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## 4 Global effects of the CAP

The effects of the CAP on the European Union and other regions are presented in this chapter, through a discussion of the CGE modelling results for the four simulations outlined in chapter 3 — direct payments, export subsidies, tariffs and the total CAP (see box 4.1 for a characterisation of CGE results). In section 4.1 the framework used to analyse results is outlined. Results are then discussed firstly in terms of the effects of the CAP on sectoral outputs in the European Union (section 4.2) and secondly outside of the European Union (section 4.3), to identify the various allocative effects of the CAP. The welfare and efficiency effects of the CAP are then summarised in section 4.4.

### 4.1 Presentation of results

The results in this study are interpreted as the contributions and costs that the CAP generates. Therefore, the signs on the results obtained from the simulations that model the removal of the CAP are reversed. Furthermore, where US dollar amounts are reported, they represent projections for a 2007 year based on the values of GDP in 2007 obtained from the World Bank.<sup>1</sup>

As outlined in chapter 3, results for each of the four simulations are aggregated into nine regions — with the EU15 and NMS identified separately — and six industries: crops, livestock, forestry and fishing, food processing, other manufacturing, and services.

Although the CAP is an integrated system, the effects of various parts of the CAP can be very different, and on the whole, complex to interpret. For this reason, results are often separated into the contributions of direct payments (simulation 1), export subsidies (simulation 2) and import tariffs (simulation 3), as well as the aggregate effect of the CAP (simulation 4).

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<sup>1</sup> The GDP and GNE value change results reported in this chapter are calculated using the percentage change results from the simulations and the GDP data for 2007 from the World Bank. This means that the sum of the regional changes in value will not sum to the change in the world value as the relative share of each region in world GDP is different in 2007 compared to the database values for 2004. An average conversion rate for 2007 of 0.73 Euros to 1 US dollar can be used to convert US dollar results into Euros.

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#### Box 4.1 **General equilibrium mechanisms at work**

In chapter 2, the economic effects of individual elements of the CAP are discussed within a partial equilibrium (PE) framework (section 2.5). This analysis is useful to explore what the directional impacts of the CAP policies are likely to be on agricultural markets. The general equilibrium (GE) framework used in this paper differs from the analysis in chapter 2 in several important ways that are useful to keep in mind when considering the results presented in this chapter.

- Although the PE analysis measures the first round impacts of changes to a policy instrument on one particular industry, the GE model also measures the flow-on impacts not only to the affected industry but also to other industries in the same economy and across the world.
- The PE analysis in this paper assumes that the goods produced domestically and those sold by other countries on the world market are perfect substitutes (homogeneous). This means that a country is assumed to either import or export a product, but not both. The GTAP GE model assumes that goods produced in each country are imperfect substitutes for each other (differentiated). Therefore, two-way trade is common — countries import and export the same goods.

A GE model measures the effects of policy instruments on each sector as well as on the economy as a whole for each region in the model. In this study, the effect of the CAP on the world is unlikely to be large as agriculture makes up only a small proportion of world output, and EU agriculture is a small percentage of world agricultural output.

On the other hand, sectoral effects within the European Union are likely to be large as the CAP represents a significant percentage of output for some agricultural sectors in the European Union. As direct payments have a less distortionary effect than trade protection measures, the majority of the cost of this part of the CAP is likely to be felt within the European Union. However, border measures are likely to result in significant costs (and some benefits) to countries with which the European Union trades heavily, or which compete with the European Union in world commodity markets.

The analytical separation of the components of the CAP does not mean that they can be dissociated in a policy sense. The individual components are part of an integrated policy that cannot exist without all three components.<sup>2</sup> However, the decomposition provides an indication of the contribution of each element of the CAP to the total effect and helps to interpret the different effects of each component as outlined in chapter 2.

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<sup>2</sup> Although occasionally, world market conditions mean that some parts of the policy can be suspended, such as the tariffs on grains in 2008.

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The sum of the simulations for each component do not exactly add up to the total effect because of linearisation error. The source of this linearisation error is aggregation, and arises from aggregation across countries and commodities.

### **Industry output**

The components of CAP support affect the prices of inputs and factors used in the production of assisted agricultural products, including by:

- changing the relative prices received by producers for the supported products
- reducing the cost of using inputs in the supported activities
- increasing the returns to factors employed in the supported activities.

In the model, primary factors of production within each regional economy are fixed and are reallocated between sectors in response to the changes in relative returns. A measure of this reallocation is the change in sectoral outputs. The changes in sectoral outputs feed into the changes in welfare and GDP in each regional economy and for the world as a whole.

### **GDP and welfare**

As primary factors are assumed to be in fixed supply in each regional economy, real GDP can be used as a measure of the efficiency with which resources are used. Changes in real GDP can therefore be interpreted as gains or losses in efficiency due to allocative changes.

In this paper, the change in real gross national expenditure (GNE, also referred to as gross domestic absorption) is used as an approximate measure of the effect of CAP support on a country's welfare (box 4.2).

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## Box 4.2 Measuring welfare

Changes in a population's wellbeing are approximated by changes in economic welfare, which is often measured as changes in consumption opportunities. Measures of this include:

- the change in real national disposable income, a measure of income accruing to residents, which can be calculated as the output of the economy (GDP) less net transfers that accrue to foreigners who might own factors used in the production of this output
- the change in gross national expenditure (GNE), a measure of expenditure, or of the demand for goods and services.

In the version of GTAP used for this study, changes in foreign ownership of factors are not accounted for. Therefore, changes in real national disposable income are equivalent to changes in GDP. Changes in real GNE are used as the indicator of changes in wellbeing. With this choice, changes in wellbeing can be decomposed into changes in income associated with changes in efficiency (through changes in GDP when the resources of an economy are held fixed) and changes in the trade surplus, as shown hereafter.

GNE is defined as the sum of private and public consumption (C and G) and investment (I):  $GNE = C + G + I$ .

As the balance of the current account ( $X - M$ , where X is exports and M is imports) and the capital account ( $S - I$ , where S is savings) must be equal, investment can be represented as:  $I = S - (X - M)$ .

Therefore, GNE can be expressed in the following way:

$$GNE = C + G + S - (X - M) = GDP - (X - M).$$

The difference between the change in real GNE and real GDP is, therefore, accounted for by real changes in the trade balance — that is, export and import quantities. Changes in exports and imports can, in turn, be influenced by two factors: the change in a country's terms of trade — that is, the price of a country's exports relative to its imports — and changes in the flow of foreign investment.

Changes in GNE can therefore be interpreted as changes in income that come from improvements in allocative efficiency (GDP), changes in the terms of trade, and changes in foreign investment. It then follows that the difference between GDP and GNE can be accounted for by income changes that are associated with changes in the terms of trade and changes in foreign investment. When changes in foreign investment are small, as they are for most regions in this paper, the main contributors to changes in welfare are changes in allocative efficiency and terms of trade effects. Therefore, in this study, the explanation of policy induced welfare changes is confined to changes in allocative efficiency and the terms of trade effects.

## 4.2 Sectoral effects within the European Union

The CAP increases the size (in terms of total output) of agriculture by about 8 per cent in the EU15, and by less in the NMS. It also increases food processing by nearly 6 per cent in the European Union as a whole (table 4.1). The resources required for this expansion come from the parts of the economy that are not supported by the CAP. Manufacturing and services in the EU15, for example, shrink by more than 1 and 0.1 per cent respectively. Resources also come from forestry, which competes with CAP supported industries for agricultural land and is more than 3 per cent smaller in the EU15 than if the CAP did not exist.<sup>3</sup>

Direct payments, export subsidies and border protection contribute in different ways to these results.

Table 4.1 **Effects on sectoral outputs within the European Union**

Per cent

<i>CAP component / Region</i>	<i>Crops</i>	<i>Livestock</i>	<i>Forestry &amp; fishing</i>	<i>Food process.</i>	<i>Manuf.</i>	<i>Services</i>
<b>Direct payments</b>						
NMS	-0.49	-1.98	0.95	-0.29	0.26	0.01
EU15	1.92	2.52	-0.95	0.76	-0.29	-0.05
<b>Export subsidies</b>						
NMS	0.02	0.06	-0.03	0.23	-0.05	..
EU15	0.03	0.16	-0.01	0.25	-0.04	..
<b>Border protection</b>						
NMS	2.48	2.41	-0.77	5.56	-1.29	-0.20
EU15	6.23	4.93	-0.77	4.92	-1.02	-0.10
<b>Total CAP</b>						
NMS	1.97	0.64	0.09	5.61	-1.11	-0.19
EU15	8.09	7.64	-1.65	6.02	-1.35	-0.15

.. between -0.005 and 0.005.

Source: Simulation results.

### Direct payments

Direct payments create a wedge between the cost of producing a supported commodity and the price paid by consumers. The initial effects of this wedge are to decrease the price paid by consumers without reducing the price received by

<sup>3</sup> To the extent that direct payments might require farmers to plant some forest (for example, to satisfy some environmental cross-compliance criterion), this effect may be overstated.

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farmers, and to increase the size of the sectors that benefit from this form of support in the EU15.

Direct payments cause the agricultural sectors in the EU15 to expand by around 2 per cent.<sup>4</sup> Food processors in the EU15 are the main users of some of the products that are made cheaper by direct payments. The reduction in the cost of some of the inputs into food processing contributes to an expansion of the industry in the EU15 and a reduction in the world price.

Sectors that do not benefit from direct payments are smaller than they would be otherwise as they supply the resources required for the expansion of agriculture and food processing. This is the case for all non-supported activities, including resource-based sectors, manufacturing and services in the EU15. In 2007, the resources transferred to the agricultural and food processing sectors in the EU15 represented some \$US 8.8 billion.

The cropping and livestock sectors in the NMS are smaller than otherwise because the expansion of EU15 agricultural output reduces the price of agricultural products in world markets. Agriculture in the NMS responds by contracting.<sup>5</sup> A relative shortage of local produce and a reduction in the world price of processed foods leads to a contraction of the food processing sector in the NMS. These contractions free up resources, which in turn allow other sectors to expand in the NMS economies.

## **Export subsidies**

Export subsidies lower the cost of exporting goods overseas and therefore expand production in subsidised industries. As export subsidies are highest for processed foods, the results are largest for this sector — output in the food processing sector is around 0.3 per cent larger than it would be without export subsidies. This flows through to increased demand for related inputs from the agricultural sector, leading to a larger than otherwise crop and livestock sector in the European Union. Manufacturing, on the other hand, is slightly smaller than it would otherwise be.

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<sup>4</sup> To the extent that this is a simplification and that some direct payments are made in the NMS and not modelled, these results may be somewhat overstated. However, although some direct payments are made in the NMS (refer to chapter 2) their rate is much lower (less than half) than in most of the EU15 members.

<sup>5</sup> To the extent that direct payments to the NMS are increasing, this effect would be smaller and may be reversed by the end of the phasing-in period of direct payments (between 2013 and 2016).

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## Border protection

The initial effect of border protection is to increase the cost of imports and expand the industries that produce goods that compete with imports. This expansion occurs at the expense of other sectors in the economy, including any rural activities that do not benefit from the protection.

Of total CAP support, border protection contributes by far the most to increasing the size of agriculture and food processing in the European Union. It has different effects on the agricultural sectors of the NMS and the EU15 because of the different structures of production and imports in different parts of the European Union. Protection rates are weighted toward protecting commodities that are produced more intensively in the EU15.<sup>6</sup> Border protection accounts for more than 50 per cent of the effects of the CAP in the EU15, and is also the main contribution of the CAP to maintaining a larger agricultural sector in the NMS.

Border protection contributes to increasing the size of cropping, livestock and food processing activities in the order of 2.5 to 6 per cent across the European Union. In the European Union as a whole, manufacturing declines by about 1 per cent and services by about 0.1 per cent as a result. In 2007, this represented a transfer of value added to agriculture and food processing in the order \$US 49.7 billion.

## Effects on fruit and vegetables and forestry

Two rural sectors do not benefit from direct payments in the model: fruit and vegetable production, and forestry.<sup>7</sup> As part of the CAP, however, the fruit and vegetable sector benefits from some border protection. Disaggregated results (table 4.2) show that border protection increases the size of the EU fruit and vegetable sector by about 5 per cent.<sup>8</sup> Both sectors compete for land with other agricultural activities. Therefore, when direct payments cause agriculture in the EU15 to expand, the size of the EU15 fruit and vegetable sector is reduced by more

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<sup>6</sup> Whether this is because protection was developed in this way or whether protection has influenced the structure of agriculture is not explained by the model. However, the model results which show that resources flow toward protected activities are consistent with the latter hypothesis that over time, border protection has distorted the agricultural sector in the EU15.

<sup>7</sup> This may change somewhat in the future since, as noted in chapter 2, land used for fruit and vegetable production is being gradually transitioned into the SPS system, following a 2008 CAP reform. The amount to be transferred is expected to be around 800 million Euros.

<sup>8</sup> This is an average effect for the fruit and vegetable sector. To the extent that some products are less protected than others (for example, the tariff rate on competing imports is lower), output from producers competing with these imports would decline as a result of the CAP to the benefit of more highly protected products that are included in the aggregate fruit and vegetable sector.

than 1 per cent. Similarly, the size of the corresponding sector in the NMS increases by 0.5 per cent (\$US 65.3 million).

In total, the CAP contributes to reducing the size of the forestry sector in the European Union by more than 3 per cent, or around \$US 870 million.

**Table 4.2 Effects on EU rural sectors that do not benefit from direct payments**  
Per cent

	<i>Fruit and vegetable</i>	<i>Forestry</i>
<b>Direct payments</b>		
NMS	0.49	1.12
EU15	-1.21	-1.70
<b>Border protection</b>		
NMS	4.64	-0.96
EU15	6.66	-1.72
<b>Total CAP</b>		
NMS	4.95	0.04
EU15	5.62	-3.35

Source: Simulation results.

### 4.3 Sectoral effects outside the European Union

The effects of the CAP outside the European Union are summarised in table 4.3. Some of these effects can be dramatic, with border protection reducing the size of herds in South America by about 12 per cent, and in Australia by about 3.5 per cent. The relatively high border protection and reduced market access affecting some processed foods result in decreases in the size of the processed food sector in most regions by 4 to 5 per cent.

Overall, the impact of the CAP outside the European Union is to reallocate some sizable amount of resources away from agriculture and food processing, toward other sectors of the economy. This reallocation of resources amounts to about \$US 52.7 billion, and reflects a decrease in world prices for agriculture and food processing, and increases in prices for other commodities (table 4.4)

#### Direct payments

With direct payments contributing to reducing the world prices of several commodities, the reaction in most regions is to reduce the activity in the cropping

and livestock sectors. The largest effect is on cropping and livestock activity in Australia and New Zealand (-0.6 per cent or \$US 188.9 million). Resources are reallocated mainly to the manufacturing sector, which expands in all regions.

**Table 4.3 Effects on sectoral outputs outside the European Union**  
Per cent

<i>CAP component /Region</i>	<i>Crops</i>	<i>Live-stock</i>	<i>Forestry &amp; fishing</i>	<i>Food process.</i>	<i>Manuf.</i>	<i>Services</i>
<b>Direct payments</b>						
Australia-NZ	-0.31	-1.07	0.21	-0.47	0.22	-0.01
East Asia	-0.11	-0.06	..	-0.11	0.04	..
Rest of Asia	-0.15	-0.46	0.05	-0.07	0.08	0.01
North America	-0.50	-0.34	0.14	-0.07	0.07	-0.01
Latin America	-0.73	-0.44	0.09	-0.15	0.19	0.01
Africa	-0.63	-0.48	0.25	-0.30	0.20	0.04
Rest of Europe	-0.33	-0.35	0.29	-0.41	0.10	0.01
<b>Export subsidies</b>						
Australia-NZ	0.05	-0.60	0.15	-0.48	0.12	..
East Asia	-0.01	-0.04	-0.01	-0.06	..	..
Rest of Asia	-0.01	-0.11	..	-0.24	0.02	0.01
North America	-0.03	-0.13	0.01	-0.09	0.01	..
Latin America	-0.04	-0.16	0.01	-0.18	0.04	..
Africa	-0.02	-0.14	0.02	-0.35	0.05	0.01
Rest of Europe	-0.09	-0.12	0.03	-0.43	0.05	0.01
<b>Border protection</b>						
Australia-NZ	-0.19	-3.61	0.77	-3.53	0.97	0.01
East Asia	-0.83	-0.27	-0.07	-0.92	0.16	0.02
Rest of Asia	-0.08	-0.50	-0.06	-4.45	1.15	0.14
North America	-1.73	-1.03	0.29	-0.88	0.19	0.01
Latin America	-2.25	-11.88	0.53	-4.14	2.39	0.06
Africa	-0.18	-2.14	-0.05	-5.21	0.74	-0.03
Rest of Europe	-1.49	-1.46	0.38	-4.98	0.84	0.06
<b>Total CAP</b>						
Australia-NZ	-0.49	-4.89	1.01	-4.30	1.28	0.01
East Asia	-0.96	-0.39	-0.07	-1.10	0.20	0.02
Rest of Asia	-0.23	-1.07	-0.02	-5.01	1.32	0.15
North America	-2.30	-1.50	0.45	-1.07	0.28	..
Latin America	-2.78	-12.70	0.60	-4.51	2.64	0.06
Africa	-0.81	-2.93	0.18	-6.13	1.02	0.02
Rest of Europe	-1.95	-1.94	0.68	-5.90	1.00	0.08

.. between -0.005 and 0.005.

Source: Simulation results.

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**Table 4.4 Effect of the CAP on world prices**

Per cent

Crops	-2.08
Livestock	-3.91
Forestry & fishing	0.16
Food processing	-0.83
Manufacturing	0.10
Services	0.18

*Source:* Simulation results.

### Border protection

Although the European Union applies unique tariff rates at the tariff line level, average barriers for aggregated commodity groups are affected by their composition. This gives rise to differences in the average tariff rates faced by exporters to the European Union (as outlined in chapter 3 and appendix tables A.7 and A.8). Given the pattern of its exports to the European Union, Latin America faces the highest barriers of all regions for the crop, livestock and food processing sectors. Thus border protection from the European Union results in the largest reallocation of resources in Latin America where the outputs of the cropping, livestock and food processing sectors are reduced, and output of the manufacturing and services sectors increases by \$US 24.2 billion.

The high ad valorem tariff equivalents in the food processing sector (well in excess of 10 per cent on average) lead to decreases in output in this sector in many regions of the order of 5 per cent. The total decrease in activity in this sector outside the European Union is about \$US 24.6 billion. The effects of escalation in border protection are well illustrated with the results for Australia and New Zealand. Although the border protection faced by livestock exporters is relatively low, the high protection applied to the meat and dairy sectors has a flow-on impact upstream, reducing the output of the food processing and livestock sectors in Australia and New Zealand by more than 3.5 per cent. Furthermore, it is important to note that, to the extent that trade barriers are underestimated due to prohibitive tariffs (including prohibitive out of quota tariffs) not being fully captured in the database, these results are probably underestimates.

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## Export subsidies

The European Union subsidises exports of processed foods and, to a lesser extent, some agricultural products.<sup>9</sup> Export subsidies expand the European Union's markets and benefit importers of EU products by lowering the price of EU exports. The effects of export subsidies on the European Union's trading partners are a function of the amount of subsidy that they receive (table 4.5). A large share of subsidies accrue to consumers in regions that import large amounts of agricultural and, in particular, food products from the European Union, such as parts of Asia, Africa, Latin America and non-EU Europe. On the other hand, North America, Australia and NZ import much less agricultural and food products from the European Union and consumers in these regions benefit little from EU export subsidies.

**Table 4.5 EU export subsidies by destination region**  
US\$ million, per cent of value of exports

<i>Importing region</i>	<i>Crops</i>		<i>Food processing</i>	
	Value	Rate	Value	Rate
Australia-NZ	0.03	0.04	10.64	0.74
East Asia	0.97	0.13	123.93	1.10
Rest of Asia	1.92	0.23	237.79	3.61
North America	1.68	0.15	99.02	0.66
Latin America	0.32	0.10	53.03	1.56
Africa	1.15	0.06	186.26	2.68
Rest of Europe	6.74	0.17	246.65	1.68
Total	12.81	0.15	957.32	1.60

*Source:* Simulation results.

Because export subsidies reduce the cost of procuring EU exports of agricultural and food products, the demand for these goods expands. Importers therefore substitute away from products from other regions and domestic production is reduced.<sup>10</sup> This accounts for the decline in agricultural and food production in

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<sup>9</sup> A possible alternative to export subsidies is to store or destroy surplus production. Storage and destruction of production are thought to be more expensive alternatives than selling a product on the world market. Although some storage occurs in the European Union, the cost of this option is not modelled.

<sup>10</sup> Export subsidies are contingent on the level of price support and on world prices; they bridge the gap between the two. For a given price support, the export subsidy increases as the world price decreases, for example, in response to an unexpected increase in production outside the European Union. As it increases, the export subsidy depresses world prices further, as the EU production arrives on the already oversupplied world market. The effect shown here is only that of the export subsidy, isolated from that of any initial, unrelated decrease in world agricultural prices.

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non-EU regions and the corresponding rise in the outputs of other industries as resources are shifted out of agriculture and food processing and reemployed in manufacturing and services. Livestock activities in Australia and New Zealand are particularly exposed to the reduction in world prices of bovine meat and dairy products. The small effects observed for the African crops sector relative to what may be expected is related to the high prices that prevailed during the period and therefore the relatively low subsidies modelled. This effect could be larger when world prices are low.

#### **4.4 Welfare and allocative efficiency effects of the CAP**

The following analysis of the global GDP and welfare effects of the CAP is couched in terms of the contribution of the different parts of the CAP as it is modelled. Export subsidy results are not presented, as the GDP and welfare effects of export subsidies in the modelling are very small (equal to zero at two decimal points in almost all cases).

##### **Direct payments**

Table 4.6 shows that the main welfare impact of direct payments is on the European Union itself — a loss in welfare measured in terms of GNE equivalent to \$US 1 billion per annum. This result can be decomposed into changes in allocative efficiency (GDP) and the EU15's terms of trade (refer to box 4.2). Most of the loss is attributable to a loss in allocative efficiency (US\$7.5 billion in terms of 2007 GDP) associated with diverting resources away from non-supported sectors. This efficiency loss is partly compensated by a gain in the EU15's terms of trade as the prices of EU15 exports rise relative to the price of their imports.

The rest of the world also suffers a net loss from the direct payments. For example, direct payments reduce GNE in Australia–New Zealand by 0.04 per cent, equivalent to \$US 387 million. In the Americas, the reduction in GNE amounts to \$US 3.5 billion. The welfare losses can be largely attributed to a terms of trade deterioration.

The welfare cost to the world of the EU's direct payments is equivalent to US\$ 6.6 billion per annum, which is about 0.01 per cent of global GNE. This is the net effect of the various resource reallocations that occur within the economies across the world, and represents an opportunity cost in terms of consumption possibilities.

**Table 4.6 Effects of direct payments on real GNE and GDP**

Per cent, US\$ million in 2007 prices

<i>Region</i>	<i>Gross National Expenditure</i>		<i>Gross Domestic Product</i>	
	Per cent	Value	Per cent	Value
Australia-NZ	-0.04	-387	..	-6
East Asia	-0.01	-1213	..	135
Rest of Asia	..	18	..	76
North America	-0.02	-2775	..	190
Latin America	-0.02	-726	0.01	200
Africa	..	-16	0.01	74
Rest of Europe	..	-66	0.01	366
NMS	-0.02	-217	0.02	286
EU15	-0.01	-1042	-0.05	-7538
World	-0.01	-6598	-0.01	-6598

.. between -0.005 and 0.005.

Source: Simulation results.

**Border protection**

The European Union suffers the traditional efficiency losses that are associated with border protection, in the order of \$US 46 billion, as these measures encourage a larger agricultural sector (and reduced activity in other sectors) in the European Union than is optimal (table 4.7). These losses are partly compensated by a transfer of income from the rest of the world through an improvement of the European Union's terms of trade, to the tune of almost \$US 15 billion. A standard result of an economy that restricts its imports is to induce a reduction in the world price of its imports and an increase in the price of exports (refer to chapter 2).

**Table 4.7 Effects of border protection on real GNE and GDP**

Per cent, US\$ million in 2007 prices

<i>Region</i>	<i>Gross National Expenditure</i>		<i>Gross Domestic Product</i>	
	Per cent	Value	Per cent	Value
Australia-NZ	-0.14	-1347	..	-34
East Asia	0.04	3375	0.01	650
Rest of Asia	-0.11	-2691	0.03	706
North America	-0.01	-1885	0.01	941
Latin America	-0.23	-7870	0.05	1644
Africa	-0.07	-834	..	-46
Rest of Europe	-0.07	-2314	0.06	1980
NMS	-0.30	-3687	-0.45	-5295
EU15	-0.17	-26 159	-0.26	-40 808
World	-0.08	-40 748	-0.08	-40 748

.. between -0.005 and 0.005

Source: Simulation results.

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North America and the rest of the world experience an increase in GDP due to increased imports of manufactured goods by the European Union. This increase is due to the retention of resources in agriculture in the European Union leading to a reduction in production in other sectors. In many cases, however, the increases in GDP are counteracted by worsening terms of trade.

Almost all regions experience a welfare loss from the EU protection from agricultural imports. Latin America as a group suffers the biggest losses because its exports to the European Union face the highest protection. The main source of this loss is a deterioration in the region's terms of trade as the border protection reduces the price they receive for their exports. Similarly, losses in Australia and New Zealand are mainly attributable to a deterioration in the average price of their exports induced by the EU protection. Importers of food experience some benefit from the lower world food prices caused by increased agricultural protection in the European Union.

### **Overall effects of the CAP**

The overall effects of the CAP are made up of the effects of each of the components modelled, as outlined above. The largest contributor to the aggregate effects of the CAP is the border protection component, which accounts for more than 80 per cent of the losses in welfare and GDP sustained by the EU economy as a whole (table 4.8).

The estimated allocative efficiency cost to the European Union of all the elements of the CAP exceeds \$US 52 billion. This figure does not account for any administrative and resource costs of managing the CAP (see chapter 5). A terms of trade gain offsets some of the allocative efficiency loss, but the European Union still experiences a net welfare loss.

In most regions outside the European Union welfare declines, usually due to the terms of trade gain in the European Union. A terms of trade gain for the European Union means a terms of trade loss for the rest of the world. For the world as a whole, the CAP causes gross output (and welfare) to decline by 0.08 per cent or \$US 45 billion.

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**Table 4.8 Effects of the CAP on economic welfare and activity**

Per cent, US\$ million in 2007 prices

<i>Region</i>	<i>Gross National Expenditure</i>		<i>Gross Domestic Product</i>	
	Per cent	Value	Per cent	Value
Australia-NZ	-0.19	-1850	..	-38
East Asia	0.03	2468	0.01	891
Rest of Asia	-0.10	-2552	0.03	908
North America	-0.03	-4891	0.01	1293
Latin America	-0.26	-8730	0.06	1955
Africa	-0.05	-560	0.01	158
Rest of Europe	-0.06	-1816	0.09	2794
NMS	-0.32	-3943	-0.44	-5116
EU15	-0.16	-25 541	-0.30	-47 063
World	-0.08	-45 205	-0.08	-45 205

.. between -0.005 and 0.005.

*Source:* Simulation results.