary interest to

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21 *Trade Issues No. 3 Beyond the WTO — Australia's multi-faceted trade policy*, DFAT 2002. The Trade Minister, Mr Mark Vaile, has supported this line when commenting favourably on the Oxley paper. "Far from detracting from this [WTO] objective the report finds that a bilateral FTA with the US could complement it by setting a high standard for multilateral negotiations" (press release 29 August 2001).

22 CIE (2001), *op.cit.* chapter 3. US real consumption would rise by 0.02% and Australia's by 0.4%.

Australia, sugar and dairy[23], show no signs of potential liberalisation in the US.

Protective agricultural policies in the US have been firmly in place and in fact have been growing for at least half a century.

5.4 The FTAA issue

In principle at least, the argument that, if Australia does not enter into an FTA with the US, it may be shut out of the US market by preferential access being given by other countries under the proposed FTAA, is valid.

We know of only one detailed investigation of this issue — a February 2002 study by a Washington-based consultancy for Australian Wool Innovation Pty Ltd.[24] It found (using CGE world trade modelling) that:

> "… the likely impact of the FTAA on the demand for Australian wool must be considered to be of minor importance when compared with overall factors influencing trends in wool demand during the last decade. The impact of the FTAA on the demand for Australian wool over the medium term can be expressed in a few simple words: It is almost a non-event."

This rather benign prognosis may not be the same with all products of Australian interest. Given the industry structures of the South and Central American economies that could be part of an FTAA, sugar is an obvious candidate. So is wine, in respect of Chile. However, the picture is not all bad. If Brazil, for example, were to gain priority access to the US sugar market (and this is by no means a certain outcome even if the FTAA goes ahead), Australian producers would still benefit indirectly by virtue of the diversion of product away from Brazil's existing markets. That is, the demand for Australian sugar would increase to some extent indirectly. However, the benefit to Australia would presumably be less than if Australia were to be given US market access itself.

It is too early to judge to what degree the FTAA idea will progress and at what pace, in what form and to what extent the Doha round may overtake it. The concern that Australian access could suffer if we do not pursue a FTA with the US while a FTAA goes ahead is realistic, but full of uncertainty.

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23 US equivalent tariffs are 80% for sugar and 24% for dairy (CIE 2001 *op.cit.)* Other high US tariffs are on products of only minor interest to Australia. However, at times in the beef cycle Australia's US beef quota limit is triggered; in 2002 it happened for the first time in 8 years, and is expected to last for several years. Within-quota beef exports attract a tariff of approximately 2%.; above-quota exports attract a tariff of 26.4%, which is significant but not prohibitive.

24 Spinanger, Dean, Francois, Joseph F, and Baughman, Laura (2002) *Free Trade Agreement of the Americas (FTAA) and Australian Wool* a report by Trade Partnership Worldwide, LLC for Australian Wool Innovation Pty Ltd.

5.5 The NAFTA experience

The experience of Canada, Mexico and the US with the North American Free Trade Agreement (NAFTA) may be a guide to what Australia could expect from a US/Australia FTA.

NAFTA began in January 1994. It is currently 8 years into its 15-year implementation period. It comprises three bilateral accords, one between the US and Canada, a second between the US and Mexico, and a third between Canada and Mexico.

The trading relationship between the NAFTA partners was much wider in 1994 than that between the US and Australia has ever been. Canada and the US share a 6,400km border and the world's largest bilateral trade flow (an aggregate in both directions of US$422 billion in 2000). It is said that 87% of Canada's exports go to the US. Likewise, the US takes about 90% of Mexico's exports.[25]

By contrast, the US currently takes less than 20 % of Australia's exports and is the origin of just 10% of our imports – and in aggregate the trade both ways is running at about US$25 billion a year.

Arguably, despite the partner countries' proximity to each other, NAFTA has not put agricultural protection to the test, as Canada and Mexico are not substantial suppliers of agricultural products that the US most protects. Nevertheless there are some lessons for Australia in how things have turned out.

In 1999 the US Department of Agriculture undertook a stocktake of what had happened with agriculture in NAFTA to that point.[26] In the next two subsections we present some facts from that report, first about the rules adopted for agriculture and second about the trade flows actually observed.

5.5.1 Main features of the NAFTA rules as regards agricultural products

NAFTA is riddled with agricultural exceptions intended to slow down the liberalisation process. Pressures for this kind of thing could be expected to confront any team of negotiators attempting to establish an Australia/US FTA.

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25 Anon (2001) "*Setting a new perimeter*" *The Economist* 22 September, pp 41-2

26 See United States Department of Agriculture Economic Research Service "NAFTA Situation and Outlook Series" WRS-99-1 August 1999. It may be viewed at the website: http://www.ers.usda.gov/publications/so/view.asp?f=international/wrs-bb/1999/nafta/wrs99-1.pdf

US/Canada

The NAFTA accord between the US and Canada incorporated the Canada-US Free Trade Agreement (CFTA), which had taken effect from 1989 and was due to be completed in 10 years. That agreement committed Canada and the US to work toward improving market access by removing trade barriers (including subsidies, but see further comments below) and by harmonising technical regulations and standards.

Prior to CFTA, Canadian tariff rates on US agricultural products averaged 9.9 percent, compared with the US average of 3.3 percent on imports from Canada. Some tariffs were eliminated immediately (in 1989), and some others were phased out over a 5- or 10-year period. But this is less ambitious than it sounds.

Restrictions on some products, such as sugar, dairy, and poultry, were not eliminated under CFTA - and have not been addressed in NAFTA. Thus, Canada, for example, continues to protect poultry, dairy, and eggs through supply management programs that rely on production and import quotas to maintain farm prices at levels based on the costs of production. Because these programs require trade restrictions to be effective, Canada exempted them from NAFTA altogether. The US has a similar list of management program exemptions.

NAFTA also continues to allow CFTA's special tariff protection for 20 years (to 2008) for the fruit and vegetable industries in each country in the form of a price-based "tariff snapback system", which guards against imports from either country depressing domestic prices. NAFTA allows each country to use the snapback provision to reimpose temporary tariffs if certain conditions prevail.

Even export subsidies are permitted under NAFTA if the importing country agrees to them or if the importer receives subsidised products from other countries. This provision enabled the US to continue to use the Dairy Export Incentive Program to promote dairy product exports to Mexico. Both the United States and Canada have used government-guaranteed credits, not considered an export subsidy, in exporting grains and oilseeds to Mexico.

Rare examples can be found where the liberalisation of agricultural trade between Canada and the US has been speeded up as a result of action taken mid-stream. This appears to be the case with the wheat trade between the US and Canada, for example. Initially, tariff reductions under CFTA/NAFTA increased US wheat imports from Canada somewhat (although the trade is largely dictated by weather-related events). By contrast, US wheat exports to Canada in the form of grain were insignificant in the first 5 years of NAFTA despite tariff reductions. This was addressed in 1998, when the US and Canada negotiated a separate agreement on wheat trade regulations that has improved US access to Canadian markets.

US/Mexico

In regard to Mexico and the US, NAFTA eliminated many tariffs and quantitative restrictions between the two countries upon implementation in 1994 and provided for the progressive elimination of remaining tariffs over 5, 10, or 15 years. Prior to NAFTA, about 25 percent of the value of US agricultural exports to Mexico was subject to licensing requirements. These were immediately converted to either tariffs or tariff rate quotas (TRQs), which are arguably a little more transparent. Products subject to TRQs at the Mexico/US border are duty-free up to the level of the quota.

Wheat, tobacco, cheese, evaporated milk, and grapes (shipped during certain periods of the year) are examples of products where licensing requirements were converted to tariffs. These are being phased out over a 10-year period. Other products subject to licensing, including corn, dry beans, poultry, barley/malt, animal fats, potatoes, milk powder, and eggs, were converted to TRQs. The US converted its import quotas for dairy products, peanuts, cotton, and sugar and sugar-containing products to TRQs. Under the TRQ arrangement, each country is required gradually to expand the quota, while phasing out the associated over-quota tariff during the transition period.

As in the case of the bilateral arrangement with Canada, Mexico and the US apply safeguard provisions for specified agricultural products. The safeguard provisions offer added protection to domestic industries against import surges. So-called “excess” quantities are assessed tariffs equal to the lower of either the tariff rate when NAFTA took effect or the current most-favoured-nation (MFN) rate. The tariff assessed on in-quota volumes for special safeguard products is being phased out over a 10-year period. The over-quota tariff will not be phased out until the agreement’s tenth year (2005), when both the in-quota and over-quota tariffs will be eliminated. Mexico applies the special safeguard on a calendar year basis to imports of live swine, pork and potato products, fresh apples, and coffee extract. The US applies special safeguards on a seasonal basis to selected horticultural crops.

5.5.2 Trade flow effects of NAFTA

Apparent diversion

Within 5 years of the implementation of NAFTA in 1994 (and despite the continuation of much agricultural protection as noted above), US agricultural exports to Canada and Mexico had increased from US$9.0 billion to US$13.2 billion (47%), while US agricultural imports from these two countries grew from US$7.4 billion to US$12.5 billion (69%). Compared with the previous decade, this seems to have been an impressive increase.

However, the rate of agricultural trade growth was no greater than the growth in total NAFTA country trade over the same period – in those five years, the total value of US imports from NAFTA rose from US$177 to US$268 billion (66%) and exports from US$165 billion to US$233 billion (71%).

Surprisingly perhaps, nor was the growth in NAFTA agricultural trade any faster than the average rate of trade growth which the US experienced at this time with the world as a whole. Over the 1994-98 period, US imports from the whole world increased from US$490 billion to US$950 billion (52%) and its total exports to the whole world rose from US$460 billion to US$790 billion (72%).

Nonetheless, within agriculture at least, it is apparent that a significant degree of trade diversion from the world to NAFTA occurred — Canada and Mexico now take more than a quarter of US agricultural exports and send it more than a third of US agricultural imports, a rise from proportions about a third less than that in the early 1990s. US agricultural exports to NAFTA partners expanded between 1994 and 1998 at an annual rate of 8.1%, in contrast to just 2.6% growth for exports to the world as a whole.

Table 1 below presents figures which point to the diversion of US agricultural trade towards NAFTA from the rest of the world. The pattern is evident in both exports and imports. On the US export side, the NAFTA trade growth has been (relatively) greatest with grains. On the US import side, animal products (which would include meat and dairy products), fruit, fruit juices and sugar are the main areas of relative NAFTA trade growth.

Caution is required in interpreting these figures. As indicated below, NAFTA has not been the only influence on trade flows over the period covered. Moreover, many of the trends have actually favoured world trade ahead of NAFTA trade. Further, the volumes of trade involved have sometimes not been very significant — the fact is, for example, that while Mexico has captured a higher share of the US sugar market than before, the volume supplied after 5 years of NAFTA remained small, at US$158 million in 1998, still well below the sugar product imports from Canada of US$293 million in that year.

Table 1: Proportions of total US trade with NAFTA in agricultural products and selected agricultural commodities, 1990 and 1993-98, (per cent)

Commodity and direction	1990	1993	1994	1995	1996	1997	1998
Exports							
Agricultural exports to world	100	100	100	100	100	100	100
Exports to NAFTA, Agriculture -- Total	17.2	20.8	22.0	16.6	19.2	20.9	25.4
Exports to NAFTA of selected agricultural products							
Animals and animal products	22.1	26.5	26.0	17.1	19.4	23.9	27.2
Grains and feeds	10.7	12.6	16.1	11.2	15.3	15.4	20.8
Fruits & preparations, ex. juice	37.2	35.9	33.5	29.9	30.5	31.6	34.6
Fruit juices, including frozen	38.2	36.9	34.7	32.8	35.8	34.6	39.0
Nuts and preparations	12.8	16.8	14.9	15.1	15.4	14.5	12.7
Vegetables and preparations	46.2	43.7	42.0	37.7	38.9	41.0	45.4
Oilseeds and products	10.7	14.1	16.4	13.3	14.4	14.6	17.1
Imports							
Agricultural imports from world	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Imports from NAFTA, Agriculture -- Total	25.2	29.4	30.3	31.2	31.4	31.9	33.7
Imports from NAFTA of selected agricultural products							
Bananas and plantains	3.3	8.8	5.5	4.1	3.7	5.1	4.7
Coffee, including products	19.3	18.4	15.5	20.2	23.0	19.1	18.9
Animals and animal products	34.8	41.8	40.4	45.5	45.9	46.9	45.1
Cattle - live	100.0	100.0	100.0	99.7	100.0	99.6	100.0
Grains, products, & feeds	67.6	57.0	59.6	60.7	62.8	62.9	59.3
Fruits & preparations	24.8	27.6	29.6	35.2	32.1	31.7	37.0
Fruit juices, incl frozen	10.6	6.4	10.1	14.9	9.6	10.9	16.1
Vegetables & preparations	53.4	54.9	53.1	54.7	58.6	59.4	62.3
Tomatoes	99.0	95.4	94.7	94.0	91.9	88.8	88.1
Sugar and related products	13.0	22.4	26.0	22.8	18.8	21.0	26.8
Beverages, ex fruit juices	17.4	19.0	20.7	20.2	20.8	21.1	22.8
Cotton exc linters	7.3	0.1	0.0	22.3	5.7	12.4	0.9
Seeds - field & garden	29.4	31.1	33.4	32.6	30.2	31.4	26.6
Cut flowers	5.3	4.8	5.0	6.0	5.2	6.5	6.6
Nursery stock, bulbs, etc.	37.5	37.9	37.5	37.9	40.9	45.3	48.6

Source: USDA (1999), ibid Table 2, p.6 (which cites ERS FATUS as its source).

Other factors

The importance of NAFTA relative to other factors (weather, domestic policy changes, etc) has varied considerably across commodities. USDA contends that the beef and pork trade, for example, has "benefited greatly" from NAFTA (USDA, 1999, p3). Likewise, US beef exports to Canada are considered to be twice as high as they would have been without CFTA/NAFTA, and NAFTA tariff changes are estimated to have boosted US pork exports to Mexico by an estimated 5-10 per cent.

In contrast, NAFTA appears to have had very little direct impact on pig and poultry trade. Likewise, the US's cattle trade with Canada has been influenced more by the exemption of Canadian beef from the US Meat Import Law than by CFTA/NAFTA tariff changes. However, US cattle exports to Mexico have grown by an estimated quarter because of NAFTA tariff changes.

US corn exports to Mexico are somewhat higher due to NAFTA than they would have been otherwise. However, in this case too, the strong growth in corn exports in the 1990s was primarily due to other factors such as domestic policy reforms in Mexico and a severe drought there in 1995.

The impact of NAFTA on the US-Canadian corn trade has been small. At the same time, NAFTA is said to have limited the reduction in US sorghum exports to Mexico, at a time when Mexican livestock producers have been tending to switch from sorghum to corn feed.

Quarantine within NAFTA

To resolve quarantine conflicts, the NAFTA partners established a trilateral NAFTA Committee on SPS Measures. A whole section of NAFTA[27] is devoted to this issue.

Efforts to inspect and approve at the regional level, and in some instances at the level of individual producers, are said to have opened up the North American market in an SPS sense. Examples of this approach include:

- amendments to US policy which now allow imports of avocados from certain approved growers in the Mexican state of Michoacán;
- the lifting of Mexico's ban on citrus from Arizona and areas in Texas that are not regulated for fruit flies; and
- US recognition of the Mexican state of Sonora as being free of hog cholera.

By and large, it seems quarantine issues have been minor, although with a few commodities it is said the liberalisation process has stumbled on them, such as in regard to the restrictive rules originally established for US apple exports to Mexico.

5.6 The US dairy and sugar regimes

The US sugar and dairy markets are the two agricultural areas of greatest interest to the Australian farm sector. The measures blocking Australian access to these markets arguably would be the primary targets of any FTA negotiations. As indicated above, in NAFTA, given the nature of the Canadian and Mexican production and the array of safeguard measures that were agreed, these protection regimes have not really been tested.

5.6.1 Sugar

Sugar production is one of the most protected agricultural activities in the US. Sugar also probably has the greatest potential for trade growth between Australia and the US — if only trade between the countries were freed.

The US sugar market is protected by a formidable tariff-quota arrangement which allows up to 1.1m tonnes of sugar and sugar syrup

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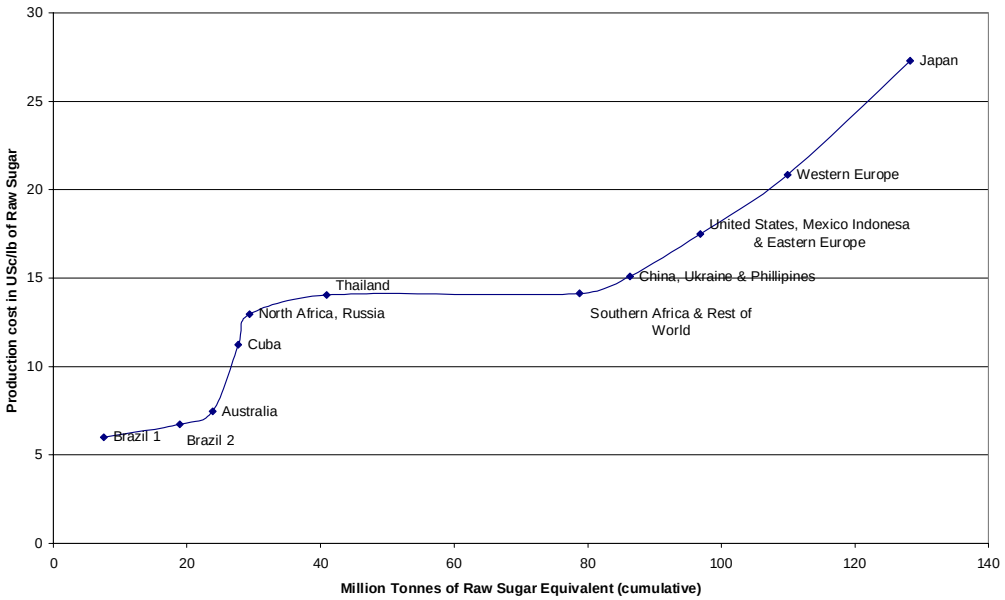
27 Chapter 7, Part 4; which can be viewed at the website: http://www.sice.oas.org/trade/nafta/chap-074.asp.

into the country with a tariff of US1.5 cents/kg and virtually forbids amounts in excess of that by applying a tariff of US34 cents/kg. Over the medium term, the world price of sugar seems due to settle at around US 20 cents a kg. Australia has an 8% share of the US base quota, or about 90,000 tonnes.

In mid-May 2002, as part of the Farm Security and Rural Investment Act, the US mandated a business-as-usual type sugar assistance package. As recent ABARE reviews of US Farm Bill that preceded that Act illustrate, the complexity of the assistance provided is such that a simple statement or summary statistic describing its impact is elusive.

In relative terms, the US has been a declining participant in world sugar trade, and its degree of participation has been in greater decline than some other countries with poorer reputations on agricultural protection. The US is unquestionably a high cost producer, as Figure 1 shows.

Figure 1: Sugar: average cost of production in selected countries (US cents/pound)



Source: ACIL estimates

Notes to figure:

- *Estimates are based on industry opinions obtained by ACIL in June 2002.*
- *Volumes are based on mean production for the three years to 2001.*
- *Region 1 Brazil is the low cost South-East Region, while Region 2 is the rest of that country.*

Contrary to the US's as well as Australia's economic interests, assistance for the US sugar industry ties up US capital, land and labour that would be better used for something else. The regime has the effect of raising the domestic price of raw sugar in the US by some 80% and this imposes a huge cost on many American industries and on American consumers generally.

As indicated, the NAFTA agreement appears to have allowed some increased trade in sugar with Mexico, and even though the amounts at stake are not large, media reports indicate the transitional arrangements have not been going smoothly. To make matters worse as far as Australian world sugar sales are concerned, in mid-2002, the US reaffirmed the continuation of its ban on trade with Cuba. This has the practical effect of keeping world-priced sugar out, which is a matter of interest to Australia, because in principle, if the US were to open its doors to Cuban sugar (or to sugar from any other substantial sugar exporter for that matter), more room would be made elsewhere in the world for Australian sales. At present there are no grounds for thinking that, even on that front, US sugar barriers will be relaxed.

5.6.2 Dairy products

Like its sugar industry, the US domestic dairy industry is protected by formidable tariff quota arrangements. Beyond the quota limits set for dairy products, prohibitive tariffs apply. As with sugar, as ABARE assessments attest, the complexity of the parallel support offered in other forms makes it difficult to offer a simple statement of the rate of assistance the industry receives.

As the CIE points out[28] (CIE, 2001, pp50-51), at the Uruguay round the US agreed to increase the import quotas it had on cheese, butter, skim milk powder and butter oil by various amounts, and these were effected over six years to 2000. The tariff equivalents of this protection remain high nonetheless, and across all it dairy products still average around 25% measured in terms of the nominal rate of assistance they deliver to the local industry and the average degree to which they raise domestic prices. For individual product types, such as some of the five recognised types of cheese, the rate of protection approaches 100%.

Individual export countries hold portions of most of the import quotas. Australia has about 10% of the US global import quota of 140,000 tonnes for cheese, for example. This access right, as in the sugar quota case, is an asset "owned" by Australia whose value would diminish if the US opened its market to the point of reducing its domestic prices. Such

28 CIE (2001), *op.cit.*, pp50-51.

losses would need to be subtracted from any gains estimated to accrue to Australia from greater access.

5.6.3 ABARE's prognosis

In 1999, ABARE estimated that over the period 2001 to 2005, US sugar support will cost the Australian economy in excess of US$200 million a year and apparently this estimate largely stands.[29] The damage likely caused by the US dairy regime is presumably less, partly because other countries or blocs have policies which are at least as protective, but again the impost on Australia must be significant. Australia's reasons for wishing to try to change these aspects of US farm policy, at least as regards Australian access, are clear.

The practicality of achieving anything significant on the sugar and dairy fronts is open to considerable doubt. In its brief overview of the US farm bill published in the June quarter of 2002 a few weeks after it became law, ABARE explained that gaining the US's agreement to reduce border protection would not be the end of the story.

> "[Following such cuts] there could be pressures for the United States to increase its use of export subsidy type measures, including food aid and concessional export credits for skim milk powder and sugar, as a result of the new farm bill. The current WTO Agreement on Agriculture devolves responsibility for these matters largely to other international organisations, and does not significantly constrain such measures.
>
> "The pressures could arise from the prospect of future US surpluses for dairy products and internally for sugar, current limitations on subsidised US exports, and import access obligations under the WTO Agreement on Agriculture. Such pressures that encourage the use of these export subsidy type measures by the United States could make it more difficult to reform those measures internationally and to secure greater access for Australian products to the US market through the current WTO negotiations." [30]

The NAFTA experience, especially such features as the non-recognition within that agreement of export credits as subsidies, indicates that Australia should expect no less difficulty in negotiating genuinely improved access to the US sugar and dairy markets in an FTA context.

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29 Sheales, T, *et al* (1999), *Sugar: International policies affecting market expansion,* ABARE Research Report 99.14, Canberra.

30 Roberts and Jotzo (2002*), op.cit.,* pp365-369.

5.7 What about excluding agriculture?

If an FTA incorporating agriculture proved difficult or were not possible, Australia might face the choice of an FTA without it or no FTA at all. The implications of this are not as straightforward as they may seem.

The CIE's reported estimates of the gains to Australia from an FTA are largely dependent on a modelled increase in access for agricultural products and on domestic liberalisation within Australia. The modelling makes it clear that the outcome would be palpably worse for Australia (and most of the Australian farm sector, of course) if agriculture were excluded. An FTA excluding agriculture would provide (limited) benefits to Australian cities (eg slightly easier conditions for some manufactured exports) but it would add to concerns about the relative position of rural and regional Australia.

Liberalisation of agricultural exports to parts of Asia (eg the large growth in wool exports to China, and improved access for beef to Japan and Korea on terms that no longer discriminate in favour of the US) have helped improve Australian agricultural incomes at a critical time in the rural sector's history. These could be threatened by an FTA with the US[31] (see below).

These insights are discussed further in the following chapter, where we discuss the results of a modelling exercise undertaken for this study.

One of the main downsides for Australian agriculture of an FTA with the US is that it could undermine our participation in the WTO and its multilateral negotiations. The Government (through DFAT) insists that this is not the case[32]. Yet the Government has also said elsewhere that it is only in the WTO that progress on agricultural trade liberalisation can be achieved.[33] The implication one might draw from this is that the pursuit of a US/Australia FTA is seen in official circles as an adjunct of the WTO process, or as a kind of 'supporting act' rather than as something that could compromise the main outcome.

There are several reasons for doubting that it could really be so. Indeed, in some ways the consequences of starting out ambitiously but achieving an incomplete FTA could be more damaging to our Doha hopes than achieving complete FTA 'success.'

The conflict between the pursuit of an FTA and our WTO ambitions would be especially strong, for example, if an FTA were pursued without agriculture. Australia's position in the Doha round as an advocate of including agriculture in the multilateral talks would lose substantial

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31 Ross Garnaut *op. cit.*

32 DFAT (2002), *op.cit.*

33 "The new WTO Round – Australia's Interests and Strategy" in DFAT *op.cit.*

credibility. The demonstration that one of the main proponents of agricultural inclusion in the WTO was prepared to live with is exclusion elsewhere would play into the hands of those wanting to exclude agriculture from the Doha round.

Support for the strategy of going ahead with the rest of an FTA, but leaving agriculture out if negotiations become difficult, has been expressed repeatedly over the past year by Alan Oxley, Director of the Asia-Pacific Centre at Monash University and Director of AUSTA, an Australian business lobby group for promoting an FTA with the US. His reasoning is based on the declining importance of agriculture in Australia's economy and trade. His newspaper articles on this subject in 2001 and 2002 [34] say that the decline in the importance of agriculture makes it "harder for Australian farm interests to argue that no bilateral trade deals, such as with US or Japan, should be done unless agricultural interests are satisfied".

Perhaps the major defect in Oxley's reasoning is that much of the decline in agriculture's share of Australian trade and GDP he mentions is due to the very overseas market restrictions that countries such as the US apply. A more specific shortcoming (and one that is ultimately the same point as the first) is that it ignores the insight provided by the modelling work he cites elsewhere, that in the US/Australia FTA case, liberalisation of agricultural trade is virtually the only source of net trade creation that could be obtained. Liberalisation in other products of Australian interest (minerals, manufacturers, most services) cannot produce such gains, because trade in them is more or less free now.

The selective pursuit of trade liberalisation by a country always produces less certain gains than broad approaches. However, in this case, given that excluding agriculture from an FTA would prejudice Australia's success at the multilateral Doha round, the outcome becomes even less secure than normal. As the Productivity Commission has warned, exclusion of sensitive sectors from regional trade agreements, besides violating WTO rules and being against our economic interests would "by cherry picking… undermine the chances of a successful conclusion to the multilateral trade round."[35]

5.8 The question of other side-benefits

We are not as excited as is the Government by the supporting argument that an FTA would generate wider spin-offs in the form of productivity improvements in the service sector.

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34 See *Stock and Land*, 9 May, p. 43; and *The Age*, Mon 29 July 2002, p. 11.

35 Productivity Commission, *op.cit.*

In our view, this argument exaggerates the role that the Australian trade regime currently plays in corporate affairs. The spin-off case is made in DFAT documents, especially in the work DFAT commissioned in 2001 from Oxley. The emphasis in those statements is on Australia becoming a more attractive place for US investment and extends to so-called "dynamic" benefits from closer economic links.

Dynamic gains may accrue when moving from a restrictive commercial regime to an open one, as was the case (for New Zealand at least) when the CER agreement with New Zealand was introduced. However, relations with the US and Australia — other than on agriculture — are already largely open and investment both ways is substantial. Putting an FTA in place may open up some sectors to greater trade, but we doubt that it would make much difference to behaviour beyond that.

Conversely, the implications for Australia's wider trade relations are of concern. An FTA with the US that selectively reduced import barriers in Australia (eg, removal of tariffs from the US on industrial products, and the reduction or removal of tariffs on textiles, clothing and footwear and cars) could greatly irritate other important trading partners whose exports of these products to Australia would decline as trade was diverted to the US.

- China, with which Australia is developing a stronger commercial and political relationship, would be irritated by tariff cuts on textiles, clothing and footwear which it did not also enjoy. It would lose one of the 'most favoured nation' benefits it thought it was receiving from its recent accession to the WTO. It is important that China not follow the Japanese and Korean pattern and become an agricultural protectionist as its income grows.[36]
- Japan, an important and long standing trading partner of Australia's, would be irritated by an FTA which gave preferential access to US automotive products, as would the EU.
- In Asia generally, it is important that Australia stays "inside the tent" to prevent the development of regional FTAs that discriminate against Australia.

The US takes about 10% of Australia's exports, whereas East Asia takes over half. As Ross Garnaut says:[37]

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36 For example, signing a free trade agreement with the US could fuel sentiments of the kind reportedly expressed by China's Vice Minister of Foreign Trade, Long Yongtu, on 29 August 2002:

> "If all other countries are engaging in regional economic integration, why not China and ASEAN … If we do not get together to have a free trade area like they have, we will be victims of trade protectionism and economic trade blocs. We will not become the victors". [*China Presses for Regional Trade Bloc to Stymie West*, reported on 30 August 2002 on website http://taipeitimes.com/news/2002/08/30/story/0000166152].

37 Garnaut, *op.cit.* p136.

> "Trade diversion would put at risk the fruits of nearly two decades of careful trade diplomacy directed at securing open access for Australian wool to China, which has led to the Chinese share of Australian wool exports rising from a few per cent to one third of the total. Trade diversion would put at risk the fruits of two decades of careful trade diplomacy directed at securing open and non-discriminatory access to the Korean and Japanese beef markets…In each of these cases, Australia's recourse would be to the WTO, at a time when its own actions were weakening the WTO. The increase in the value of Australian wool exports to China plus beef exports to Korea and Japan between the early 1980s and 2001, alone, substantially exceeds the *total* increase in Australian exports… to the United States anticipated as a result of movement to comprehensive clean [ie agriculture included] bilateral free trade between Australia and the United States [using ABS data and modelling commissioned by DFAT]."

Thus improved trade relations with the US would have been achieved at the expense of deteriorated relations with more important trading partners, unless the improved access were also extended to them. If it were extended there would be little practical difference between the FTA and a multilateral WTO round.

Garnaut repeats this prognosis in a more recent article on "Australia as a branch office economy."[38] He argues that Australia might gain better access to US capital if it adopted "the accounting standards (suitably reformed after Enron!), stock exchange listing rules and corporate regulation of the USA" (p.458). Further, he observes that it would help attract better professional personnel "if there were decisive steps towards further liberalisation of immigration rules for people with good education and professional skills" (p.458). However, he notes these would be solely Australian initiatives and that:

> "… to the extent that there was any possibility of reciprocal policy adjustment in the USA, progress could be made in harmonisation of capital and labour market regulation through negotiation of a bilateral Economic Agreement independently of negotiations on a conventional free trade area." (p. 460).

His view is that the political tensions in both countries that would be associated with attempts to negotiate an agreement for free trade in goods and services would complicate rather than facilitate harmonisation of policies for movement of capital and professional personnel.

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38 Garnaut, Ross (2002), "Australia as a branch office economy" *Australian Journal of Agricultural and Resource Economics*, 46, 3, September pp 447-461.

The side effect of greatest potential importance is also a negative one — that an Australia/US FTA would be a distraction both of officials' time and of government interest on both sides. This could have implications well beyond the mere expenditure involved. The US, for example, might feel that it had done enough if it had moved somewhat to meet Australia's demands in the FTA context and might be less interested in meeting those demands in the WTO context. Worse still, as Garnaut says, the strains and disappointments of a negotiation with the US in which it gradually became clear that much of agriculture would be excluded, could harm overall Australia-US relations rather than improve them.

These factors can be readily added exogenously to a quantitative analysis, but they are not easily turned into endogenous modelling features and this is a common limitation of quantitative investigation. Nonetheless, tests of propositions which involve the interactions of hundreds of variables in carefully constructed models can be useful, and we will offer some new insights from our own use of this approach in the following section.

6. A Quantitative Comparison of the Three Liberalisation Avenues

6.1 Contrasting views on bilateral gains

In his early 2002 article in the *Australian Journal of International Affairs,* Garnaut expressed doubts about the type of quantitative evidence advanced by DFAT's consultants in support of its proposition that trade creation in the Australia/US FTA would outweigh trade diversion. Indeed, he was critical of the absence of quantitative evidence for FTAs involving Australia more generally, arguing that:

> "… analysis has never revealed large enough net economic benefits to Australia, from any preferential trading arrangement that was judged to be feasible, to outweigh the cost of moving forward."

We too have doubts about the robustness of the quantitative support advanced to date for the Australia/US FTA idea. For example, CIE's June 2001 report contains a number of caveats about the accuracy of its results, particularly about aspects not covered by the modelling (eg CIE 2001, pp 6-7). These caveats are appropriate. Indeed, its prognosis for an FTA, while positive, is more qualified than that of some other commentators have been when citing the CIE results for support.

Nonetheless, in our opinion, the CIE report does not acknowledge all its limitations. To address some of these and in particular to explore some broader issues not covered by the CIE, during this study we commissioned some quantitative analysis of our own from Tasman Economics.

In essence, our modelling exercise casts doubt on the CIE's main finding. The CIE's main finding was that an FTA with the US would raise aggregate Australian welfare, so that for example, if it had started in 2001, it would be raising real GDP by 0.33% annually and real consumption by about 0.4% by 2010 relative to otherwise.

Our analysis indicates there is room for doubt that a full free trade agreement (covering all protection and all products) with the US would be of any benefit to Australia at all. We find that an FTA with the US would have a small negative impact on the three most used Australian welfare indicators — GNP, GDP and consumption. The factors that appear to be driving this result are:

- the predominance of trade diversion, especially from Asia, that such an agreement would create;
- the absence of many gains to Australia from reducing its own (already low) protection; and
- a slight adverse movement in Australia's terms of trade due to the relative price insensitivity of Australian commodity sales.

The combined outcome, according to our modelling, is a negative national income and consumption result.

The main results are summarised in Table 2 below. In our view, real GNP and real consumption are the two key national welfare indicators.[39]

Table 2: Projected annual changes at 2010 in key Australian aggregates under a US/Australia FTA phased in from 2005 to 2010 (per cent)

Real GNP	-0.09
Real GDP	-0.02
Real consumption	-0.05
Real investment	0.00
Export volumes	1.48
Import volumes	1.31
Export prices	-0.06
Import prices	-0.02
Terms of trade	-0.04
Exchange rate	0.15

Source: Tasman-Global simulations commissioned from Tasman Economics Pty Ltd by ACIL

The projected results for Australian sales of key agricultural products are summarised in Table 3.

Table 3: Projected annual changes at 2010 in Australian export earnings for key agricultural products under a US/Australia FTA phased in from 2005 to 2010 (per cent)

Rice	-0.11
Wheat	-0.34
Other grains	-0.57
Cattle and sheep meat	2.95
Dairy	7.45
Sugar	30.56

Source: Tasman-Global simulations commissioned from Tasman Economics Pty Ltd by ACIL

The agricultural commodity results show large increases in the volume of trade in sugar in particular, and to a lesser extent in dairy products and meat. (As Table 3 shows, exports as a whole increase by 1.5% — which compares with the 0.7% obtained in modelling by the CIE.) As in the CIE's projections, the net increases for these products are generated by increased sales to the US which are bigger than the amounts diverted from China, Japan and Korea. In our simulation results, sugar sales to the US rise by a remarkable 600%, for example (although this is actually

39 The desirable properties of real GNP as a welfare measure are explained in Pant, Hom, Brown, Stephen, Buetre, Benjamin and Tulpulé, Vivek (2000) "Measurement and decomposition of welfare changes in GTEM," Paper given at the Third Annual Conference on Global Economic Analysis, Monash University, Melbourne, *ABARE Conference Paper 2000.11*, 27-30 June

lower than the CIE's projected increase of 2,500%). Whether increased sales of this order to the US would be allowed given the real-politik of US agricultural protection is another matter, as we have discussed in the previous chapter.

6.2 Nature of the model employed in this study

The results summarised in the above tables were obtained from simulations using a large dynamic computable general equilibrium (CGE) model of the world economy of a type standard for this kind of investigation. The model employed, known as Tasman-Global, was constructed in 2001 by Tasman Economics Pty Ltd through the addition of dynamics to the well-known Global Trade Analysis Project (GTAP) framework and database for the world economy.[40] A brief description of the model is presented in Attachment A.1 of this report. (Full documentation of Tasman-Global and the particular formulation of it used in this study can be provided upon request.)

As indicated, the simulations of trade liberalisation undertaken with Tasman-Global for this study were dynamic in nature. Using reputable forecasts of a few variables as constraints (such as China's rate of economic growth), a series of short term (one year) modelling runs was conducted to trace the path of the economy through each year from the present until 2010. For each liberalisation event simulated, a series of runs tracing the path taken by the economy with the continuation of existing policy through to 2010 was compared with another series which starts off the same, but incorporates a new trade liberalising policy regime that is phased in from 2005 to 2010.

Although dynamic in nature and having certain other refinements as discussed in Attachment 1, the GTAP-type modelling undertaken for this study was arguably more 'standard' than that undertaken in 2001 by the CIE for DFAT.

The modelling of an FTA for the current study involved the removal of a standard 1997 GTAP set of tariffs (and tariff equivalents of non-tariff barriers) between the two countries. In 2001, the CIE used an updated WTO set. As can be seen from the rates of protection figures in Table 4 and Table 5 the general structure of the protection removed in the CIE's study and ours was similar.

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40 Dimaranan, B and McDougall, R (eds.) 2002, *Global Trade Assistance and Production: The GTAP 5 Data Base*, Department of Agricultural Economics, Purdue University, United States. Full documentation of GTAP-5 can be found on the website www.agecon.purdue.edu/gtap.

Table 4: GTAP tariff equivalents (tariffs and non tariff barriers) used in the Tasman-Global simulations of trade liberalisation (per cent)

	Commodity	Tariff rate on Australian imports of commodities from the United States	Tariff rate on US imports of commodities from Australia
		Per cent	Per cent
1	Rice	1.00	5.34
2	Wheat	0.00	2.55
3	Other grains	0.80	0.61
4	Other agriculture	2.12	4.61
5	Sugar cane and beet	0.00	0.65
6	Cattle and sheep	0.75	1.07
7	Raw milk	0.00	0.00
8	Forestry and logging	0.21	1.19
9	Coal	0.00	0.00
10	Oil	0.00	0.40
11	Gas	0.00	0.00
12	Other minerals	0.07	0.18
13	Cattle and sheep meat	0.10	5.29
14	Other processed agriculture	5.82	6.38
15	Milk	7.35	42.49
16	Processed sugar	13.89	53.45
17	Textiles	12.64	9.47
18	Wearing apparel	23.76	9.65
19	Leather products	12.63	5.17
20	Wood, pulp and paper products	3.20	0.88
21	Petroleum and coal products	0.00	2.44
22	Chemicals, rubber and plastic	3.39	3.17
23	Iron and steel	4.80	3.16
24	Motor vehicles and parts	8.52	2.19
25	Other manufacturing	2.82	1.16
26	Electricity	0.00	0.00
27	Gas distribution	0.00	0.00
28	Water	0.00	0.00
29	Construction	0.00	0.00
30	Trade	0.52	0.00
31	Transport	0.00	0.00
32	Communications	0.00	0.00
33	Other services - private	0.12	0.00
34	Other services - government	0.00	0.00

Table 5: Tariff rates used in CIE's GTAP trade liberalisation simulations for DFAT, June 2001

Aggregated GTAP sector		Australian tariffs	United States' tariffs[a]
		Per cent	Per cent
GRN	Grains	0.04	0.36
OCP	Other crops	0.38	0.63
SCB	Sugar cane. beet	0.00	80.00
APD	Animal products	0.00	0.08
RMK	Raw milk	0.00	0.00
FAF	Forestry and fishing	0.00	0.02
MNG	Mining and energy	0.14	0.35
MTP	Meat products	0.06	1.99
OFP	Other food products	2.21	1.45
DRY	Dairy	3.20	23.90
SUG	Sugar	0.00	80.00
BAT	Beverages and tobacco	4.80	1.40
TCF	Textiles, clothing and footwear	11.89	8.46
WPP	Wood end paper products, publishing	4.85	0.33
CRP	Chemicals, rubber and plastics	2.70	2.00
OMP	Other mineral and metal products	4.47	1.73
FMP	Ferrous metal products	4.40	2.50
MVP	Motor vehicles and parts	9.30	1.40
OTN	Other transport equipment	1.30	0.90
ELE	Electronic equipment	0.20	1.10
OMU	Other manufacturing	2.99	0.91
UOS	Utilities and other services[b]	0.00	0.00
TAT	Trade and transport[b]	0.18	0.08
FSR	Financial, business and recreational services[b]	0.94	0.03

[a] Includes non-tariff barriers expressed as tariff equivalents,
[b] Percentage cost reduction achievable following service trade liberalization

Source: CIE (2001) p33..

Like the CIE, we assumed no removal of two sub-sets of non-tariff barriers – agricultural subsidies and quarantine arrangements. Also, like the CIE, we did not assume the EC's trade regime would change over the period, whether autonomously or in response to an Australia/US FTA.

Unlike the CIE, we made no presumption that free trade would, of itself, result in a productivity increase in Australia's service sector through greater awareness of US managerial methods (which appears to be the main mechanism envisaged as driving the 'domestic cost reductions' simulated by the CIE). The wisdom of the CIE's assumption seems to us to be a matter of opinion. We can see no reason why an FTA *per se* would provide Australian business with any more awareness of US methods than it has already. The 0.35% productivity improvement across the service sector, included by assumption by the CIE (see CIE 2001, Table 3.1, p.21), seems to be the main reason why its analysis produces a beneficial GDP result. In this sense, a positive outcome was almost guaranteed. We estimate, having tested what such an assumption would do to our own results, it is large enough by itself to generate more than half of the positive GDP contribution that the CIE found an FTA with the US would make.

Somewhat surprisingly, the CIE reports its GDP results, but not the GNP and aggregate real consumption results of its GTAP-type modelling of a US/Australia FTA. In our experience, these aggregates are either generated as standard GTAP outputs, or are readily determined from them.

The world economy structure and the commodity breakdown used in Tasman-Global for the simulations undertaken for the current study are presented in Table 6 below. There are more commodities (34 versus 21) but fewer world regions (10 versus 16) in the Tasman-Global model we used, relative to the GTAP-type modelling reported by the CIE in 2001. It is not clear to what degree this affects the results, but the importance of the difference is probably minor.

Table 6: Commodity and regional composition of Tasman-Global model used for ACIL's 2005-2010 trade liberalisation scenarios

	Commodity Listing		Regions
1	Rice	1	Australia
2	Wheat	2	China
3	Other grains	3	Japan
4	Other agriculture	4	Korea
5	Sugar cane and beet	5	Rest of Asia
6	Cattle and sheep	6	United States
7	Raw milk	7	Canada
8	Forestry and logging	8	South America
9	Coal	9	Europe
10	Oil	10	Rest of the world
11	Gas		
12	Other minerals		
13	Cattle and sheep meat		
14	Other processed agriculture		
15	Milk		
16	Processed sugar		
17	Textiles		
18	Wearing apparel		
19	Leather products		
20	Wood, pulp and paper products		
21	Petroleum and coal products		
22	Chemicals, rubber and plastic		
23	Iron and steel		
24	Motor vehicles and parts		
25	Other manufacturing		
26	Electricity		
27	Gas distribution		
28	Water		
29	Construction		
30	Trade		
31	Transport		
32	Communications		
33	Other services — private		
34	Other services — government		

Source: Tasman Economics

6.3 Three approaches compared

6.3.1 Importance

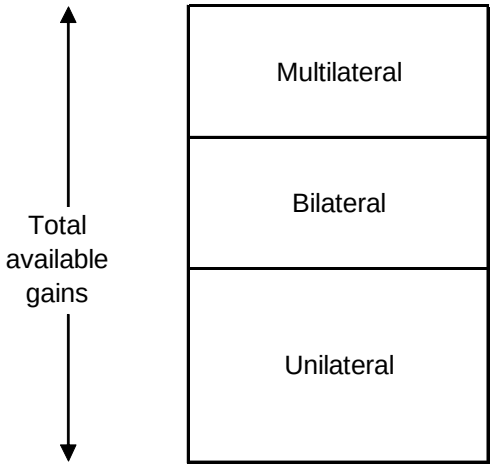
A unique investigation we have undertaken for this study is the quantitative comparison of three approaches or strategies to trade liberalisation – unilateral liberalisation by Australia, a bilateral FTA by Australia with the US and a situation where Australia and the rest of the world establish free trade, perhaps as a result of a successful negotiation such as at the WTO.

These issues were not explored quantitatively in any of the published work on a US/Australia FTA that DFAT commissioned in 2001. Yet, as we have argued earlier (and will elaborate further below), this is an important perspective for Australia to consider in relation to the FTA idea.

The pros and cons of bilateral FTAs have been discussed for centuries. All basic economics textbooks cover the issues. The complexities involved are not merely theoretical oddities, but have practical implications for what a bilateral negotiation can achieve. In all of its trade dealings, trade creation/trade diversion trade-offs determine the broad arithmetic of the choices that confront any nation, including Australia. As Garnaut and others have pointed out, it is a classic problem in the complex field of the "theory of second best", which in this context is about the inherent uncertainty of knowing whether the removal of one set of distortions will improve efficiency when other distortions are left in place.

As has already been discussed, a significant reason why Australia could be worse off under an FTA with the US than otherwise is that such an agreement would be likely to have a deleterious effect on the prospects for advance with other forms of trade liberalisation. The fruits of freer trade with the US would not, as some seem to believe, simply add to any gains we might obtain in the Doha round WTO or from unilateral cuts in protection at home. The static view of trade gains is quite misleading. The matter can be portrayed with the aid of a simple diagram, like Figure 2 below.

Figure 2: Conceptual breakdown of trade liberalisation benefits available to Australia



The column in Figure 2 represents Australia's whole potential to benefit from trade liberalisation. Its total size and split up are matters of conjecture. Conceptually, it has three components — a unilateral component (representing gains that Australia could reap if it removed distortionary protection of its own), a bilateral component (representing additional gains that Australia could reap if it undertook joint approaches to liberalisation with countries individually) and a multilateral component (representing additional gains Australia could reap from joint action with all countries in forums such as WTO). In earlier times (when Australia's border protection was very high compared with most other countries of interest), the relative size of the three components on a scale of 10, would perhaps have been 7, 1 and 2. Now that Australia's protection levels are below the world average, they might be more equal in size. But that too is conjectural.

As a picture of the process of liberalisation, a simple diagram like Figure 2 is unsatisfactory. It is like a snapshot taken after the event. It is akin to a national accounting identity of the type presented in introductory public finance courses. What it does not show are the interactions between the pursuit of the three liberalisation routes. Thus, it does not capture the fact that a decision to take the bilateral route, for example, will almost certainly have consequences for the scope available for the other two. The size of the total available gains depends how optimally each element is pursued. For instance, compared with a unilateral approach, the bilateral approach can be slow. Thus, while a bilateral initiative was being pursued, unilateral gains (which would have started accruing from the moment the Australian distortion was removed) would be sacrificed.

Sometimes it might be worth waiting for the extra gains that would come from opening up the export market with the bilateral partner at the same time. But sometimes it might not. It is simply not true, as some

commentators seem to assume, that Australia might as well pursue a bilateral FTA with anyone.

Australia has greatly reduced its tariff protection over the past two decades, with significant levels remaining only on textiles, clothing and footwear, and motor vehicles. Significant non tariff protection remains in areas such as air transport, medical insurance, quarantine, media, the performing arts and professional services.

The standard economic view would be that Australia will be better off if it tackles any genuinely distortionary elements of these measures itself and without delay (and in some cases these would need to be determined through investigation). The inherent difficulty Australia's negotiators face when contemplating a bilateral free trade agreement is that of knowing what alternative opportunities of this kind will be sacrificed (or delayed) if negotiations are opened up.

Australia is a small player on the world scene and, despite its generally warm relations with the US, has limited access to US officials' time. Thus a relevant issue is whether Australia could do better by:

- focussing on further gains in trade with Asia (currently a much larger export market for Australia than the US);
- focussing our attention on the WTO's Doha round; and
- undertaking unilateral cuts in our own protection. This of course, could be immediate, and would not – as might be the case with a Australia/US FTA:
  - tie up scarce Australian diplomatic resources, or
  - cause political tension between ourselves and the US, ASEAN, Japan and China all at once, or
  - create another domestic circumstance in which the interests of regional and rural Australia are seen to be given second place.

Arguably, concentrating on the WTO Doha round would serve Australia better and in the end might achieve greater liberalisation of US agricultural trade than if we engaged in a parallel bilateral negotiation.

6.3.2 Modelling results

The aggregate results for Australia that we obtained through modelling the three approaches to trade liberalisation are presented in Table 7 below. The results for exports of Australian agricultural commodities are in Table 8.

Table 7: Projected changes in key Australian aggregates under three 2005-2010 trade liberalisation scenarios (per cent)

	Unilateral trade liberalisation	Bilateral trade liberalisation with the US	Multilateral trade liberalisation
Real GNP	-0.61	-0.09	0.13
Real GNP	0.07	-0.02	0.06
Real consumption	-0.16	-0.05	0.17
Real investment	0.12	0.00	0.67
Export volumes	6.11	1.48	6.17
Import volumes	4.77	1.31	7.19
Export prices	-1.25	-0.06	1.45
Import prices	0.01	-0.02	0.26
Terms of trade	-1.26	-0.04	1.19
Exchange rate	1.88	0.15	0.03

Source: Tasman-Global simulations commissioned by ACIL

Table 8: Projected changes in Australian annual export earnings in 2010 for key agricultural products under three 2005-2010 trade liberalisation scenarios (per cent)

	Unilateral trade liberalisation	Bilateral trade liberalisation with the US	Multilateral trade liberalisation
Rice	5.08	-0.11	258.91
Wheat	-0.51	-0.34	21.82
Other grains	-0.72	-0.57	197.97
Cattle and sheep meat	-0.93	2.95	57.83
Dairy	-1.11	7.45	79.71
Sugar	-1.02	30.56	16.52

Source: Tasman-Global simulations commissioned by ACIL

Significantly, and this will come as a surprise to many observers, the trade liberalisation modelling that ACIL commissioned for this study shows unilateral trade liberalisation in Australia to be even less attractive from a national income viewpoint than a US/Australia FTA. Admittedly real GDP, an 'output' measure, is projected to rise slightly and therefore to be higher than with an FTA. But real GNP and real consumption are both projected to be lower than with an FTA. The results obtained are summarised in Table 7 above. (As with Table 2 earlier, we consider real GNP and real consumption to be the key national welfare indicators.)

We do not believe the results are mere modelling aberrations. 10-15 years ago, such findings might have been dismissed. They differ from those of simulations conducted in earlier years with the Australian ORANI model and with the 1998 work by McKibbin with his highly aggregated world economy model. However, today such projections are

not new. Similar cautionary indications with unilateral trade liberalisation scenarios have emerged, for example, from quantitative work reported in the Productivity Commission's June 2002 Position Paper (draft report) on its *Review of Automotive Assistance* (see especially pp109-110 and Appendix B).

Admittedly, with both the unilateral and bilateral scenarios, for real GNP and real consumption, the projected percentage drops and the differences between the results for each are not huge – less than 1 per cent and less than half of one per cent respectively. But they are fractions of very large aggregates and for many Australians who are aware of the benefits Australia has reaped from tariff reform over the past two decades, the results may come as something of a shock. Moreover, to some the finding that a complete unilateral cut would be less helpful than a selective deal with the US might seem odd. After all (recognising that the US, though our equal-biggest trading partner, buys about 10 per cent of Australia's exports) one might think the alternative of freeing up our imports with 100 per cent of our trading partners would generate more gains. The modelling results cast doubt on this.

The comparative result of even greater policy interest is that full multilateral trade liberalisation is projected to be an overwhelmingly preferable course for Australia than either unilateral liberalisation or completely free Australia/US trade. The figures in Table 7 and Table 8 speak for themselves.

As Table 7 indicates, the aggregate economic indicators for Australia with multilateral free trade are all positive. But as Table 8 shows, for Australian farmers the multilateral result is remarkable. Five of the six main farm commodity groups are projected to see an 20 times to 300 times better result in terms of the annual increase in exports relative to an Australia/US FTA. The sixth agricultural commodity group, sugar, does less well in the multilateral context than in an Australia/US FTA, but the multilateral sugar results are still very positive.

Sceptics might scoff that international agreement on a multilateral scale is even more ephemeral than the unilateral or bilateral alternatives. However, the unequivocally positive change in national income projected for this scenario and the contrast between this result and what the modelling shows with the other two, is what matters. The results indicate that for the vast majority of Australian farmers, the prospects of success in the WTO Doha round would need to be tens of times worse than in an Australia/US FTA context for the latter to be a better idea.

7. Conclusions

ACIL's main conclusion is that both Australian farm and Australian national interests will be best served if our negotiators devote their time and energies over the next few years to the pursuit of global trade liberalisation in the WTO Doha round rather than to bilateral trade liberalisation in a US/Australia FTA context.

Because in essence it is a partial strategy involving the selective removal of distortions affecting trade flows with one country, bilateral free trade cannot on first principles be given a clean bill of health. The merits of a bilateral deal are difficult to estimate with confidence, but they will always hurt some trading partners and benefit others and therefore affect the two partner countries in complex and indirect ways. The US/Australia FTA idea is no exception.

The modest gains that the CIE estimated in 2001 would be available to Australia from an FTA with the US appear to have been given too much credence in some quarters, both as regards their size and their certainty. In fact, as we have shown, equivalent modelling with no less credible (in fact arguably more credible) assumptions can generate an opposite answer — that an FTA with the US, even if fully achieved, would cause a *loss* of welfare for Australia and leave Australians as a whole worse off.

Given the farm and trade legislation in place in the US, the chances of agriculture being meaningfully included in an FTA with the US are, in any case, slim. An FTA excluding main agricultural products, would achieve even less than one with agriculture fully in. There is a prospect that, by selectively advantaging city interests, it could strengthen the cost/price squeeze on Australian agriculture. And inevitably, to some degree, pursuit of an FTA would undermine Australia's position in the Doha round where for farmers, the potential gains are tens of times greater.

Our findings that the multilateral trade liberalisation approach is (potentially) vastly superior to an FTA for Australian farmers suggests that farm representatives (and the Australian Government) should be paying attention, as a matter of priority, to the quality of WTO and Doha processes and procedures. Like other commentators cited in this report, we can see great potential for improving on WTO negotiation methods. The potential gains from global trade liberalisation would be more achievable if the old ways could be replaced with new ones that focus on encouraging (and helping) countries, especially developing countries, to build review processes which enable them to reach the liberal trade position that Australia now has after two and a half decades of protection reform.

At the same time, we would recommend that Australian and Australian farming interests look at some of the indirect means available (publicity of trade benefits, publication of research reports, etc) for increasing

domestic pressures for liberalisation in agricultural importing countries. This tactic, which goes to the heart of the problem of entrenched protection, has met with some success in the past. Like the question of WTO negotiating methods, this is a subject which goes beyond the scope of the present report.

Attachment A1: A Description of Tasman-Global

Tasman–Global is a large-scale, applied general equilibrium model that has been designed to undertake projections, scenario and policy analysis of issues in an international context. The model, based on detailed input-output accounting for several regions, captures the interactions between various markets and detailed interactions within economies between industries, consumers, investors, exporters and importers.

The model is an extension of the Global Trade Analysis Project (GTAP) model constructed at the Centre for Global Trade Analysis at Purdue University in the United States (Hertel 1997). Tasman–Global builds on this model's equation structure and database by adding three important features: detail for the States and Territories of Australia, dynamics and international capital mobility. The dynamics are similar to those of the MONASH model developed at the Centre for Policy Studies and the Global Trade and Environment Model developed at the Australian Bureau of Agricultural and Resource Economics (ABARE 1996).

The database

A key advantage of Tasman-Global is the level of detail in the database underpinning the model. The database is derived from the Version 5.0 of the GTAP database. This database contains information for 57 commodities and 66 regions from a base year of 1997. Each country in the database is linked through trade and investment flows (Table A.1). The database itself is used by hundreds of researchers worldwide. It is fully documented in Dimaranan and McDougall (2002).

Table A.1:Regions in the Version 5.0 GTAP database

Number	Region	Number	Region
1	Australia	34	Finland
2	New Zealand	35	France
3	China	36	Germany
4	Hong Kong	37	UK
5	Japan	38	Greece
6	Korea	39	Ireland
7	Taiwan	40	Italy
8	Indonesia	41	Luxembourg
9	Malaysia	42	Netherlands
10	Philippines	43	Portugal
11	Singapore	44	Spain
12	Thailand	45	Sweden
13	Vietnam	46	Switzerland
14	Bangladesh	47	Rest of EFTA
15	India	48	Hungary
16	Sri Lanka	49	Poland
17	Rest of South Asia	50	Rest of Central Eastern European Association
18	Canada	51	Former Soviet Union
19	USA	52	Turkey
20	Mexico	53	Rest of Middle East
21	Central America and the Caribbean	54	Morocco
22	Colombia	55	Rest of North Africa
23	Peru	56	Botswana
24	Venezuela	57	Rest of South African Customs Union
25	Rest of Andean Pact	58	Malawi
26	Argentina	59	Mozambique
27	Brazil	60	Tanzania
28	Chile	61	Zambia
29	Uruguay	62	Zimbabwe
30	Rest of South America	63	Other Southern Africa
31	Austria	64	Uganda
32	Belgium	65	Rest of Sub Saharan Africa
33	Denmark	66	Rest of World

The GTAP database contains a wealth of sectoral detail as well (Table A.2). The foundation of this information is the underlying input-output tables on which the database is constructed. These input-output tables account for the distribution of industry demands to satisfy the industry and final demands. Industry demands, so-called intermediate usage, are the demands from each industry for inputs. For example, coal is an important input into electricity production in Australia. In other words, the Australian electricity sector uses coal as an intermediate input. Final demands are those made by households, governments, investors and foreigners (export demand). These final demands, as the name suggests, represent the demand for finished goods and services. To continue the

example, electricity is used by households, their consumption of electricity is a final demand.

The other key feature of the input-output tables is that the cost structure of each industry is also represented in detail. Each industry purchases intermediate inputs (from domestic and imported sources), primary factors (labour, capital, land and natural resources described below) as well as paying taxes or receiving subsidies.

Table A.2:Sectors in the version 5.0 GTAP database

Number	Sector	Number	Sector
1	Paddy rice	30	Wood products
2	Wheat	31	Paper products, publishing
3	Cereal grains nec	32	Petroleum, coal products
4	Vegetables, fruit, nuts	33	Chemical, rubber, plastic products
5	Oil seeds	34	Mineral products nec
6	Sugar cane, sugar beet	35	Ferrous metals
7	Plant-based fibres	36	Metals nec
8	Crops nec	37	Metal products
9	Bovine cattle, sheep and goats, horses	38	Motor vehicles and parts
10	Animal products nec	39	Transport equipment nec
11	Raw milk	40	Electronic equipment
12	Wool, silk-worm cocoons	41	Machinery and equipment nec
13	Forestry	42	Manufactures nec
14	Fishing	43	Electricity
15	Coal	44	Gas manufacture, distribution
16	Oil	45	Water
17	Gas	46	Construction
18	Minerals nec	47	Trade
19	Bovine meat products	48	Transport nec
20	Meat products nec	49	Water transport
21	Vegetable oils and fats	50	Air transport
22	Dairy products	51	Communication
23	Processed rice	52	Financial services nec
24	Sugar	53	Insurance
25	Food products nec	54	Business services nec
26	Beverages and tobacco products	55	Recreational and other services
27	Textiles	56	Public Administration, Defence, Education, Health
28	Wearing apparel	57	Dwellings
29	Leather products		

Dynamics

Tasman–Global is a dynamic model that is solved on a year-by-year basis from the base year. The dynamics contained in the model relate to the separate accounting for stock and flow relationships over time. The main areas this relates to is investment and debt accumulation. For example, each year the capital stock in a region increases by the level of investment that occurred in the previous year less depreciation.

The dynamic nature of the model makes Tasman–Global well suited to projections work, scenario and policy analysis. For example, a projections exercise undertaken using the model might seek to explore the impact of the take-up of a certain technology over time. In this instance, a business-as-usual (or reference case) scenario will be developed as a baseline from which to examine the other scenarios considering various technology take-up rates. In this example, a business-as-usual scenario will provide an estimate of a 'base level' adoption rate of a given technology. From this base scenario, two additional scenarios could consider the impacts of faster and slower take-up of technology

In a policy analysis mode, the reference case provides projections of growth in labor, capital and productivity in each region, and the associated changes throughout the rest of the economy in the absence of the policy measures to be examined. The results of policy simulations are then interpreted as deviations from the reference case. The faster take-up scenario could now be interpreted as the impacts of a policy measure implemented by government to increase the rate of take-up of a given technology.

Factors of production

Economic activity in a given region is governed to a large extent by the employment of factors of production. In Tasman–Global, as in the GTAP model, four factors of production are accounted for: capital, land, labor and natural resources. Various assumptions can be made about the availability and accumulation of these factors of production in the context of a Tasman–Global scenario.

Capital accumulation occurs in a given region over time through changes in investment and depreciation. Given depreciation rates remain constant over the simulation period, the key determinant of capital accumulation is therefore investment. The model assumes that rates of return may differ across regions to reflect country specific differences in the risk premium. Investors are then attracted to regions where the expected rate of return looks most favourable compared with global movements. Any excess of investment over domestic savings for a given region causes an increase in

net debt for the region. Borrowers service the debt at the global rate of return (interest rate).

Several different assumptions can be made regarding the labour market in Tasman–Global. The standard, long-run, assumptions are that under the prevailing scenario condition, unemployment above the so-called natural rate of unemployment for any economy – the so-called 'full employment' assumption. Any change in the demand for labor is assumed to be offset by changes in real wages growth sufficient to prevent any deviation of unemployment from the natural rate. Alternately, a dynamic mechanism can be used in the model to counter for 'stick wages', a real world phenomena that assumes that changes to the real wage growth does not exactly offset demand changes and that the unemployment rate can vary over time. This mode usually assumed that the adjustment through the labour market under a particular scenario occurs after around 10 years.

Producer behaviour

Producers in Tasman–Global are assumed to minimise the cost of producing a given level of output. They are assumed to operate in perfectly competitive markets using constant returns to scale technologies. The important consideration in any production function used in a model of this type given that any particular industry in the model could potentially alter all intermediate inputs, from all sources as well a primary factors of production. This level of flexibility is, however, well beyond the practical consideration that a large scale model of this type. In this context, producers must combine commodities and primary factors in fixed proportions but are free to:

- substitute land, labour and capital to minimise the cost of achieving a given requirement for primary factors.
- substitute between domestic and imported sources to minimise the cost of a given requirement of commodities.

The model can, of course, employ some of the standard techniques available to increase its flexibility in all of these areas. For example, it is commonplace to allow certain complimentary inputs to vary for specific purposes. This is particularly true in energy where a simple alteration to the model will allow for substitution between energy – that is, for producers minimising the costs of their energy requirements. Taking this a step further, the 'technology bundle' approach to major energy users such as electricity (see ABARE 1996 for details) can also be adopted by the model.

National income, savings and consumption

Under the standard assumptions used by Tasman–Global, prices will be set to cover costs and all industries will generate normal profits. These returns will be paid to the factors of production. A representative household in each region owns all factors of production and receives all payments made to the factors, all tax revenues and all net interregional income transfers.

The representative household allocates its net income across private and public consumption and savings. National savings are assumed to move in line with national income. Total consumption expenditure is calculated as the difference between current household income and savings, with the ratio of private consumption to government consumption assumed to be constant.

Given total private consumption, the representative consumer maximises current period utility by choosing consumption levels for each consumption good. In that decision, substitution is allowed between domestic and imported sources of commodities.

Trade

Tasman–Global accounts for bilateral trade flows of all commodities between all regions and, as has been discussed above, substitution between domestic and imported sources of commodities. In Tasman–Global, as with the majority of global models, this substitution is governed by an 'Armington' preference structure. This structure implies that a good produced in one region is an imperfect substitute for goods produced by the same industry in other regions. In other words, the same commodity from different sources can trade at different prices.

For any given consumption activity, demand for a commodity is allocated between a domestic product and a composite imported product according to a CES (constant elasticity of substitution) function. The demand by a region for each composite imported commodity is then allocated between sources of imports according to a further CES function. Substitution between domestic and imported commodities and between imported commodities will depend on movements in relative prices and the specified elasticity of substitution — the Armington elasticity. These elasticities are taken directly from the GTAP database.

References

ABARE (1996), *The MEGABARE Model: Interim Documentation*, Canberra.

Hertel, T. (ed.) (1997*), Global Trade Analysis: Modeling and Applications*, Cambridge University Press, Massachusetts.