

# Livestock products trade

## Prospects for liberalisation

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*Agriculture was included in multilateral trade negotiations in a comprehensive manner for the first time in the Uruguay Round. While this was an important step in bringing agriculture into the mainstream of liberalising trade reform, the actual degree to which the Uruguay Round succeeded in liberalising trade and reducing market distortions has been relatively minor. In fact, agricultural support in OECD countries, as measured by the OECD's Producer Support Estimate (PSE), is currently at very high levels — similar to the levels prevailing at the commencement of the Uruguay Round in 1986. Therefore, the cuts in tariffs, export subsidies and domestic support negotiated in the Uruguay Round would appear to have had very little impact on overall levels of support for agriculture. The Uruguay Round did, however, establish a framework for negotiating further reductions in support and that framework is likely to be essential in the current agricultural negotiations.*

*The dairy industry is one of the most highly supported agricultural industries globally. While there were some increases in market access and reductions in volumes of export subsidies negotiated in the Uruguay Round, world dairy trade remains highly distorted. The current WTO agricultural negotiations provide a vital opportunity to liberalise world dairy policies and trade. The potential impacts of significant dairy liberalisation are highlighted using an analysis of possible scenarios for improved market access for dairy product markets.*

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The inclusion of agriculture in the Uruguay Round of multilateral trade negotiations held prospects of achieving significant progress on reducing the policy induced distortions to agricultural trade that plagued world trade during the 1980s and 1990s. However, the results of the Uruguay Round have been somewhat mixed. Tariff rate import quotas for agricultural products were introduced to provide minimum access opportunities that either did not previously exist or were limited. Tariff quotas were also used to maintain existing access levels. Some progress was made in reducing the volumes of subsidised exports on world markets. However, progress in reducing import barriers and domestic support has been minimal. Consequently, agricultural support levels are currently as high as they were at the commencement of the Uruguay Round in the mid-1980s. This is particularly true for dairy products.

With little progress on liberalising dairy trade to date, the current WTO agricultural negotiations represent a critical opportunity to address the policy induced production and trade distortions in the world dairy industry. As dairy remains one of the most highly distorted agricultural industries globally the focus in this paper is on the prospects for liberalisation for dairy products.

## Progress in the Uruguay Round

The extent of liberalisation arising from tariff cuts and reductions in domestic support has been extremely disappointing. The cuts to both tariffs and domestic support were from average levels in the 1986–88 base period. This period, however, was one of extremely high levels of support and depressed world prices. Therefore, even substantial reductions would leave high levels of support (Roberts et al. 1999).

An integral part of the market access commitments of the Uruguay Round involved converting nontariff barriers to tariff equivalents and reducing the resulting tariffs. However, the effectiveness of this tariffication strategy was significantly eroded by the process of ‘dirty tariffication’. This is where tariff equivalents that were introduced were much higher than the nontariff barriers that they were replacing (see Ingco 1995 for a discussion of dirty tariffication). This can arise from the range of internal and external market prices that might be used to determine tariff equivalents in the base period. For example, a country wishing to maintain high protection for a product could use base period quotations for a high quality product at a remote location where prices are well above average or representative levels for the country. At the same time an import price for a low quality product at a port where prices were lower than in most other parts of the country could also be used. The result was to make the tariff equivalents in the base period well above representative levels. Ingco concluded, for example, that the European Union and the United States set initial tariff bindings at unweighted average levels of 61 per cent and 44 per cent above actual tariff equivalents respectively.

In addition to the unrepresentative base periods, the effectiveness of the negotiated reductions in domestic support has been significantly diminished by aggregation of commitments across the whole agricultural sector and the many exemptions to cuts in domestic support. As the agreed cuts to domestic support were for agriculture as a whole and as levels of support for individual items can vary widely over time as market conditions fluctuate, there is a great deal of room for transferring support from commodity to commodity over time. This flexibility was enhanced by the great height of domestic support in the base period. The issue of aggregation of domestic support and reductions in aggregate measured support from unrepresentative high levels has meant that constraints on actual domestic support in the major developed countries have so far been minimal.

Beyond these factors, the agreement provides for many exemptions from cuts to domestic support. Significant exemptions have been granted for 'decoupled' support (a component of 'green box' support) and support subject to production limitations ('blue box' support). Decoupled support refers to payments that are not related to current production levels, output prices, input use or input prices. Since the early 1990s, there has been a trend toward support that is decoupled to a greater or lesser extent. Whether this represents a marked advance in reducing support induced market distortions depends on whether the support payments are made in ways that are generally minimally market distorting or whether they could lock in or extend existing distortions.

The exemptions under the 'blue box', or production limiting arrangements, were written into the WTO Agreement on Agriculture after they had been negotiated bilaterally between the European Union and the United States in the Blair House Accord. Under the exemption (WTO 1995), 'Direct payments under production-limiting programs should not be subject to (the agreed) commitment to reduce domestic support if:

- (i) such payments are based on fixed area and yields; or
- (ii) such payments are made on 85 per cent or less of the base level of production; or
- (iii) livestock payments are made on a fixed number of head.'

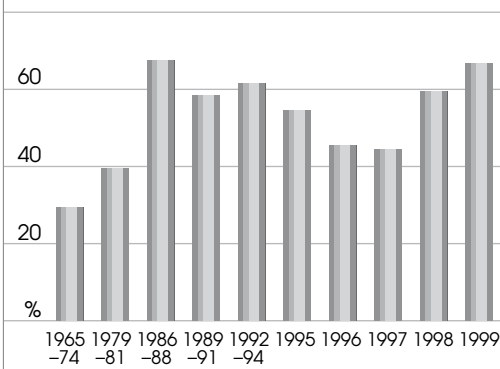
The important issues with production limiting arrangements are the level from which production has been limited and the extent to which the structure of support continues to distort production and markets. Although the arrangement might limit production to below what it would have been with open ended price support of the same incidence, it is being used to maintain production at levels that greatly exceed what they would be if there had been, and continued to be, no support.

The limitations of the Uruguay Round discussed above are reflected in the high levels of agricultural support that still remain (figure 1). While OECD protection levels declined in the mid-1990s, a period of relatively high world prices, protection increased significantly in the late 1990s, and is now at levels similar to those in the mid-1980s.

## International dairy policies

International dairy markets have been highly distorted by protectionist policies in many countries, particularly developed countries, and dairy is one of the most highly protected agricultural sectors in OECD countries (figure 2: OECD 2000). This situation is hardly new, with support for dairy industries around the world being entrenched for many decades. The fact that support levels for dairy remain extremely high illustrates that the Uruguay Round achieved only limited progress in reducing policy induced distortions in world dairy trade. As such, the current WTO agriculture negotiations provide an important opportunity to liberalise world dairy trade and so obtain the benefits that arise from more open trade

Figure 1: Estimated nominal rates of protection for agriculture in OECD countries <sup>a</sup>



<sup>a</sup> Estimates are for 24 OECD countries which include the 15 EU members, Switzerland, Norway, Iceland, Turkey, Canada, the United States, Japan, Australia and New Zealand. The estimate for 1965-74 was derived from a comparison of data from Tyers and Anderson (1992) with OECD data for later years. As the OECD introduced a new method of calculation, data before 1997 were rebased on a value basis to be comparable with the newer data.

## Dairy liberalisation in the Uruguay Round

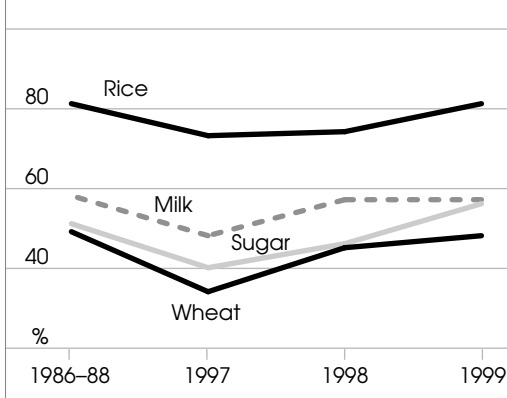
The main areas of progress from the Uruguay Round were the relatively small increases in market access that were agreed and the limitations and reductions in the volumes of subsidised exports. The Uruguay Round, however, did very little to address the distorted production incentives that prevail in many OECD countries.

### *The European Union*

Internal EU prices under the Common Agricultural Policy are supported at very high levels relative to world prices through restrictions on access to the EU market, and the use of export subsidies on exports of dairy products.

Until 1994, restrictions on imports were primarily through variable levies that prevented entry of all but permitted quantities, predominantly a quota on New Zealand butter and quotas on specified cheese from a number of countries. As a result of the WTO Agreement on Agriculture, the variable import levies for dairy products were replaced by tariff rate quotas. A small in-quota tariff is applied on a limited quantity of imports. Beyond this quantity a very high above-quota tariff is applied. The above-quota tariff either prevents addi-

Figure 2: OECD agricultural support: main commodities



tional imports or ensures that any imports beyond the tariff quota enter the European Union at a duty paid price that does not undermine EU domestic prices.

The tariff rate quota for butter was set at 76 700 tonnes a year. For cheese, there was an appreciable increase in imports permitted, with minimum access tariff rate quotas rising from 15 300 tonnes in 1995 to 83 400 tonnes in 2000. Although the increase in permitted imports under minimum access tariff-quotas for cheese is large in percentage terms, it is small both relative to EU consumption of some 5.2 million tonnes a year and world trade of around 1 million tonnes a year. The resulting tariff quotas still restrict access through the limited access quantities, high in-quota tariff rates, and extremely high above-quota tariff rates (table 1). The very high above-quota tariff rates meant that the agreed tariff reductions have had no effect on access to the EU market.

The other EU commitment for dairy products in the Uruguay Round was for a reduction in the volumes of subsidised exports. As the base period for establishing the cuts to export subsidies for both butter and skim milk powder (1986–90) was a period of very high levels of export subsidies, the limits negotiated on EU subsidised exports were well above actual EU exports in the first half of the 1990s as can be seen from table 2. As a result, the export subsidy commitments for butter have not been binding during the implementation period — in fact the European Union had the capacity to significantly increase volumes of subsidised butter exports from levels in the early 1990s and still meet commitments for 2000 and beyond. EU commitments on subsidised skim milk powder exports have only become effective toward the end of the period. The limits on volumes of subsidised exports of cheese, however, have had impacts through the implementation period.

While the volume of subsidised dairy exports has been reduced, the European Union is still able to export large quantities with the assistance of export subsidies. These quantities are considerably larger than the market access quantities provided through tariff rate quotas.

Table 1: EU tariff quotas for dairy products

|                         | Current<br>access | Minimum<br>access quantity |       | In-quota tariff    |                    | Above-quota tariff |                    |
|-------------------------|-------------------|----------------------------|-------|--------------------|--------------------|--------------------|--------------------|
|                         |                   | 1995                       | 2000  | 1995               | 2000               | 1995               | 2000               |
|                         | kt                | kt                         | kt    | /t                 | /t                 | /t                 | /t                 |
| Butter (current access) | 76.7              |                            |       | 868.8 <sup>a</sup> | 868.8 <sup>a</sup> | 3 614 <sup>b</sup> | 2 313 <sup>b</sup> |
| Butter (minimum access) |                   | 0                          | 10.0  | 948.0              | 948.0              |                    |                    |
| Cheese                  | 18.8              | 18.0                       | 104.0 | 137.5–             | 137.5–             | 2 264–             | 1 449–             |
|                         |                   |                            |       | 170.6              | 170.6              | 3 456              | 2 212              |
| Skim milk powder        |                   | 41.0                       | 69.0  | 475                | 475                | 1 485              | 1 188              |

<sup>a</sup> Rates depend on type, packaging and intended use. <sup>b</sup> For a fat content not exceeding 85 per cent, 1896 /t, and for a fat content exceeding 85 per cent, 2313 /t.  
Source: WTO (1994).

### United States

Under the WTO Agreement on Agriculture the United States undertook to implement import tariff-quotas on butter rising from 4000 tonnes in 1995 to 7000 tonnes in 2000 and for butter oil, rising from 3500 tonnes in 1995 to 6100 tonnes in 2000. Taken together, the 2000 amounts total only about 2 per cent of US butter production. The tariff-quota limitations on US imports of milk powders are similarly small and the beyond tariff-quota tariffs are highly restrictive (table 3).

Table 2: EU subsidised dairy product exports and WTO commitments

|                  | Average annual exports | WTO maximum volume of subsidised exports |      |
|------------------|------------------------|--|------|
|                  | 1991-94                | 1995                                     | 2000 |
|                  | kt                     | kt                                       | kt   |
| Butter           | 224                    | 488                                      | 399  |
| Cheese           | 450                    | 426                                      | 321  |
| Skim milk powder | 217                    | 335                                      | 272  |

Source: European Commission (1997).

US exports of dairy products in recent years have occurred primarily with the aid of export subsidies provided under the Dairy Export Incentive Program. Under the program, exporters bid for bonuses for sale to specified targeted regions. Those bonuses are necessary to bridge the gap between the internal supported prices and prices obtainable on the markets to which they are directed.

While the United States has WTO commitments on volumes of subsidised exports of dairy products (table 4), US subsidised exports of skim milk powder exceeded the permitted WTO maximum for 1998-99. This was possible because article 9.2(b) of the WTO Agreement on Agriculture has been interpreted as allowing countries that had subsidised less than their permitted maximum quantity in previous years in the implementation period to exceed the annual prescribed maximum in later years. The United States used this latitude in 1998 and 1999 (US Department of Agriculture 1999a) (figure 3). However, it is clear from the agreement that the maximum for the final year of the implementation period,

Table 3: US tariff quotas for dairy products

|                               | Current access | Minimum access quantity |       | In-quota tariff |        | Above-quota tariff |                    |
|-------------------------------|----------------|-------------------------|-------|-----------------|--------|--------------------|--------------------|
|                               |                | 1995                    | 2000  | 1995            | 2000   | Base duty          | Bound duty         |
|                               | kt             | kt                      | kt    | USc/kg          | USc/kg | USc/kg             | USc/kg             |
| Butter                        | 0.3            | 4.0                     | 7.0   | 12.3            | 12.3   | 181.3              | 154.1              |
| Butter oil                    |                | 3.5                     | 6.1   | 10%             | 10%    | 219.4+10%          | 1.865+8.5%         |
| Cheese                        |                | 114.0                   | 135.0 | 10%             | 10%    | 144.3 <sup>a</sup> | 122.7 <sup>a</sup> |
| Skim milk powder <sup>b</sup> |                | 1.3                     | 5.3   | 3.3             | 3.3    | 86.5               | 86.5               |
| Wholemilk powder <sup>b</sup> |                | 0.4                     | 3.3   | 6.8             | 6.8    | 109.2              | 109.2              |

<sup>a</sup> Above-quota tariff rates quoted are for cheddar cheese. Different rates apply for other types of cheese. <sup>b</sup> In addition to the milk powder quantities shown, Mexico has access of a total 422 tonnes of skim and wholemilk powder.

Sources: WTO (1994); Young (1994).

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Table 4: **United States: subsidised exports of skim milk powder and butter and WTO limits**

|                            | Skim milk powder      |           | Butter                |           |
|----------------------------|-----------------------|-----------|-----------------------|-----------|
|                            | US subsidised exports | WTO limit | US subsidised exports | WTO limit |
|                            | kt                    | kt        | kt                    | kt        |
| Average 1990-91 to 1993-94 | 99.6                  |           | 42.5                  |           |
| 1995-96                    | 63.7                  | 108.2     | 0                     | 43.0      |
| 1996-97                    | 69.8                  | 100.2     | 7.6                   | 38.6      |
| 1997-98                    | 92.8                  | 92.2      | 15.6                  | 34.2      |
| 1998-99                    | 129.8                 | 84.2      | 0.4                   | 29.9      |
| 1999-00                    | 101.4                 | 76.2      | 5.3                   | 25.5      |
| 2000-01                    | 12.8 <sup>a</sup>     | 68.2      | 0 <sup>a</sup>        | 21.1      |

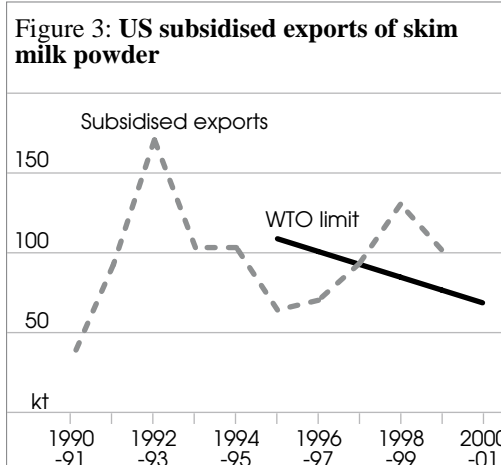
<sup>a</sup> Until 8 December 2000.

Sources: Young (1994); US Department of Agriculture (2000).

the 2000 marketing year (typically 2000-01), cannot be exceeded. In contrast, subsidised US butter exports have been below the permitted WTO maximum throughout the implementation period so far.

Along with limits on imports and subsidised exports, the US support system at the national level involves setting minimum support prices for milk. In the 1996 US FAIR Act support prices for milk were to be phased down from US\$10.35 per 100 pounds in 1996 to US\$9.90 per 100 pounds in 1999. However, the import barriers and export subsidies have been more than enough to support the internal price for milk at substantially above those levels. For example, between 1995 and 1997, the average annual price for manufacturing grade milk varied between US\$11.79 per 100 pounds and US\$13.43 per 100 pounds and in 1998, when seasonal conditions were adverse, prices rose to a peak of US\$17.40 per 100 pounds in December (US Department of Agriculture 1999b).

The US support arrangements for dairy products are strongly entrenched. Although reductions in domestic support prices, as opposed to actual market prices, might be considered by some to be indicative of efforts to reduce support, current barriers to imports and export subsidies are clearly sufficient to support internal prices at around historical levels or above. Without marked reductions in the barriers to imports, this system will remain highly distorting.



### *Japan and Korea*

The Uruguay Round has done very little to reduce the high levels of protection provided to the Japanese and Korean dairy industries. While the Japanese market access commitments

are somewhat higher than those of the European Union and United States, they remain limited (table 5). In addition, quota tariff rates remain extremely high and so imports beyond the tariff-quota quantities are not feasible. Like Japan, Korean access quantities are very small, while above-quota tariffs remain high.

## Liberalising global dairy trade

High levels of support to the dairy industry have become entrenched internationally and efforts to liberalise the sector have not been successful to date. The current WTO

Table 5: Japanese and Korean tariff quotas for dairy products

|  | Minimum<br>access quantity |            | In-quota tariff    |                             | Above-quota tariff           |                                  |
|--|----------------------------|------------|--------------------|-----------------------------|------------------------------|----------------------------------|
|  | 1995<br>kt                 | 2000<br>kt | 1995               | 2000                        | 1995                         | 2000                             |
| <b>Japan</b>   |                            |            |                    |                             |                              |                                  |
| Skim milk powder   |                            |            |                    |                             |                              |                                  |
| – for school lunch program                                 | 7.3                        | 7.3        | Free               | Free                        | 466¥/kg                      | 396¥/kg                          |
| – other  | 85.9                       | 85.9       | 0–35% <sup>a</sup> | 0–35% <sup>a</sup>          | 25–35%+<br>466¥/kg           | 29.8%+<br>396¥/kg                |
| Designated dairy products,<br>milk equivalent <sup>b</sup> | 137.2                      | 137.2      | 35%+<br>markup     | 35%+<br>markup <sup>c</sup> |                              |                                  |
| Other dairy products – general use                         |                            |            |                    |                             |                              |                                  |
| – milk equivalent  | 124.6                      | 133.9      | 25–35%             | 25–35%                      |                              |                                  |
| Whey for feed  | 18.5 <sup>d</sup>          | 45.0       | free               | free                        | 25–35%+<br>470 –<br>1204¥/kg | 21.3–29.8%+<br>400 –<br>1023¥/kg |
| Whey for infant formula                                    | 12.0 <sup>d</sup>          | 25.0       | 10%                | 10%                         | 25–35%+<br>470 –<br>1204¥/kg | 21.3–29.8%+<br>400 –<br>1023¥/kg |
| Butter and butteroil                                       | 1.9                        | 1.9        | 35%                | 35%                         | 35%+<br>1159 –<br>1363¥/kg   | 29.8%+<br>985 –<br>1159¥/kg      |
| Prepared edible fat,<br>30–70% fat                         | 17.1 <sup>d</sup>          | 19.0       | 25%                | 25%                         | 35%+<br>1159¥/kg             | 29.8%+<br>985¥/kg                |
| <b>Republic of Korea</b>                                   |                            |            |                    |                             |                              |                                  |
| Butter   | 0.3                        | 0.4        |                    |                             | 99.0%                        | 89.0%                            |
| Cheese   |                            |            |                    |                             | 40.0%                        | 36.0%                            |
| Skim milk powder   | 0.6                        | 1.0        | 20%                | 20%                         | 220.0%                       | 176.0%                           |
| Wholemilk powder   | 0.3                        | 0.6        | 40%                | 40%                         | 220.0%                       | 176.0%                           |
| Whey powder  | 23.0                       | 54.2       | 20%                | 20%                         | 99.0%                        | 49.5%                            |

<sup>a</sup> Actual rate depends on whether sugar is added, butterfat content and use. <sup>b</sup> Japan has undertaken to import at least three-quarters of this amount each year as butter and skim milk powder. This is separate from the skim milk powder tariff rate quotas. <sup>c</sup> In addition to the 35 per cent tariff, the Japanese government can charge a markup on sales within Japan of up to 358¥/kg, with the markup declining by 9¥/kg a year over the implementation period. <sup>d</sup> Final quota quantity was effective from Japanese fiscal year 1995.  
Source: WTO (1994).



agricultural negotiations provide an opportunity to make progress in substantially reducing the significant distortions to trade that remain in place. This is clearly not an easy task — the lack of progress on dairy during the Uruguay Round illustrates this, as does the lack of progress in liberalising the dairy sector in the European Union as part of the Agenda 2000 process.

While progress in achieving more liberal and open global dairy markets is likely to remain slow, it is important to clearly identify the potential impacts and benefits of liberalisation. Key elements requiring close examination are improvements to market access for dairy products and elimination of export subsidies. When considering market access issues for dairy products it is clearly important to address the very high import barriers imposed by developed countries such as the United States, the European Union and Japan. However, it is also critical to examine import barriers imposed by developing countries. On the export subsidy front, the key countries of concern remain the European Union and the United States.

ABARE's Global Trade and Environment Model (GTEM) has been used to assess the economic impacts of continuing agricultural liberalisation. GTEM is a multiregion, multi-sector dynamic general equilibrium model of the world economy. It is derived from the MEGABARE model (ABARE 1996) and GTAP (Hertel 1997). The model code is available on ABARE's website ([www.abareconomics.com](http://www.abareconomics.com)) and a nontechnical description is provided in Freeman et al. (2000). GTEM uses version 4e of the GTAP database. The standard GTAP database has been modified to improve the representation of the economic structure and policies in the 1995 base period. These developments are reported in Freeman et al. (2000).

Before assessing the impacts of policy changes it is necessary to construct a baseline or reference case scenario to project likely levels of output, trade and other variables in the absence of policy changes. This scenario projects the situation in the absence of any further multilateral reform beyond that agreed in the Uruguay Round. The reference case provides a benchmark against which alternative reform scenarios can be compared and is projected for the period 1995–2010.

GTEM has been used to assess the impacts of a further 50 per cent reduction in tariff equivalents, domestic support and the value of subsidised exports in all countries over and above the agreed Uruguay Round commitments. It is assumed here that the reductions are phased in evenly over six years from 2005. An important assumption is that reductions in support have an immediate effect — there is no 'water' in the tariff, implying that tariffs are fully reflected in internal prices. Given the prevalence of dirty tariffication in the Uruguay Round discussed earlier, ABARE's results may overstate the impact of reform to the extent that these assumptions are not realistic.

For the dairy industry, the high levels of protection discussed above imply that there is considerable scope for benefits from reform. In the European Union the reduction in border measures would not fully erode the quota rents available to producers through the current milk production quota system. Therefore, EU milk production is assumed to remain constant in the simulation. However, farm level milk production would be reduced marginally in North America and Japan, indicating that domestic dairy industries would not be decimated in liberalising countries. Lower domestic prices from reform also contribute to increased consumption of dairy products. In response to market access reforms, opening up of markets where imports are currently suppressed would increase imports greatly relative to the reference case. The largest expected increase in imports would be in Japan, the United States and Canada, and there would be some increase in EU imports (table 6). It is estimated that the value of exports would increase in all major dairy exporting countries, with the largest percentage growth being in New Zealand and Australia, but appreciable increases would also occur in the United States.

Table 6: **Dairy products: changes in value of trade from a 50 per cent reduction in agricultural support, 2010**

The results presented here indicate that substantial gains can be achieved from further liberalisation. However, this analysis only provides general indications of impacts. In particular, in GTEM the dairy sector is incorporated as two products — raw milk and dairy products. In addition, the array of tariff-rate quotas prevalent in the global dairy market have not been incorporated into this analysis. Given the potential impacts of greater dairy liberalisation from the GTEM analysis, further research on those impacts would appear to be warranted to build a convincing case for significant liberalisation of the dairy sector as part of the current WTO agricultural negotiations.

|                                    | Change in value<br>relative to the reference case |         |
|------------------------------------|---|---------|
|                                    | Exports   | Imports |
|                                    | %   | %       |
| Argentina                          | 37  |         |
| Australia                          | 37  |         |
| Canada                             | -18   | 58      |
| European Union                     | 11  | 10      |
| Japan                              |   | 99      |
| New Zealand                        | 39  |         |
| United States                      | 18  | 56      |
| Rest of Latin America <sup>a</sup> | 23  |         |

<sup>a</sup> Includes Mexico, Chile, Central America, Venezuela, Colombia, Rest of Andean Pact, Rest of South America, Uruguay.  
Source: Freeman et al. (2000).

As part of this effort, ABARE is currently working on enhancing the dairy module of the OECD Aglink model for use in analysis of WTO liberalisation. A key feature of the Aglink dairy module is the representation of specific dairy products, including milk, butter, cheese, skim milk powder, whole milk powder, casein and fresh dairy products. This provides an avenue to develop more product focused analysis of dairy trade liberalisation, particularly as commitments for both market access and export subsidies are on a product basis. To facilitate such analysis, part of the ABARE work is focused on incorporating tariff-rate quotas into the dairy import demand equations for the countries already represented in Aglink. As the standard Aglink model covers mainly OECD dairy markets a key aspect

of the ABARE development work is the inclusion of import demand equations for the four main dairy products, butter, cheese, skim milk powder and wholemilk powder, for non-OECD countries. The import demand equations incorporate tariffs, and where applicable tariff quotas, in India and major importing countries in South America, Asia, Africa and the Middle East. Developing both the policy and country representation in the Aglink dairy module will provide a comprehensive modeling framework for analysing possible dairy liberalisation as part of the current WTO agriculture negotiations.

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