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Policy Coherence for Development: Issues in Agriculture:
An Overview Paper

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Policy Coherence for Development: Issues in Agriculture: An Overview Paper

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POLICY COHERENCE FOR DEVELOPMENT: ISSUES IN AGRICULTURE: AN OVERVIEW PAPER

1. Introduction

1.1 Agriculture and development goals

1. The international community committed itself to a series of specific development objectives (the Millennium Development Goals) at the UN Millennium Summit in 2000. At the International Conference on Financing for Development in Monterrey, Mexico, in March 2002, it dedicated itself to achieving these goals on the basis of a new global partnership. Developing countries committed to good governance and sound policies, while developed countries acknowledged that they must provide additional aid and ensure that their various policies work together to support development objectives in a mutually reinforcing way. Against this background, the OECD Ministerial Council in 2002 called on the OECD “to enhance the understanding of the development dimensions of member country policies and their impacts on developing countries. Analysis should consider trade-offs and potential synergies across such areas as trade, investment, agriculture, health, education, the environment and development co-operation, to encourage greater policy coherence in support of the internationally agreed development goals” (OECD, 2003a).

2. The first Millennium Development Goal – to eradicate extreme poverty and hunger – has two specific targets. It calls for reducing the proportion of people living on less than USD 1 a day to half the 1990 level by 2015. It also calls for halving the proportion of people who suffer from hunger between 1990 and 2015. Agriculture-based development strategies will play a key role in helping developing countries, and particularly the least developed countries, to achieve these targets. There is substantial cross-country evidence that agricultural growth is important in reducing poverty, for three reasons (Wiggins, 2003).

3. First, there is the *direct* impact of agricultural growth on farm incomes, which account for a large share of all incomes in poor economies. Second, there are numerous *rural economy* linkages. Agricultural growth spreads its benefits widely. Growth in the incomes of farmers and farm labourers creates increased demand for basic non-farm products and services in rural areas. These are often provided locally, usually with labour-intensive methods, and so have great potential to create employment and alleviate poverty. Third, there will be positive impacts at the *national level* if rapid agricultural growth leads to reduced prices for food and raw materials and thus raises the real incomes of the urban poor. Agricultural growth may also generate savings that lead to greater farm and non-farm investment as well as generating the foreign exchange necessary to pay for increased imports.

4. Three quarters of the world’s poor live in rural areas. In the LDCs, 82% of rural households can be defined as poor. Although urbanisation is reducing the relative importance of the rural poor, their share in the global number of poor will not fall below 50% until 2035 (World Bank, 2003). Throughout the developing world, agriculture accounts for around 9% of GDP and more than half of total employment. But its relative importance is far greater in those countries where hunger is most widespread. In countries where more than 34% of the population are undernourished, agriculture represents 30% of GDP, and nearly 70% of the people rely on agriculture for their livelihoods (FAO, 2003a). Agricultural and rural development thus has a key role in helping to lift the poor out of poverty and to contribute to the eradication of hunger.

5. However, FAO's latest estimates of the number of undernourished people show that progress in reducing hunger has slowed to a crawl. In most regions the number of undernourished people is actually growing. Worldwide, FAO estimates that 840 million people were undernourished in 1998-2000, of which 799 million were in the developing world. This latter figure represents a decrease of just 20 million since 1990-92, the benchmark period used at the World Food Summit. This average annual decrease of 2.5 million persons lifted out of hunger is well below what is needed to meet the MDG target of halving the proportion of undernourished people by 2015. The underlying picture may be even bleaker than these figures suggest, as the marginal improvement is the result of rapid progress in a few large countries (China, Vietnam, Thailand, Nigeria, Ghana and Peru). Leaving these countries aside, the number of undernourished people in the rest of the developing world has increased by over 80 million since the World Food Summit benchmark period (FAO, 2003a).

6. Furthermore, agricultural performance in developing countries has been weak and there is evidence that growth rates have been slowing over time. The overall agricultural trade surplus of developing countries has virtually disappeared and the outlook to 2030 suggests that they will, as a group, become net importers of agricultural commodities, and especially of temperate-zone commodities. The least developed countries (LDCs), also as a group, became net importers of agricultural products as early as the mid-1980s. Their agricultural trade deficit has been widening rapidly and could quadruple by 2030 (FAO, 2003b). Some of this reflects the operation of global comparative advantage as land-scarce but labour-surplus economies concentrate on producing and exporting manufactured goods in return for agricultural imports. But some of it is the consequence of poorly-designed policy interventions, both in developing and developed countries. Too often developing countries effectively taxed their agricultural sectors in the past, although this bias against agriculture in development strategies is gradually being overcome. The other major factor is the way agricultural policy in the developed countries has worked against the growth of agricultural exports from the developing world and introduced unfair competition in their domestic markets.

7. The purpose of this paper is to discuss the extent to which agricultural and agricultural trade policies in OECD countries are coherent with, and supportive of, the achievement of the Millennium Development Goals, and particularly the elimination of extreme poverty and hunger. As is appropriate for an overview paper, it takes a broad-brush approach to identifying the issues to be explored in evaluating the extent of policy coherence. The bulk of the paper examines policy coherence across OECD policy instruments, including domestic agricultural support, related trade policy measures, non-tariff measures and development assistance. But attention is also paid to policy coherence between OECD countries in the coordination of development assistance and to policy coherence between agricultural and trade policies within developing countries.

1.2 Policy coherence and agriculture – a framework

8. Policy coherence has been defined elsewhere by OECD as the systematic promotion of mutually reinforcing policy actions across government departments and agencies creating synergies towards achieving the agreed objectives (OECD, 2003a). Policy coherence for development (PCD) implies that OECD countries, in pursuing domestic objectives, should, at a minimum, avoid negative spillovers which would adversely affect the development prospects of poor countries and, more positively, should seek to exploit the potential for positive spillovers in the way they pursue these domestic objectives.

9. This paper is concerned with the range of policy interventions which affect agricultural development in developing countries. To structure the discussion, Table 1 sets out a typology of policy interventions. This typology identifies five policy areas, distinguished by policy actor (OECD or developing country) and policy domain. Four of the policy areas concern OECD policy domains, while the

fifth concerns policies pursued by developing countries. Each policy domain targets a different objective or set of policy objectives.

10. In evaluating PCD issues under each of these headings, the criterion adopted is the impact on agricultural development, poverty alleviation and food security. For space reasons, this means that a number of other dimensions of development, such as sustainability or gender, are not explicitly considered. This provides an important yardstick for assessing the impact of policies. For example, the use of export subsidies can be criticised for giving exporters in one country an unfair advantage over exporters from another country, and putting pressure on the treasuries of other exporting countries to provide similar aids to their exporters. For that reason, WTO trade rules forbid the use of export subsidies outside of agriculture and discipline their use in agricultural trade. However, from the policy coherence perspective, it is not the fairness or otherwise of a policy, nor its adverse effects on other actors in general, which is the issue but rather its impact on development and, specifically, the living standards of the poor.

Table 1. Policy coherence between agriculture and development policies – a framework

Policy actor	Policy domain	Examples of policy instruments affecting agricultural development in developing countries
OECD	Domestic agricultural policy	Market price support, domestic subsidies, export subsidies, income support, risk management measures, adjustment assistance
OECD	Domestic non-agricultural policies	Measures addressing food safety, food quality, environmental protection and conservation, intellectual property protection
OECD	Agricultural trade policy	Regional trade agreements, trade preferences, tariff escalation, attitudes to developing country demands in international trade negotiations, international commodity agreements
OECD	Development co-operation policy	Development aid to the agricultural sector, food aid, trade capacity-building, trade compensation measures
Developing country	Developing country policies concerning trade and agriculture	Agricultural trade policies, institutional reform, exchange rate policies, investment and infrastructure policies

11. Domestic agricultural policy objectives in OECD countries are often divided into two categories: those concerned with equity or distributional issues, and those designed to correct market failures (OECD, 2003b). The former category relates chiefly to the incomes of farm households, though it may also address other social objectives such as the protection of family farming, the maintenance of a dispersed rural population or support for the cultural heritage of farming areas. Social and income objectives in the agricultural sector in OECD countries have been addressed largely through market price support and, to a lesser extent, income transfers. Market price support policies require that the domestic market be insulated from the world market. For example, a country which seeks to maintain a domestic market price above the world market price will find it necessary to impose a trade barrier, as otherwise cheaper imports would undermine the domestic policy. Thus both trade and domestic policies designed to support agricultural output and incomes in OECD countries are considered together under this heading.

12. Market failures occur where there are externalities or public goods and the market alone does not bring about the socially desired level of agricultural production or food consumption. Examples include where the market level of agricultural output does not provide the desired level of food security, or the desired level or type of landscape amenities or biodiversity. In the typology in Table 1, these examples of

market failure are treated as domestic non-agricultural objectives as their relationship to agriculture is indirect. Their primary objective is nature conservation or aesthetic benefits, although they may be pursued through agricultural policies because of the belief that they are joint outputs with agricultural production. More broadly, OECD countries pursue a range of policies with non-agricultural objectives, such as consumer protection, environmental protection and intellectual property protection, which have the potential to influence agricultural output and trade and where coherence with support for agricultural development in low-income countries may be an issue.

13. Agricultural trade policy is the third policy domain where PCD issues arise. As noted already, agricultural trade policy in support of domestic agricultural policy objectives is discussed under that heading. However, agricultural trade policy may also be used in pursuit of regional integration objectives, as a development instrument through the award of trade preferences and to protect the domestic food processing sector through tariff escalation. The stance which countries take in international trade negotiations on agricultural trade issues of relevance to developing countries is another PCD issue under this heading, as is the attitude to the problems in international commodity markets and the difficulties these cause for commodity-dependent developing countries. This is the 'foreign policy' aspect of agricultural trade policy, as distinct from its use as an adjunct to domestic agricultural policy which is placed in the first domain.

14. The fourth OECD policy domain discussed is development cooperation policy and the extent to which it encourages the agricultural sector of developing countries and its integration into global markets. PCD issues of relevance here include the magnitude of aid flows to promote agriculture in developing countries, aid coordination and the role of specific types of aid flows such as food aid and trade capacity-building. Also relevant under this heading are potential compensation measures to address problems of preference erosion arising from agricultural policy reform.

15. Finally, in considering policy coherence issues in agriculture, it is relevant to discuss coherence from the perspective of developing country policies. To what extent are developing countries pursuing policies and providing resources to promote agricultural development and to take advantage of the opportunities that will arise as OECD countries improve the developmental coherence of their own policies? The impact of structural adjustment programmes, institutional reforms and developing countries' own agricultural trade policies are relevant issues to consider in this context. This aspect of policy coherence is not considered further in this paper, but it remains a relevant issue in the overall debate.

2. Consequences of OECD domestic agricultural policies for development

16. Three major types of instruments are used to support agricultural incomes and promote domestic agricultural production in OECD countries. Administered support prices and trade protection ensure that domestic prices exceed international price prices resulting in a transfer from consumers to producers (market price support). Budgetary transfers to farmers, consisting both of direct production-related subsidies as well as more decoupled forms of income support, are a second form of support. The remainder is accounted for by general support not directly linked to production, for example, research, training, marketing support and infrastructure. In 1986-88, total transfers to OECD country agriculture amounted to USD 298 billion, representing 2.3% of GDP. In 2002, the corresponding figure was USD 318 billion, or 1.2% of GDP. Three quarters of these transfers are provided as support to farmers, accounting for one-third of their gross receipts, with general expenditures on items such as research, marketing and infrastructure accounting for the rest (OECD, 2003b).

17. There are significant differences in the levels of support, as measured by the Producer Support Estimate (PSE), across countries and commodities. The European Union, Japan and the United States together account for around four-fifths of all support, although as a percentage of gross farm receipts,

support is highest in Switzerland, Norway, Korea, Iceland and Japan in that order. Rice, sugar and milk are the most supported commodities, with transfers to producers exceeding 50% of gross receipts for these products. Although there has been some shift away from market price support and payments based on output or input use towards budgetary payments that are less linked to production, overall, output and input-related measures still account for three-quarters of all support (OECD, 2003b).

2.1 Impact of current and liberalised trade policies on aggregate economic development

18. Developing countries have a comparative advantage in producing many of the agricultural products that are protected in OECD countries. The greater production stimulated in developed countries by their domestic agricultural policies depresses world market prices, and liberalisation would reverse this effect. Agricultural production in developing countries would expand following OECD agricultural trade liberalisation, potentially yielding significant aggregate welfare gains. In moving beyond broad generalisations, empirical research provides insights into the consequences of further agricultural policy reform along three dimensions.

19. **The country dimension.** The impact of agricultural policy reform on individual developing countries will be far from uniform. It depends on each country's net trade position, its overall dependence on agricultural trade and whether it benefits from preferential agreements or not. Assuming that world market prices are depressed by the agricultural policies of developed countries, a basic insight is that, in aggregate terms, net exporters will benefit from liberalisation while net importers will lose. However, there are a number of qualifications to this presumption. Tyers and Anderson (1992), for example, showed that a net importing country may still gain from higher world market prices if there was a bias against agriculture in its domestic policies, such that it could be a net exporter if this bias was removed. Furthermore, regardless of the trade position of the individual country, producers will benefit and consumers will lose from an increase in world prices, provided this is reflected in corresponding changes in domestic market prices. Whether a country is better off as a result will depend on the relative weights it attaches to these changes in producer and consumer welfare.

20. **The policy dimension.** OECD countries use a variety of different instruments in the pursuit of domestic agricultural objectives. It is important to know which instruments have the most important impacts and how these instruments interact with each other. For example, the growing importance of direct payments means that they are becoming an increasing focus of international trade negotiations. But the trade effects are not easy to infer just from the volume of payments. They also depend on their eligibility conditions and the extent to which these payments are linked to the production decisions made by farmers (*i.e.* the extent to which they are coupled to production). Where payments are linked to production-limitation programmes, the trade effects of liberalisation (*i.e.* reducing or eliminating these payments) are hard to predict and can be the reverse of what is commonly expected. Another policy dimension aspect is which groups of countries are assumed to undertake policy reform. In particular, how do the impacts differ when developing countries also reduce barriers to agricultural trade as compared to scenarios in which only developed countries do so? A third important aspect of the policy dimension is whether agricultural trade liberalisation is undertaken alone or in conjunction with liberalisation of manufactures and/or services.¹ For example, if agricultural tariffs in developed countries are lowered, developing countries would be expected to reallocate resources into agricultural production to take advantage of the improved market access. However, if remaining manufacturing tariffs in developed countries (which hit particularly labour-intensive goods) were simultaneously reduced, developing countries might instead find it more advantageous to shift resources out of agricultural production.

1. This is a relevant scenario given that the Doha Development Round envisages the conclusion of the Round as a single undertaking.

21. **The commodity dimension.** The impact of agricultural trade liberalisation depends not only on which policy instruments are disciplined but also on which commodities are affected. The significant differences in the support provided to different commodities in OECD countries have already been noted. The market and net trade position of developing countries also vary across commodities. Commodities may be broadly classified into three groups: temperate zone commodities (wheat, coarse grains and livestock products) where the developed countries produce the bulk of world exportable surpluses; competing commodities produced in both North and South, even though they may originate in different primary products (sugar from beets or cane, oil from several oilcrops), and including fruits and vegetables, tobacco and cotton; and tropical commodities that are mainly produced in developing countries but primarily consumed in developed countries. Policy incoherence issues are most salient with respect to the second group of competing commodities, though they are also relevant for the first and third groups.

22. Evaluating the impact of OECD support to agriculture on the development prospects and poverty alleviation efforts of developing countries requires empirical research based on both large-scale economic models (to determine the world market impacts) and micro-level household studies (to trace through the impact on incomes and expenditures of households in poverty and suffering from hunger). Given the existence of agricultural support and protection on a large scale for many decades, only models can help to predict what might be the effects on production, trade, incomes and prices in a world where this support is reduced or removed. Global trade models, however, often appear to give contradictory and inconsistent results. Models differ in their structure, specification and parameter values, in the policy scenarios they examine, as well as in the data base they employ. Before reviewing what lessons we can learn from empirical studies, some of key assumptions and problems that must be addressed in empirical research should be highlighted.

23. Models used to assess the impact of agricultural trade liberalisation can be either partial or general in nature (Van Tongeren *et al.*, 2001; Brooks, 2003). Partial equilibrium (PE) models focus on the behaviour of agricultural commodity markets, usually modelled as a set of supply and demand relationships. The model is generally solved for a single world price for each commodity that clears global supply and demand. By focusing solely on agricultural markets, PE models can embody a great deal of disaggregated information on the commodity markets under investigation and can embody a detailed representation of policies. Applied general equilibrium (AGE) models, by contrast, are more extensive in that they take account of inter-sectoral interactions. All economic sectors are included, and in a global model, all countries as well. The advantage of this approach is that important feedback effects between the agricultural and non-agricultural sectors, and between different regions and countries, are taken into account (an important consideration in developing countries where agriculture plays such a large economic role, and when agricultural trade reform takes place on a multilateral basis and in a multi-sectoral context) while the modelling approach also takes full account of resource and trade balance constraints. The cost of this more complete coverage is the much more exhaustive data sets required, with the consequence that there is typically a greater level of aggregation both to keep the modelling task manageable and to focus on the effects that general equilibrium models are best placed to illuminate.

24. Most global AGE models make use of a global database put together by the Global Trade Analysis Project based at Purdue University which provides a high degree of both sectoral and country disaggregation.² Although promised in its next release (Version 6.0), this database has had a poor representation of tariff preferences and thus tends to over-estimate the benefits to developing countries of OECD country liberalisation. The database (appropriately) represents applied tariffs rather than bound tariffs. While this may not matter greatly in studies which assume complete liberalisation, it can be important in trying to implement tariff-cutting formulae such as those being proposed in the Doha Round negotiations. These formulae apply to bound tariffs, and their real impact on applied tariffs will depend on

2. For more information, see the GTAP website www.gtap.org.

the divergence between bound and applied rates. Other important assumptions which influence the empirical results include the way in which the supply restrictions which often accompany price support or direct payments support policies are modelled, the ease of price transmission between world and domestic markets, the parameter values used which are usually assumed rather than estimated, the market structures assumed and whether dynamic linkages (such as between trade and productivity growth) are taken into account. The closure assumptions in AGE models are also important. Assuming that labour and capital are mobile between the agricultural and non-agricultural sectors of economies increases the supply response of countries with a comparative advantage in agricultural production and dampens any rise in world prices arising from the removal of protection. Use of non-standard closures (such as assuming a pool of surplus labour in the economy rather than that it is operating at full employment) can yield much larger welfare effects compared to those arising from the traditional route of increased allocative efficiency. In a similar vein, most AGE models assume that land supplies are fixed, although in some countries there is still the potential to bring more land into production if agricultural profitability rises. These caveats mean that model simulation results should be interpreted in the context of the specific behavioural and market assumptions and data set used.

25. Simulation results are usually presented in comparative static terms, that is, they compare the outcome of agricultural policy reform with a baseline situation which would exist in the absence of policy reform. They also assume that the market equilibrium without government intervention in which production and trade flows are determined by comparative advantage is the appropriate benchmark from which to measure the extent of policy distortions. These assumptions are not value-free and may be contested by civil society groups. For example, some NGOs have criticised the EU move to lower domestic support prices in its most recent agricultural policy reform on the grounds that it will make EU exports of processed foods (specifically, dairy products) more competitive on world markets. The implicit assumption here is that a desirable reform is one which lowers EU output and exports below the levels produced in the base period, rather than one which removes the incentive to over-produce compared to world market prices.

2.2 *Empirical estimates of policy incoherence*

26. **Overview of results.** Several empirical studies of the costs of agricultural protectionism in OECD countries for developing countries (or, alternatively, the gains from agricultural trade liberalisation) are now available using both partial and AGE models. These studies provide a range of estimates and are not directly comparable. Results differ across studies due to differences in the baseline assumed and in the reporting period. More recent studies or studies which factor in the outcome of the Uruguay Round and China/Chinese Taipei accession to the WTO produce lower outcomes than earlier studies, while studies which report the projected impacts for some year in the future tend to produce larger outcomes simply because the world economy grows over time. Results also differ because of differences in the extent of liberalisation which is assumed, with some studies investigating the impact of full liberalisation of agricultural trade in both developed and developing countries, while others model scenarios intended to simulate likely outcomes of the Doha Round. Results are also sensitive to the model specification. Partial equilibrium studies tend to show lower gains from liberalisation as compared to AGE studies. Within the family of AGE studies, liberalisation gains are higher in models which assume increasing returns to scale and monopolistic competition in the manufacturing sector (although these differences are more important in scenarios which liberalise trade in manufactures or services, as there is general agreement that agriculture should be modelled as a constant returns to scale industry). Another reason for different results is that some models allow for dynamic effects of trade liberalisation, whether through trade-related changes in savings and investment or through incorporating trade-productivity linkages. Rather than attempt to systematically compare the results from individual studies, some broad generalisations are highlighted here (for a comparative review of recent studies on which some of these generalisations are based, see UNCTAD, 2003a, Chapter V and Anderson, 2004).

27. In the context of static, constant returns to scale AGE models, the global gains from (full) agricultural trade liberalisation are at least as great as those achievable from trade liberalisation in manufactures, with a number of studies suggesting that agriculture contributes two-thirds of the global gains from liberalising all merchandise trade. Given that agriculture accounts for less than 10% of global production and trade, these figures testify to the relatively much higher trade barriers and domestic subsidies prevalent in this sector.

28. The studies generally suggest that the distribution of the global gains are shared relatively equally between developed and developing countries, in the range of 40-65%. An important point is that the major source of the gains accruing to each group arises from its own liberalisation, rather than that of partner countries. Put another way, the studies suggest that the costs of OECD agricultural protectionism for developing countries may be less than the costs developing countries impose on themselves through their own trade-distorting policies.

29. Not all studies report the impact specifically of OECD country agricultural trade liberalisation on developing countries. The conclusions of some of those that do are shown in Table 2. Anderson *et al.* (2002) report gains of USD 12 billion in 2005 to developing countries from full OECD liberalisation of agricultural and food trade. This is 4.6% of the total global gain from full liberalisation of merchandise trade by both developed and developing countries. Tokarick (2003) in an IMF study calculates gains of USD 8.0 billion from developed country liberalisation for developing countries. A USDA study by Diao *et al.* (2001) estimates that the global elimination of agricultural import barriers would confer benefits of USD 5.6 billion on developing countries. However, if domestic and export subsidies were also removed, the net gain would fall to USD 2.6 billion.³ Francois *et al.* (2003), using a static, constant returns to scale model, suggest that a 50% cut in OECD agricultural tariffs would benefit developing countries by around USD 4.7 billion. UNCTAD (2003a) reports a gain of USD 2.6 billion to developing countries from a non-reciprocal cut of 50% in developed country agricultural tariffs. This study was the first to modify the GTAP database to take account of preferential tariffs and thus its estimate of the gains to developing countries is at the lower end of the scale.

Table 2. The impact of OECD country agricultural protection on developing countries, selected AGE studies

Study	Type of model	Valuation date	Value of gains
Anderson <i>et al.</i> 2002	AGE GTAP 4	2005	USD 12 billion
Tokarick 2003	AGE GTAP 5	1997	USD 8 billion
Diao <i>et al.</i> 2001	AGE GTAP 5 with modified protection data	1997	USD 2.6 billion*(USD 5.6 billion)*
UNCTAD 2003	AGE GTAP 5 with modified protection data	1997	USD 5.2 billion**
Francois <i>et al.</i> 2003	AGE GTAP 5	2013	USD 9.4 billion (CRS)** Negative (IRS)
Beghin <i>et al.</i> 2003	Dynamic AGE	2015	USD 26 billion

* Includes liberalisation by developing countries themselves. See text for explanation of figures.

** Result of 50% liberalisation has been doubled.

3. Because these gains incorporate the impact of liberalisation by developing countries themselves which is usually seen as increasing welfare, it is tempting to conclude that the contribution of OECD liberalisation alone would be smaller than the USD 2.6 billion figure. This is not necessarily the case. Many developing countries continue to protect their manufacturing sectors. Liberalising agricultural trade while maintaining manufacturing protection could increase discrimination against agricultural growth and the level of distortions in these economies.

30. The aggregate gains to developing countries estimated from partial equilibrium studies are lower. Vanzetti and Peters (2003) and Poonyth and Sharma (2004), using versions of the ATPSM model, conclude that developing countries would lose if WTO Members implemented either the initial EU or Harbinson negotiating proposals, while the gains under the US proposal are estimated at USD 6.5 billion and USD 2.5 billion respectively. As these negotiating proposals assume that developing countries (except for the least developed countries) would also undertake some liberalisation, even if on a lesser scale than OECD countries, these figures are only indicative of the impact of OECD country liberalisation alone. Partial equilibrium models are likely to show more negative results for developing countries than AGE models as they fail to take account of some of the transmission mechanisms at work. For example, AGE models take into account the income effects ignored in partial equilibrium models where the higher income of OECD countries following reform translates into increased demand for developing country exports. Also, as resources in OECD countries move out of agriculture and into manufacturing and services, the increased supply of these products lowers world market prices and benefits those developing countries which import them.

31. These AGE results are all produced using static, constant returns to scale models although the base year for the experiments may differ. The results are sensitive to different model specifications. Dynamic models tend to produce higher estimates of the gains than static ones. Beghin *et al.* (2003) using the GTAP database and a dynamic CGE model find that developing countries would gain USD 26 billion per annum by the removal of both trade and domestic support distortions in OECD countries in 2015 (at 1997 prices) compared to their baseline. Diao *et al.* (2001) also run a dynamic version of their model. They incorporate the effect of reform on savings, investment and the growth of capital stock, as well as the technological-growth spillover effects of liberalisation. Again, their results are for global liberalisation and do not distinguish the impact of OECD liberalisation alone. Including these dynamic effects would boost the welfare gains to developing countries of global liberalisation from USD 2.6 billion to USD 21.3 billion after a period of 15 years.

32. Francois *et al.* (2003) explore the impact of an alternative model specification incorporating increasing returns to scale in the manufacturing sector (which they believe to be the more relevant case). This turns the effects of OECD agricultural trade liberalisation on developing countries negative. They find that non-OECD countries like India, China, South Africa, Sub-Saharan Africa and the Mediterranean countries all lose when their access to OECD markets is improved and they do not liberalise themselves, while gains for South America are very limited.⁴ It is clear that the estimates of the costs to developing countries as a group of current OECD agricultural policies depend on the model specification and the database used. More work to achieve a greater consensus on the important features to be included in empirical models would be desirable.

33. Of relevance to the policy coherence debate is that the estimated size of the transfer effects between producers and taxpayers/consumers is much larger than the aggregate welfare gains to a country from liberalisation. For example, in Japan following full trade liberalisation, the income of dairy farmers would decrease by 60% (or EUR 3.1 billion), consumers' welfare would increase by 18%

4. They explain these negative welfare results under imperfect competition as follows. Due to agricultural trade liberalisation by OECD countries the agricultural sectors of these countries expand, drawing resources away from their manufacturing sectors. Their industrial sectors contract, which has negative implications for welfare because they cannot achieve cost effective scales of production. These authors conclude: "CAIRNS group countries should perhaps be cautious about expecting long-term economy-wide gains if, as a result of liberalisation, the agricultural sector draws more resources away from other productive uses. Developing countries also need to think carefully about the risks of reinforcing an emphasis on primary exports" (Francois *et al.*, 2003, p. 39).

(EUR 3.7 billion), and net welfare would increase by roughly 2% (USD 0.5 billion) (Beghin and Aksoy, 2003). In the Beghin *et al.* (2003) study, which finds that developing countries would benefit in aggregate from OECD liberalisation by USD 26 billion, the increase in rural value added in these countries would exceed USD 60 billion, while farmers in high-income countries would be worse off by up to USD 48 billion. These examples highlight the importance of going beyond the net effects at country level which are often highlighted in presentations of empirical results. Two conclusions follow from this. Given that poverty in developing countries is concentrated in rural areas, OECD agricultural trade liberalisation is likely to be pro-poor on average. Second, adjustment assistance measures for groups adversely affected by liberalisation is likely to be a necessary part of any reform package. We return to both of these points later in this section.

34. **Country dimension.** Studies suggest that the main gainers in absolute terms from agricultural trade liberalisation among developing countries will be the Latin American exporters and some of the Asian countries. China appears as a winner in some studies but loses in others. A number of studies show that agricultural trade liberalisation by developed countries could lead to possible losses for sub-Saharan African and the least developed countries, markedly so in policy scenarios where export subsidies are eliminated (UNCTAD, 2003a). Other recent studies (*e.g.* FAO 2003b) also suggest that the group of least developed countries would in general be worse off as a result of OECD agricultural policy reform. Very few of them are net exporters of temperate zone or competing products, and higher world prices for their imports implies a terms of trade loss. The agricultural exports of these countries are often supported by preferential market access arrangements, and liberalisation reduces the value of these preferences (this phenomenon of preference erosion is discussed further in Section 4.2 of the paper). Studies which include more broadly-based liberalisation or which take account of dynamic effects are more likely to show positive gains for developing countries including the least developed countries. Where the possible losers from trade reform are among the poorest countries, measures to safeguard their interests in the reform process are very desirable.

35. **Policy effects.** Which are the most damaging forms of OECD agricultural support to developing countries? Popular discussion tends to judge this issue on the legitimacy of the support measures in question. Thus export subsidies, which are seen as a morally indefensible ‘dumping on the poor’, often attract the most criticism. OECE tariff barriers, on the other hand, attract less opprobrium from NGO groups because they are seen as helping to bring about a greater degree of domestic food self-sufficiency or helping the smaller farmers to survive. From a development coherence perspective, however, the key question is the impact of either policy on the development opportunities of poor countries. It is also relevant that there may be alternative policies available to achieve these desired domestic policy objectives which are less damaging to poor countries. Understanding the relative impacts and importance of the different policy instruments in use in OECD countries is key to knowing how best to direct negotiating efforts in the context of the Doha Round. This is particularly the case where partial liberalisation is being considered, and where there are trade-offs between cuts in tariffs, domestic supports and export subsidies and increases in tariff rate quotas.

36. Many of the empirical studies include removal of both trade distortions and domestic subsidies and their relative importance can be evaluated. There is strong evidence that priority should be given to removing trade barriers (Beghin and Aksoy, 2003; Hoekman *et al.*, 2002). This is because trade barriers are much more widespread than domestic subsidies, particularly in developing countries. Trade barriers are also important in that they underpin domestic market support policies and artificially high guaranteed prices to producers, so the reduction of import tariffs or export subsidies can be a way of putting pressure on market price support policies. Indeed, there is some evidence that the removal of OECD domestic

support alone would have generally negative effects on developing countries (Francois *et al.*, 2003).⁵ For particular commodities, for example cotton, however, the relative importance of domestic subsidies and tariffs may be reversed.

37. Export subsidies are now relatively small in absolute terms and represent only 8-10% of domestic support. Approximately 90% of export subsidies as defined in Article 9 of the URAA are used by the European Union. Many countries have already reduced export subsidies well below the limits allowed under the URAA and, in the context of projected increases in world prices, future use of export subsidies is likely to decrease further (OECD, 2002a). Against this background, the impact of export subsidy elimination on world markets is fairly modest. There would be small changes to world crop and meat markets and more significant increases in world dairy product prices (OECD, 2002a).⁶ If world prices weakened or the exchange rate of those countries using export subsidies proved stronger, then the impacts of eliminating export subsidies would be correspondingly higher. Diao *et al.* (2001) calculate that removing all agricultural protection and support in developed countries would raise world prices by 9.11%; the corresponding figures for the removal of tariffs alone are 3.77%, removing domestic subsidies 3.55% and removing export subsidies 1.47%. Nonetheless, for particular products (sugar, livestock and dairy products) export subsidies do play a greater role, and their targeted nature also means that they have the potential to cause major disruption to countries with small domestic markets. The results are also sensitive to the assumptions made about world market price trends and exchange rate movements. The welfare effects of a removal of export subsidies alone have been explored in UNCTAD (2003a). They find this policy change would lead a welfare loss at world level and for developing countries, associated with a worsened allocation of resources within countries. This arises because the elimination of export subsidies on their own would not necessarily improve the allocation of resources while other major distortions remain in place.

38. Finally, OECD (2002a) explores the implications of altering tariff rate quotas (TRQs). The analysis is complicated because a TRQ is characterised by three instruments: the quota ceiling, the in-quota tariff, and the out-of-quota or non-quota tariff, and only one of these instruments is binding at any one time. Given that many TRQs are under-filled, their analysis shows that expanding quotas does not materially alter market access. This conclusion is accompanied by the caveat that the analysis cannot take into account the complicated nature of TRQ administration and allocation mechanisms, and this could lead to an under-estimation of the effects of TRQ expansion. Perhaps more surprisingly, the analysis finds that the effects of expanding quotas while also reducing in-quota tariffs are not greatly different. Reducing in-quota tariffs appears to have a greater role in allocating quota rents between the government and private traders. If these rents accrue to the exporting countries, then reducing out-of-quota tariffs has an effect analogous to preference erosion. Laroche Dupraz and Matthews (2004) estimate the size of these rents accruing to developing country exporters in the EU market alone at around EUR 1 billion, which is not an insignificant figure compared to some of the estimates of the gains to developing countries from full agricultural liberalisation. Nonetheless, using TRQs as a development instrument is not advised. The fact that TRQ preferences by definition will be temporary as their value will be eroded by successive rounds of MFN tariff reductions argues against spending limited negotiating capacity in that direction.

39. **Commodity dimension.** In which commodity markets is policy incoherence most evident? In part, this is a function of the level of support and protection. As noted earlier, OECD PSE data show that, for high-income countries on average, the greatest support is provided to rice, sugar and milk, followed by

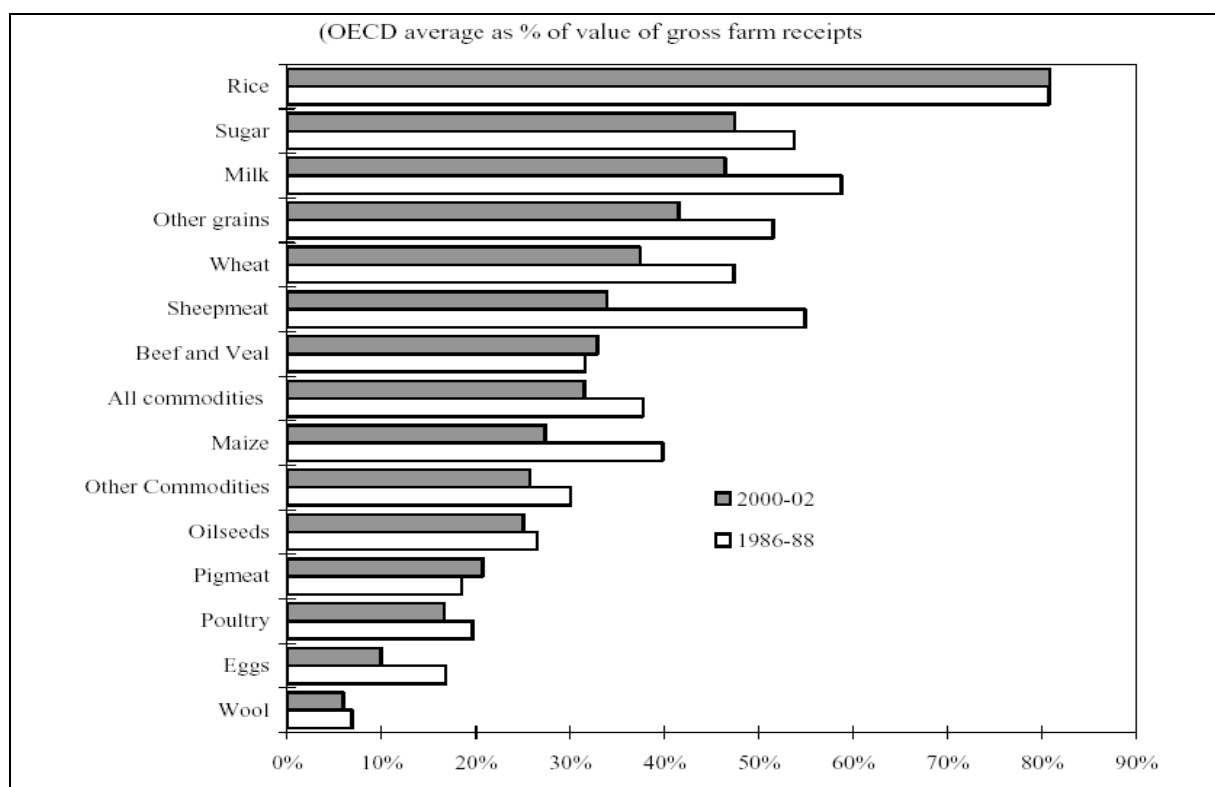
5. This result is driven by the increasing returns to scale assumption in manufacturing which was discussed earlier.

6. As export subsidies are eliminated, pressure is applied on domestic price support programmes. The OECD simulation assumes that internal policies are adjusted to allow domestic prices to fall as export subsidies are eliminated.

coarse grains and wheat (Figure 1). The impact on world market prices is also a function of the importance of OECD production in the global total. The results from a selection of recent studies are shown in Table 3. These studies differ in their model specification (partial versus general equilibrium) and in their liberalisation scenarios. The two general equilibrium studies model full liberalisation by all countries, whereas the partial equilibrium studies model partial liberalisation according to specific negotiating proposals put forward during the Doha Round. The price changes arising from full liberalisation are generally higher than for partial liberalisation. However, what is of interest is the relativities across commodities within each simulation.

40. Within the crops sector, wheat prices are generally expected to be affected more than rice or sugar, while livestock (particularly beef and dairy product) prices are generally expected to be affected more than crop prices. These differential world market price impacts, in turn, drive many of the results of liberalisation for individual developing countries, depending on their net trade position in these commodities, their access to preferential arrangements, etc. These country-specific impacts can be easily explored in single-commodity partial equilibrium models, such as those for cotton, dairy, groundnuts, rice and sugar reported in Beghin and Askoy (2003). These partial models predict much larger price effects from liberalisation: 10 to 20 percent for cotton, 15 to 20 percent in groundnut markets, 20 to 40 percent in sugar and dairy, and up to 90 percent in the medium/short-grain rice market.

Figure 1. Producer support estimate by commodity



Source: OECD (2003b).

Table 3. Effect of different policy scenarios on world prices

Commodity Simulation →	Vanzetti and Peters ^a			Poonyth and Sharma ^a			Beghin <i>et al.</i> ^b		Diao <i>et al.</i> ^b
	US	EU	Harbin- son	US	EU	Harbin- son	Removal of all protection	Removal of border protection	Removal of all protection
Wheat	14	5	11	12	5	9	12	2	18
Rice	3	1	2	3	1	2	6	4	10
Sugar	10	3	5	9	3	5	9 ¹	8 ¹	16
Oilseeds	2	1	1	1	1	1	8	1	11
Dairy products	Na	Na	Na	20 ²	9	12	8	6	22 ³
Bovine meat	8	3	6	8	3	5	10	2	
Sheep meat	11	4	6.	10	4	6	2 ⁴	-1 ⁴	
Pig meat	5	2	3	3	2	3			

Notes: ^a Partial equilibrium study. ^b General equilibrium study. ¹ Price changes for refined sugar. ² Average of butter and cheese. ³ Aggregate for all livestock products. ⁴ Other meat products. Results have been rounded to integer values.
Sources: Vanzetti and Peters (2003); Poonyth and Sharma (2004); Beghin *et al.* (2003); Diao *et al.* (2001).

2.3 Impact of OECD agricultural trade liberalisation on the poor

41. The broad presumption in advocacy of OECD agricultural policy reform is that it would help to reduce rural poverty in developing countries. The reasons for this belief are that the South in aggregate has a strong comparative advantage in agriculture, because the agricultural sector is important for income generation, and because poverty is disproportionately concentrated in rural and agricultural households in these countries. Further, the liberalisation of value added activities is important in terms of expanding employment and income opportunities beyond the farmgate. On the other hand, producer households in exporting countries which suffer preference erosion and consumers facing the consequences of higher world market prices might be expected to experience increases in poverty as a result of these changes. Whether increased poverty materialises or not will be mediated by the importance of changes in developing countries' own trade policies. For example, North African and Middle Eastern countries are large importers of dairy products and will be adversely affected by world market price increases for these products. But they also have high import tariffs which prevent consumers from taking advantage of current depressed world prices. With trade liberalisation, world prices would rise but if import tariffs were removed, the net impact on dairy consumer prices would be negligible. On the other hand, for rice imports into the same region, consumer prices would rise because rice tariffs currently are low and their removal would not offset the increase in the border price (Beghin and Aksoy, 2003).

42. Furthermore, the relationship between outward-looking agricultural growth strategies and poverty and food security is a contested one in the development literature (for a review, see FAO 2003c). Critics argue that such strategies are more likely to benefit larger, commercial producers, often with multinational ownership, and to marginalise smaller food producers. They point to the danger that countries following a comparative advantage development path may get locked into production activities with diminishing returns, limited scope for technological spillovers and with poor long-term market prospects. Hence the importance of analytical work which attempts to measure directly the impact of OECD agricultural trade liberalisation on poverty rates in developing countries.

43. It is only recently that such work has begun to appear.⁷ It makes use of national household surveys in order to encompass both the spending and earning effects of trade liberalisation. Two

7. An early example of an attempt to project the distributional effects of agricultural trade liberalisation mapped changes in the functional distribution of income reported from an AGE model on to the effects on agricultural and non-agricultural labour incomes. The experiment run was agricultural trade liberalisation

approaches can be used. One is to investigate the impact or incidence effects based on the existing structure of consumption and factor incomes. The other, more ambitious, approach is to assess the distributional effects of reform across households once household and market level adjustments are factored in. OECD is currently coordinating a study aimed at quantifying the distributional effects of agriculture and trade policy based on five country case studies (OECD, 2004a). Hertel *et al.* (2003b) examine the short-run impact of the simultaneous removal of import barriers (and export subsidies in the case of agriculture, but not domestic subsidies) in both agriculture and manufacturing on poverty rates in 14 developing countries (building on an earlier study which covered seven developing countries, Hertel *et al.*, 2003a). The modelling approach adopted by Hertel *et al.* involves mapping the results of GTAP simulations onto household models constructed around these datasets. Specifically, policy changes in the form of a removal of tariffs and quotas generate changes in national product and factor prices. Their results highlight the complexity of the impacts at household level. While trade liberalisation generally lowers poverty rates in developing countries, there are substantial variations in poverty changes by household type and policy change. For example, in Brazil, agricultural trade liberalisation at the global level would reduce substantially the overall poverty headcount in agriculture and in the country as a whole (whereas unilateral agricultural policy reform by Brazil alone would increase agricultural poverty even though it would also lower the national rate, see Hertel *et al.*, 2003a). This would appear to counter some of the concerns that the welfare benefits from reform are limited to non-poor households earning profits or wage income from the commercial farm sector (Brooks and Melyukhina, 2003). An important area for further work in this tradition would be to explore the implicit assumptions being made about the pass-through of changes in import prices into domestic and particularly rural markets. If some domestic markets are more fragmented than others resulting in different degrees of price transmission, then even the incidence effects of policy changes could be very different to those assumed.⁸

44. The analysis by Hertel *et al.* of the structure of poverty in each of these countries shows that the poor tend to be more specialised in their earnings sources than the non-poor, thus leaving them more vulnerable to trade policy changes which favour one sector at the expense of another. For the lowest income countries in their sample, households specialised in agriculture make up a large proportion of the population, and an even larger proportion of the poor. Because trade liberalisation tends to raise the profitability of agricultural production, poverty among these households generally falls, while rising among self-employed nonfarm households. Because agricultural households are over-represented among the poor in these countries, the national poverty rate tends to fall. Among middle-income developing countries, households entirely dependent on wage labour become more important and also make up a greater proportion of those below the poverty line. For these households, changes in the wage paid to unskilled labour are the key variable. In their simulations, they find that this wage falls, relative to average earnings, but rises relative to skilled wages. Therefore the impact on this group of households is mixed, and in some countries the national poverty rate increases as a result. In their sample of 14 countries, they find examples of countries where the poverty rate among agricultural households falls but the overall poverty rate rises (largely due to higher food prices), and conversely examples of countries where poverty rises among agricultural households even though the national poverty rate falls because relative farm earnings decline.

45. The specification used by Hertel *et al.* measures the incidence of reform rather than the medium to long term impact once behavioural responses are factored in. These second round effects may be important, and for these to be accommodated household responses need to be fully embedded within a

by the APEC economies. The study found that, for the majority of APEC countries in which agriculture is to some degree protected, trade liberalisation would have a negative effect on agricultural incomes (Scollay and Gilbert, 2001).

8. Wiggins notes: "It is possible for the rural poor to suffer simultaneously from product markets that function well and dysfunctional factor markets" (2003, p. 293).

general equilibrium model. This may be an important step in policy terms, because although the incidence of reform is important, it is also useful to be able to distinguish between those households which can adjust under the pressures of reform and those which cannot (or have greater difficulty) (Brooks and Melyukhina, 2003). Because policy reform inevitably leads to both winners and losers at the household level, policy coherence implies that attempts must be made to mitigate any potentially adverse impact on households living in (or potentially exposed to) absolute poverty. The lessons for policy coherence from this work should help to inform better policy design, for example, in terms of the phasing of reforms, and in the design of adjustment and compensation measures.

2.4 *Impact of OECD agricultural trade liberalisation on OECD producers*

46. Adjustment and compensation measures in OECD countries are also a relevant element of the policy coherence debate. This is partly for political economy reasons. Agricultural policy reform has proved so intractable partly because the immediate losers are concentrated among larger, well-resourced farms who have a strong incentive to lobby against change. Nonetheless, issues of equity, social cohesion and poverty alleviation also arise in OECD countries. It is also important that the benefits of a greater market orientation of OECD agricultural policy are reconciled with domestic policy objectives of food security, environmental protection and the viability of rural areas. These issues were addressed in the positive reform agenda proposed in OECD (2002b) for agricultural policies in OECD countries.

47. Farm incomes in OECD countries may be a good deal more robust to the removal of support than is often supposed. Much of the existing transfer to farmers is lost through distributive leakages, whereby some of the benefits of support accrue to groups other than the intended beneficiaries. These include input suppliers, landlords and consumers in third countries. OECD estimates that less than one-fourth of the value of market price support and deficiency payments, and less than one-fifth of the value of input subsidies is reflected in higher incomes of farm households (OECD, 2002b). Furthermore, the sources of farm household income are increasingly diversified. When a broad definition of farm households is adopted, farm income is not even the main source of income, while even farm households narrowly defined derive a significant share of income from off-farm sources (OECD, 2003c). Farmers also have a range of adjustment options open to them to mitigate the impact of lower farm prices, including searching for greater efficiency in on-farm production and the reallocation of resources off the farm.

48. Nonetheless, the shocks to income arising from agricultural policy reform may justify specific interventions to help farmers to adjust to the new policy environment. Key principles identified by the OECD for such interventions are that they should have clear objectives, they should be targeted, they should assist and not hinder the adjustment process, and they should be transitory. Relatively few components of current agricultural policies in industrial countries are orientated towards facilitating adjustment to changing economic circumstances. The primary emphasis is on providing a cushion of income support, the size of which is linked in some way to a change in commodity prices. In some countries, for example, the US, farmers are eligible for adjustment assistance in the form of financial, technical or tax assistance under trade policy programmes (Blandford and Hill, 2004). This is an area where further work to determine best practice in what works and how to implement such programmes would be valuable.

2.5 *Price variability and food security*

49. Agricultural support, as well as raising the level of domestic prices, often has the purpose of insulating domestic prices from fluctuations in world market prices. The EU's variable levy system of border protection was an example. Price stability has been an objective of OECD governments because price volatility can lead to resource misallocation and can lead to income instability and adverse welfare effects at farm level. Other government measures are specifically designed to assist farmers to manage risk,

either through the provision of specific instruments or through lowering the cost of existing tools. These measures are often criticised for their lack of cost effectiveness. High costs occur most often because the programme is used as a vehicle to support farmers' income as well as to stabilise it. As agricultural policy reform leads to reductions in the most distorting forms of support, there are concerns in some countries that these changes will lead to higher levels of risk for farmers.

50. The PCD challenge is to better define the role of public policy versus market-based mechanisms to deal with income risk in agriculture (OECD, 2000). Recent years have seen the development of market-based instruments, and some governments have been developing various insurance and safety net-type programmes. However, market-based approaches are often underutilised and poorly developed, in part due to the protected environment in which farmers operate, which limits their demand for other risk management tools. Also, governments have found it difficult to resist pressures for emergency or *ad hoc* measures which have transferred significant funds to farmers during periods of low market prices. Emergency packages clearly undermine existing risk management systems to the extent that they encourage farmers to look to government bail-outs in the case of a crisis rather than to develop long term risk management strategies.

51. Given that the inevitable fluctuations in world production and consumption must be reflected in offsetting changes in either demand or supply, the insulation of some markets means that the burden of adjustment is thrown onto those markets which remain open. Domestic price stability is purchased at the expense of international price instability. This is an important issue for developing countries because of the greater vulnerability of very poor farm households to market price fluctuations transmitted from world markets. Hence one expected benefit of agricultural policy reform should be greater stability of world market prices. To the extent that world market prices remain subject to volatility, however, a second PCD issue is to ensure there are mechanisms in place to help developing countries, and low-income farmers within these countries, to cope with this volatility.

52. Allowing world market prices to be transmitted more directly to OECD domestic markets helps to stabilise world prices because it raises the responsiveness of global supply and demand to unforeseen shocks. For example, the more widespread use of *ad valorem* rather than specific tariffs would improve price transmission although at the cost of increasing the variance of domestic prices.⁹ Disciplining or prohibiting the use of safeguard clauses would have the same effect. There are some potential countervailing factors arising from reform. For example, for cereals or other storable commodities, governments in a liberal market environment no longer have an incentive to hold large surplus stocks, which have often helped to stabilise world prices in the past. As against this, the private sector has an inducement to hold larger stocks if it knows that governments are no longer in the stock-holding business, and these privately-held stocks may be more responsive to world price fluctuations than government-owned stocks.¹⁰ Reform would also lead to a reallocation of agricultural production from high-protection to low-protection countries. If this meant a reallocation of production from low-risk to high-risk production areas of the world, it could exacerbate the problem of supply variability in the first place. Thus, reform may mitigate the problem of world price volatility but it will not remove it.

9. *Ad valorem* tariffs have a further advantage for developing countries because they bear less heavily on lower-quality, and therefore lower value, imports compared to specific tariffs, and typically more developing country exports fall into this category.

10. A further side-effect of government stock-holding is that it may encourage greater provision of food aid because the resource costs of this kind of tied aid are lowered. This effect is also smaller now than in the past, not only because government stocks are smaller but also because of efforts, by the EU and others, to delink food aid deliveries from production surpluses (see further discussion below).

53. The PCD perspective must be to ensure that the burdens of managing these risks are carried by those best able to bear them. For many developing countries, and particularly the least developed countries, putting in place appropriate farm-level risk management instruments, such as insurance schemes or futures markets, will not be feasible. The choice will lie between national measures such as storage policies, border policies or compensatory finance schemes. For example, where developing countries maintain applied tariff rates considerably below bound rates, this margin in the tariff could be used to protect domestic farmers against unforeseen periods of low world prices.¹¹ Alternatively, developing countries might be allowed easier access to a special safeguard mechanism in these circumstances (although the more countries which can use a safeguard mechanism in a period of low world prices, the more depressed these prices become). While such mechanisms may help protect developing countries against unforeseen low world prices, they are less effective in assisting them to cope with price spikes. The Marrakesh *Decision on Measures Concerning the Possible Negative Effects of the Reform Programme* recognised that countries which faced short-term difficulties as a result of the Uruguay Round in financing normal levels of commercial imports could draw on existing or new compensatory finance facilities operated by the IFIs. In practice, this measure has not been effective but it is under review in the Doha Round negotiations.

3. Consequences of domestic non-agricultural regulatory policies for agricultural trade and development

3.1 Regulatory barriers

54. Regulatory measures (non-tariff measures or NTMs) with the potential to restrict agricultural trade cover a wide range of measures. Some of these measures are explicitly trade-related, such as import prohibitions or quantitative restrictions. Others are introduced to meet domestic objectives but may nevertheless affect trade flows. Food safety, environmental protection, consumer protection, and the protection of intellectual property rights, the issues considered in this section, are all valid domestic policy objectives in their own right. However, the pursuit of these legitimate objectives may have trade effects – they may reduce export opportunities relative to what they otherwise would have been, or divert trade to those suppliers who have the fewest difficulties in meeting compliance requirements. Indeed, while policy reform has contributed to a gradual deregulation of the agricultural sector in some countries, the need to address growing consumer concerns about food safety, animal welfare, food quality and protection of the environment has led to increased regulatory barriers at the same time.

55. The sharp rise in the recorded use of NTMs since the conclusion of the Uruguay Round Agreement in 1994 has prompted concerns that tighter restrictions on the use of conventional trade instruments may be stimulating the use of NTMs (non-tariff measures) for purposes of agricultural trade protection (OECD, 2001a). This OECD study distinguishes between NTMs defined as any policy measures that have the effect of limiting trade, without implying any judgement about the legitimacy or otherwise of these measures (an economic definition), and non-tariff barriers (NTBs), defined as those NTMs which are in violation of WTO law (a legal definition). Political economy considerations suggest that we would expect that special interest groups would try to influence safety or environmental standards in their favour. WTO law sets out to distinguish between a country's use of NTMs in the pursuit of legitimate domestic objectives on the one hand, and the adoption of unwarranted trade protection on the other.

11. The tariff 'price band' system used by some Latin American countries fulfils this function. Although a WTO panel found against a specific implementation of this scheme by Chile, the report of the Appellate Body in this case appeared to leave the door open for a system which is designed to moderate the effect of fluctuations in world market prices on a country's domestic market provided that the design of such a system is predictable and transparent. Sharma (2002) shows that developing countries would require a margin between their applied and bound tariff rates of 45-55% in order to be able to stabilise domestic prices *at average world market* levels faced with fluctuations in world markets.

56. The incidence of NTMs has become more transparent following the Uruguay Round Agreement. Under the SPS and TBT Agreements WTO Members are required to notify all new technical measures that fall under the scope of these Agreements. Notifications have grown steadily over time. Although high-income countries have consistently notified the largest number of new technical measures, there are a number of developing countries where the number of NTMs applied to food, drink and tobacco products is as high as in many OECD countries (OECD, 2001a). However, there is much less information on the magnitude and importance of these measures, and thus on their trade effects. Nevertheless, exporter surveys suggest that SPS requirements and other technical barriers in the food and agricultural sector are as significant a barrier to trade as tariffs (OECD, 2001a).

57. The PCD question is whether the pursuit of legitimate domestic regulatory objectives in OECD countries makes the alleviation of poverty in developing countries more difficult. If this is the case, then a second question is whether there are alternative instruments available to achieve these objectives which might be less damaging, or whether there is a case for accompanying measures to assist developing countries to deal with and overcome the damaging effects, or whether it would make sense to extend a differential regime to developing countries. A further question is whether the measures in place to minimise or prevent the abuse of these measures for protectionist purposes are sufficient. These questions are now discussed with respect to four specific areas.

3.2 *Sanitary and phytosanitary measures and product standards*

58. As agricultural trade has shifted towards high-value, perishable commodities such as fresh fruits, vegetables, meats and fish, consumer concerns about food safety have grown. Governments as well as major supermarket groups have developed a growing array of regulations and standards in response. Food standards are a necessary part of international trade. No one will want to argue that developing countries should be allowed to export unsafe food simply because of their development needs. Nonetheless, SPS regulations are likely to bear heaviest on developing countries, both because the 'regulatory gap' between measures in place in export and domestic markets is likely to be greatest for these countries, and because of the more limited availability of compliance resources at the country and firm level. An example is the EU's requirement that dairy products come from cows that have been milked mechanically, which effectively precludes imports from developing countries such as India where most cows are milked by hand, and where considerable long-term investment would be required to comply (OECD, 2001a).

59. The growing importance of SPS regulations raises a number of concerns for policy coherence. First, there is accumulating case study evidence where SPS barriers appear to have been disproportionate to the health threat implied. This applies not just to the standards themselves, but to the rules on testing, inspection and quarantine. A range of technical measures are open to countries to address their food safety concerns, and it can be difficult to establish whether a given degree of safety is provided with the minimum disruption to trade. Although such measures should be disciplined by the WTO SPS Agreement, often the level of trade, particularly for a developing country, does not warrant the expense of bringing a case to the dispute settlement procedure in the WTO.

60. Second, there are the difficulties and cost of compliance even with legitimate standards in export markets. Key elements for compliance include information on the technical requirements, the requisite technical and scientific expertise (and associated infrastructure) necessary to be able to certify conformity with required standards, and the capital resources required to make the necessary investments in production facilities to meet these standards. The SPS and TBT Agreements contain provisions, such as the obligation to establish enquiry points and notification points, designed to increase the transparency of technical measures. Developing countries complain, however, that the length of time given between the notification of new measures and their application is insufficient to allow them to respond effectively. They also claim that high-income countries are reluctant to accept measures in low-income and middle-income countries as

equivalent. Both the SPS and TBT Agreements encourage WTO Members to provide technical assistance to developing countries to assist with compliance. However, within the overall resources available for agriculture-related technical assistance, projects directed at SPS and other technical measures have been given low priority (OECD, 2001a).

61. Third, many low- and middle-income countries have neither the resources nor the technical expertise to participate effectively in international standard-setting bodies and thus their concerns do not get heard. Both the SPS and TBT Agreements encourage WTO Members to use international standards for their national regulations. The incentive to do so is that countries which base their regulations on international standards are deemed to have met the appropriate standard for scientific evidence and risk assessment and are thus unlikely to face a legal challenge. Members are encouraged to participate in the work of international standard-setting bodies. While there is evidence that some of the larger developing countries have been active in both the relevant WTO Committees and other international organisations, this is not the case for many low-income and least developed countries.

3.3 *Environmental standards*

62. Linkages between agricultural trade and the environment are multi-faceted. The effect of freer agricultural trade on environmental quality depends on a number of factors, including the mix of post-reform commodities, the changes in the level and location of production, and changes in the production technology and inputs used. Given the narrow PCD definition adopted for this paper (p. 2), which focuses solely on the impact of OECD measures on agricultural development, poverty alleviation and food security and does not take into account environmental impacts, then the PCD issue is whether the adoption of environmental standards could constitute a further market access barrier to the exports of developing countries. From this perspective, many of the issues raised run parallel to those discussed in the previous section on SPS standards.

63. Farmers in OECD countries face increasing environmental regulation which increases their costs of production. If environmental regulations increase domestic costs of production, they argue, then competing foreign exporters should face similar constraints. Also, environmental groups may seek to apply trade restrictions on products considered detrimental to the environment or whose production process in the country of origin is considered environmentally unfriendly. Developing countries fear, therefore, that environmental standards could become another non-tariff barrier to trade.

64. As in the case of food safety and animal and plant health standards, WTO rules permit countries to choose their own desired levels of environmental protection, subject to certain conditions. Environmental measures must not be used to discriminate between members and should not be used as disguised trade barriers. However, developing countries are concerned that environmental standards in export markets may discriminate against them in practice if their compliance costs are higher. Currently, WTO rules allow Members to regulate trade on the basis of product characteristics but prohibit discrimination among the 'like products' of Members. This is to prevent a Member from using trade measures to enforce its own environmental preferences on others. However, with the growing importance of 'eco-labelling' (reflecting environmental effects associated with production, consumption and disposal of products), there is the possibility that labelling and packaging standards may incorporate unrelated 'production and process method' requirements and could function as discriminatory trade measures. Harmonisation of rules and standards has been raised as one means of addressing perceived impediments to competition, but harmonisation may be undesirable where there are no transboundary environmental effects and where the absorptive capacities of the environment differ. OECD countries' practices in these areas need to be evaluated from a policy coherence perspective to ensure that unnecessary difficulties are not being placed in the way of developing country agricultural exports.

65. Governments which eschew trade measures may still distort trade by providing environmental subsidies. The Green Box in the URAA expressly allows Members to pay farmers located in disadvantaged regions to compensate them for the extra costs or loss of income involved in agricultural production in those areas, as well as to compensate farmers participating in environmental programmes for the extra costs or loss of income due to their programme participation. If farmers are compensated for simply adopting less environmentally-damaging farming practices, however, this would run counter to the OECD-sponsored polluter-pays principle. The provision also seems to rule out incentive payments to encourage farmers to participate in agri-environment programmes, although these are features of some schemes.

3.4 Consumer protection

66. Consumer concerns go well beyond basic food safety. An OECD report used the term ‘food quality’ to refer to all the attributes of food included in a consumer’s utility function (OECD, 1999). Quality refers not only to safety-related and nutritional aspects. It covers other product-related characteristics such as integrity and authenticity, as well as ethical factors affecting a consumer’s preference for a product derived from the way it has been produced. These include whether goods have been produced in an environmentally harmful way, have taken animal welfare concerns into account, or have used particular technologies such as genetic engineering or irradiation. Governments increasingly regulate to address these consumer concerns. Difficulties arise when consumer preferences differ widely across countries, whether because of differences in income, in tastes, in willingness to pay for quality or acceptable levels of risk. This is because either producers in the non-regulated market object when the government of the regulated market restricts imports of products that do not meet the domestic regulation (*e.g.* hormones, GMOs), or because producers in the regulated market object to the higher costs they face in competition with producers from non-regulated markets (*e.g.* animal welfare regulations, environmental protection measures).

67. The PCD perspective follows directly from these two dilemmas. If countries introduce greater regulation of agri-food markets in response to consumer concerns, will this make the alleviation of poverty in developing countries more difficult? If countries were allowed to provide assistance to producers to compensate for the higher costs of meeting animal welfare or environmental standards, would this make the alleviation of poverty in developing countries more difficult? If the answer to either question is yes, is it possible to design interventions which meet the domestic objective without damaging the interests of that country’s trading partners?

68. The controversy over GM foods aptly illustrates the first dilemma. While farmers in North America and in a few large developing countries are rapidly adopting GM crop varieties, in other parts of the world consumers are worried about the environmental impact of cultivating GM crops and the safety of foods containing GMOs. The development implications were thrown sharply into relief by the refusal of several Southern African countries in 2002 to accept World Food Programme shipments of American maize on the grounds that they contained traces of GM strains. While the decision was influenced by concerns over the effects on the health of the local population and the local environment, countries also feared that if they were no longer able to certify that their foods were GM-free, they would lose access to the EU, their most important export market. In fact, countries such as the EU are not banning the import of GM foods outright. GM seeds or foods must undergo an approval process and when marketed must meet mandatory labelling and identity preservation requirements. These rules are leading to the emergence of separate production systems for GM and non-GM crops. Developing country exporters will be faced with the choice between adopting modern biotechnology in agriculture or maintaining the possibility of a GM-free food export to importers with restrictive policies. Alternatively, they could try to differentiate and label GM foods and non-GM foods. To the extent that they can manage such a differentiated system, they would be able to capture the benefits from modern biotechnology and agriculture for domestic consumption while maintaining an export market for GM-free foods. However, they also face the risk that,

using the precautionary principle, an importer could discriminate against a GM food without any scientific evidence of harm.

3.5 *Intellectual property protection of plant varieties*

69. Raising the productivity of those who work in the agricultural sector in developing countries is a key element of poverty alleviation strategies. It can directly increase the incomes and employment levels of the majority of poor people dependent on agriculture, while also helping to reduce food prices (relatively or absolutely) for poor people in both rural and urban areas. Structural reform, capital investment, greater use of variable inputs and improved education and training of farmers are all important, but the key driver of productivity growth is technical progress through research and innovation.

70. Technical progress traditionally occurred through a process of on-farm experimentation and the selection and adaptation of traditional landraces of crops or animal breeds. With developments in science, more purposive breeding techniques emerged, mainly through crossing varieties with desirable characteristics. More recently, biotechnology and the advent of genetic engineering have greatly expanded the possibilities of what can be achieved in agricultural research (through the introduction of distinctly new genetic traits in plants, for example). These changes in the technology of agricultural research have been accompanied by changes in its structure. Greater intellectual property protection (IPR) of the new bio-engineered products has been sought by, and attracted the increasing interest of, private corporations, while funding for traditional public sector research institutes has been falling. The vast potential for new agricultural technologies to contribute to agricultural development in developing countries means that international IPR rules for agricultural products are likely to have particularly important effects in these countries (OECD, 2001a).

71. In the Uruguay Round, developed countries pushed hard for an agreement to reinforce the protection of knowledge in an increasingly global marketplace. The outcome was the TRIPS Agreement which specifies minimum standards of protection for a range of IPRs covering different kinds of knowledge. The Agreement also defines detailed provisions for their enforcement, together with a multilateral mechanism to address disputes relating to IPRs. This latter was welcomed by developing countries as affording them protection against unilateral action by high-income countries in the area of IPRs. The key article relevant to agriculture is Article 27.3(b) which covers the patentability of naturally-occurring substances, plants and animals. Countries may exclude from patentability plants and animals and essentially biological processes for producing them, but not micro organisms. But they are required to apply some form of protection to plant varieties, either by patents or a *sui generis* system.

72. IPR is another example of a domestic objective which, while not trade-related, can have significant trade effects. IPR attempts to balance two conflicting interests. On the one hand, IPR is necessary to stimulate research and development and to encourage the transfer of patented technologies from overseas suppliers. But it may also limit the extent of adoption and prevent other countries and suppliers from pursuing incremental follow-on innovation. OECD countries account for the vast bulk of agricultural research expenditure and generate the largest number of innovations. Because of patents or other forms of intellectual property legislation, this research and advanced know-how may not be shared extensively with developing countries.

73. Against this background, the PCD questions in this area are fivefold (see also CIPR, 2002):

- Whether current IPR rules help to generate and transfer the technologies required by farmers in developing countries?

- Whether current IPR rules affect the access of farmers in developing countries to the technologies that they need?
- Whether current IPR rules help to protect and promote traditional knowledge (specifically, in this context, of genetic resources) as well as support the principles of access and benefit sharing embodied in the Convention on Biological Diversity?
- Whether extending IPR protection to geographical indications is more likely to facilitate or hinder market access?
- Whether the TRIPS Agreement needs to be revised to better address some of these concerns?

74. Current IPR rules can affect the supply of new technologies to developing country farmers in a variety of ways. The availability of IPR protection for plant varieties has encouraged greater private investment in plant breeding research. Market forces dictate that this research effort is directed to areas with the greatest potential return, and thus the breeding strategies of private firms naturally have been oriented to the needs of developed country markets and the commercial sectors of middle-income developing countries. However, there may be potential for agricultural technologies developed by the private sector to spill over to the benefit of the commercial sectors in developing countries. For example, Bt cotton and Bt maize are now grown in a number of developing countries. Some companies have donated technologies of relevance to developing countries (for example, through royalty-free licences) including those related to vitamin A enhanced rice (golden rice) and cassava (CIPR, 2002). However, when even the Green Revolution which was developed with public sector funding failed to reach those poorer farmers living in more marginal rainfed environments, biotechnology-related research led by the private sector will be even less likely to do so. For that, more public sector research specifically oriented to such farmers will be required (CIPR, 2002).

75. Possible restrictions on access as a result of the requirement to extend IPR protection to plant varieties trouble many critics of the TRIPS Agreement. A key aspect of this is balancing the interests of the right-holder and those of farmers and breeders. Patent protection, in particular, carries the dangers that the right of farmers to re-use patented seeds is removed and that it restricts the ability of breeders to use a protected variety as the basis for breeding another variety. There is also evidence that it has encouraged the consolidation of the seed breeding industry, raising potential concerns about the extent of competition in the market for seeds from a farmer's perspective. However, the TRIPS Agreement does not mandate patents for plants and animals but only requires Members to apply some form of protection for plant varieties, including through a *sui generis* system such as plant breeders' rights. Under such systems, countries can make appropriate provision for exemptions for farmers and breeders as they see fit. Nonetheless, there is concern that increased protection may mean that farmers must pay higher prices and royalties as a result.

76. The third issue concerns the relationship between IPR rules and the principles of access and benefit sharing set out in the Convention on Biological Diversity. The PCD issues here include equity (the custodians of traditional knowledge should receive fair compensation if the traditional knowledge leads to commercial gain), conservation (insofar as the protection of traditional genetic resources contributes to conserving the environment, bio-diversity and sustainable agricultural practices) and the prevention of 'biopiracy' (the appropriation of the knowledge and genetic resources of farming communities by individuals or institutions seeking exclusive control over these resources through patents or plant breeders' rights). The new International Treaty on Plant Genetic Resources for Food and Agriculture seeks to establish principles for facilitating access to plant genetic resources and creating fair and equitable mechanisms for benefit sharing.

77. A fourth specific issue concerns the recognition of geographical indications that are protected in their country of origin. These are indications that identify goods as originating in a particular country, or region within a country, where part of the quality, reputation or value of the good is attributable to its geographical origin. The TRIPS Agreement currently provides two levels for the protection for geographical indications – a higher level of protection for wines and spirits (Article 23) and a lower one for all other products (Article 22). The main difference between these two levels of protection is that, in order to prevent the incorrect use of a geographical indication under the ordinary protection, the party that considers itself wronged must furnish proof that the wrongful use of the geographical indication is misleading for the public or constitutes unfair competition. This burden of proof criterion does not exist for wines and spirits. A number of WTO Members argue for the wider protection of geographical indications, on the grounds that use by unauthorised parties is detrimental to both consumers and legitimate producers. Consumers may be misled into thinking they are buying a product with particular characteristics, quality or reputation when they are not, while legitimate producers may find that they face unfair competition and that the characteristics which give value to the product may be compromised, thus discouraging further investment. However, providing protection against unfair competition could itself become a barrier to trade.

78. Whether extending the protection currently provided to geographical indications is likely to facilitate poverty alleviation in developing countries is by no means clear-cut. There are developing countries on both sides of the debate in the current Doha Round. On the one hand, developing countries with rich and varied food cultures based on traditional knowledge would be able to protect these products and may be able to benefit from increased opportunities to access lucrative niche markets, particularly in developed countries. On the other hand, increased protection could adversely affect local enterprises which currently exploit GIs that may be protected by another party. Opponents fear that there would be implementation and cost issues with respect to enforcement, processing notifications and dispute settlement. Practical issues such as whether all GIs should be protected or only well-known GIs that are sold on a world wide basis or are likely to be would need to be resolved. Furthermore, for most developing country products the trade value of enhanced GI protection remains theoretical rather than quantified. In the light of these controversies, there is a need for further studies to evaluate the economic impact on developing countries of extending protection for GIs. Such studies should examine the actual or likely costs of implementing GI provisions under TRIPS and the likely role which GIs could play in promoting viable export opportunities for these countries.

79. Running through these debates are concerns about the extent to which the TRIPS Agreement takes into account the needs of developing countries. Key areas of controversy include the protection of plant genetic resources – in particular, the use of patents versus *sui generis* systems, the extent to which the Agreement protects traditional knowledge and bio-diversity, and geographical indications. The costs of compliance with the Agreement and the scale of the changes necessary to prevailing systems of IPR protection have also been highlighted. While the Agreement acknowledges the scale of the changes required by mandating transition periods of various length, many developing countries have struggled to adapt their national legislation to fully implement the Agreement. This is despite a significant amount of technical assistance from the donor community.

4. Consequences of OECD agricultural trade policies for development

4.1 The impact of regional and bilateral liberalisation

80. A feature of OECD country trade policies since the mid-1980s has been a proliferation of regional trade agreements. As of May 2003, OECD countries are party to 131 of the 184 regional trade agreements (RTAs) that are currently in force and notified to the WTO (Nielsen, 2003). Moreover, they are actively pursuing additional agreements such as the EU-Mercosur negotiations and US support for the Free

Trade Area of the Americas agreement. At least two waves of regional integration can be distinguished. The first started with the establishment in 1957 of the forerunner of the European Union and, in the developing world, the adoption in Latin America and Africa of import-substituting regional integration as the means to effect inward-looking growth. The second wave of regionalism which began in the mid-1980s has a number of different features. First, while in the past RTAs grouped distinctly different sets of countries, the newer ones increasingly overlap. An individual country may be a member of several RTAs and not necessarily the same RTAs as those of its partners. Second, the new regionalism is characterised by agreements which embrace both developed and developing countries. Third, the geographic scope of regionalism has expanded. Although the Euro-Mediterranean region accounts for more than half of all RTAs in force, Asian and Pacific countries are increasingly participating in RTAs. Fourth, newer RTAs tend to be more ambitious in their coverage of policy instruments and sectors. Newer agreements increasingly cover services, investment, intellectual property, government procurement, trade facilitation, dispute settlement, as well as limits on the use of quantitative restrictions and safeguards. Also, while agriculture was often left out of earlier agreements, this is no longer the case. Therefore, the consequences of regionalism for agricultural trade and its impact on PCD is an important area to discuss. A key question is whether RTAs should be encouraged to encompass a comprehensive range of agricultural products, given the significant distortions to agricultural markets already in place?

81. Article XXIV:8(b) of the GATT specifies that duties and other restrictive regulations of commerce, except as otherwise permitted under GATT rules, should be eliminated on substantially all the trade between the constituent territories of a regional trade arrangement. This is clearly an imprecise metric, but it has been interpreted to mean that no sector can be excluded *a priori*. Nonetheless, the way in which agricultural products are incorporated into RTAs varies considerably. Given the pervasive extent of government regulation of agricultural markets, what complicates the treatment of agriculture in RTAs is the attempt to provide for the co-existence of managed markets in one country and free access for the partner country. At one extreme, agricultural and agrifood products are treated as all other products and tariff barriers are fully removed. Even here, however, many RTAs provide for the use of anti-dumping duties and countervailing measures, as well as providing for safeguard measures in the event of emergency situations, balance of payments problems or market disruption. For supported commodities, integration may only be stable if a common set of market regulations are introduced across the RTA. At the other extreme, agricultural and agrifood products may be excluded from the preferential trade provisions altogether. Between these extremes there exist a wide variety of treatments of agricultural products, including long transition periods, tariff quota arrangements, lower preferential margins compared to other goods as well as calendar restrictions.

82. For the purposes of analysis, preferential trade arrangements can be discussed under three headings:

- Reciprocal trade agreements. These usually take the form of free trade areas or, less commonly, customs unions. Examples include the North America Free Trade Agreement (NAFTA), the European Union's Europe Agreements with candidate countries, and the Australia-New Zealand Closer Economic Relations agreement. In analysing the consequences from a development perspective, there is a distinction between agreements covering OECD countries only (e.g. EU - EFTA) and those in which one or more developing countries is also a partner (e.g. EU-South Africa, U.S.-Morocco).
- Non-reciprocal trade agreements. These are usually offered by OECD countries to either all or groups of developing countries on a unilateral basis. Examples include the Generalised System of Preferences operated by all OECD countries, the EU Cotonou Agreement with the African, Caribbean and Pacific countries, and the US African Growth and Opportunity Act.

- Tariff rate quotas (TRQs). While TRQs are a policy instrument rather than part of the typology of regional trade arrangements, they can usefully be included in this discussion because their administration, in many cases, is discriminatory. TRQs are frequently allocated to particular countries and the benefits are confined to particular suppliers.

83. The key characteristic of RTAs is their discriminatory nature. Therefore the consequences for PCD must distinguish between those developing countries which are members of an RTA (where this is relevant) and those which are on the outside. Developing countries which are offered preferential access to an OECD country market will experience trade creation. If market prices in the OECD country are maintained significantly above world market levels, they will also experience a favourable terms of trade effect. As previously noted, in many RTAs the extent of these benefits is limited by restrictions on the quantities of exports eligible for preferential treatment in order to avoid disrupting the high-priced market. In these cases, the benefits of preferential access are equivalent to a form of tied aid as the beneficiaries may potentially be able to extract economic rents, but with very limited trade creation effects. If the RTA is a reciprocal one, then the developing country will be expected to lower its agricultural trade barriers to the exports of its OECD partner. This will give rise to the same need for, and expected benefits and costs of, adjustment in the developing country agricultural sector as is required when lowering trade barriers in the context of multilateral liberalisation. However, there is potentially an additional source of welfare loss in the case of RTAs. Depending on the global competitiveness of the OECD partner, and on the overall level of protection provided against third countries, there is a danger that the agreement could encourage trade diversion to a more costly import supplier and thus lead to a welfare loss for the developing country. This danger is much less important for the OECD country because the developing country partner is unlikely to be a major supplier, and if the preferences are extended to all developing countries there is a good chance that the world's most efficient suppliers will be numbered among them.

84. For developing countries outside the RTA, the danger is also trade diversion. Efficient suppliers may lose export markets in the OECD country because of the preferences granted to competitors. In the case of RTAs involving OECD countries only, this might appear to be the only potential effect (hence the concerns about 'Fortress Europe' expressed on the occasion of successive enlargements of the EU). However, many RTAs increasingly go beyond the removal of tariff barriers to deeper forms of integration, including regulatory harmonisation. If access to the RTA is simplified because there is now only one set of technical standards, food safety regulations and certification requirements to be met rather than multiple (and different) requirements for individual markets, then third country exporters can also benefit. There may be further benefits if the RTA provides a boost to growth, thus increasing the overall size of the export market for third country suppliers. In the case of agricultural policy, however, regulatory harmonisation can mean the upward harmonisation of market management rules and price support levels, thus increasing the likelihood of trade diversion for agricultural trade. Whether the overall impact of an RTA is coherent with a poverty reduction strategy will depend on the income status of the insiders and outsiders and the structure of poverty in these respective countries.

85. The empirical evidence on the trade, welfare and developmental impacts of RTAs is thoroughly reviewed in Nielsen (2003). As might be expected, the results are specific to the agreements studied, the scenarios assumed and the methodologies employed. They suggest that the overall impact of preferential trade arrangements on welfare and trade is non-negligible and generally positive, but also relatively small. While all studies find that there is some trade diversion, this is generally outweighed by the trade creation generated by an RTA. For reciprocal agreements including developing countries, the loss of tariff revenue emerges as an important issue. Not many studies highlight specifically the PCD question raised in this section, namely, whether the inclusion of agriculture in RTAs adds to the welfare gains of insiders and the costs to outsiders. Scollay and Gilbert (2001) compare the results of APEC preferential agricultural trade liberalisation with MFN liberalisation. The major food-exporting APEC economies (Australia, New Zealand, the US) are estimated to gain most under a preferential agreement, while food-importing

countries are better off under an MFN liberalisation. Under the preferential arrangement, the importing countries bear the burden of trade diversion, which for China implies a welfare loss. Harrison *et al.* (2003) explicitly consider a scenario where the EU excludes agriculture from the EU-Mercosur agreement. The gains to Brazil would be reduced to just one-ninth of the value of the gains with full preferential access to the EU market. A similar analysis of the FTAA, in which they assume that the US continues to use anti-dumping to effectively exclude market access for Brazil to its most protected agricultural sectors, shows that this would reduce the gains to Brazil to two-thirds of the gains in the case of full market access. The effects on excluded countries, which are shown to lose from these RTAs, would need to be taken into account in a full assessment.

86. However, while the impact effect of an RTA may be to benefit insiders and damage outsiders, the longer-term effects may be less clearcut. Opening up unrestricted access for agricultural imports under a preferential trade arrangement can put pressure on domestic market support policies and lead to their reform. For example, trade barriers were an integral pillar of the US peanut programme to support American growers. The removal of trade restrictions under NAFTA encouraged out-of-quota peanuts from Mexico to enter the US market as the US phased out its out-of-quota tariffs on agricultural commodities. The unravelling of the tight restrictions on imports led the US to reform its peanuts support policy (Beghin and Aksoy, 2003). Similar developments are taking place in sugar in the United States (again because of NAFTA) and rice and sugar in the EU (because of the Everything But Arms (EBA) scheme). These reforms may benefit outsiders at the same time as they reduce some of the rents which insiders may have expected.

4.2 *Agricultural trade preferences and preference erosion*

87. Non-reciprocal trade preferences, including preferential access through tariff rate quotas, are offered by many OECD countries to developing countries. In addition, a number of OECD countries deliberately try to use their non-reciprocal preferential trade arrangements as a development policy by targeting these preferences on the least developed countries. These countries gain from the positive trade creation and terms of trade effects, while the losers outside are other developed countries or middle income developing countries. This is the rationale behind the EU's EBA scheme and the proposal in the WTO Doha Round that all developed countries and possibly some middle-income developing countries should agree to provide duty-free and quota-free access to all imports from the least developed countries, including agricultural and agri-food imports. There are those who argue that sufficiently generous preferential access arrangements for developing countries would provide these countries with the advantages of multilateral trade liberalisation as well as a margin of preference against non-preferential suppliers. The argument raises the question whether agricultural trade policy should be used as a development policy by trying to target preferences on those countries where the poverty impact is likely to be greatest?

88. Preferential access arrangements have their own shortcomings. They may help to encourage production in preference-receiving countries which is not compatible with their long-run comparative advantage. For example, it has been argued that one effect of the commodity protocols under the Lomé Conventions and now the Cotonou Convention is that they may have perpetuated a one-product economy in some countries and discouraged them from undertaking more fundamental reforms and market diversification. Preferences may contribute to a dual economy in preference-receiving countries, with one involving production under highly-regulated conditions for export directly to preference-giving countries (perhaps with few linkages to the local economy) and another involving production for local or MFN trade. Their unilateral nature and their limited duration reduces their value as an incentive for investors to increase production in the beneficiary country. Complicated rules of origin and the exclusion of sensitive products also reduce their real value, as may the addition of eligibility criteria or social, political or environmental conditionalities. These restrictive features often lead to underutilisation of preferences and

help to explain their limited development impact to date. Preferences may give rise to trade diversion, where the benefits of increased trade are at the expense of exports of competing developing countries, some of whom may be almost equally deserving. To the extent that preferences are beneficial, proponents of trade liberalisation argue that they are a form of trade-tied aid and that there are more efficient ways of providing aid of equal value to these countries. Eligibility for preferences may induce beneficiaries to become more protectionist in their own domestic policies (Özden and Reinhardt, 2003). Finally, preferences may have important systemic effects in that they create a group of beneficiary countries which have a vested interest in opposing further multilateral reform because of the way in which this would erode the value of the preferences they receive.

89. A complicating factor in using trade preferences to assist development is their interaction with multilateral trade liberalisation. The value of trade preferences depends on the preferential margin, or the extent to which the terms of access awarded to beneficiaries improves on MFN access. Multilateral liberalisation reduces the value of the preferential margin, a phenomenon known as preference erosion. For example, one study estimated that the EU's EBA scheme would bring benefits of USD 300 million to the LDCs. However, once the EBA is in place, implementation of multilateral reform along the lines proposed in the Harbison draft modalities text in March 2003 (reduction of market access barriers by 50%, elimination of export subsidies and reduction of domestic support by 35%) would turn these gains into losses of USD 400 million (Yu, 2004). Preference erosion can also result from agricultural policy reform leading to a reduction in support prices, or the conclusion of preferential agreements with competitor countries. This leads to an important question for PCD, whether developing countries that currently benefit from tariff preferences or other beneficial trade arrangements would be worse off in a liberalised trade regime and, if so, what should be done about this?

90. The main benefit of preferential access to a beneficiary lies in the economic rents which can be appropriated.¹² Whether these rents are captured by the exporter or by the importer depends on their relative market power and, where preferential access is limited by quota, on the way the quotas are administered. Whether total export revenues are higher for preference beneficiaries compared to a situation of free trade without preferences depends on the proportion of exports that gain access to the preferential market; the level of economic rent received by the exporter; and the price-depressing effects of agricultural support in other export markets. It has been argued that losses from preference erosion may not be that significant and that there are relatively few countries which would be adversely affected (IMF, 2003). For beneficiaries which are less efficient global suppliers, high production costs eat up much of the potential benefit of economic rents arising from preferential access to high-price markets. Furthermore, rents can become capitalised into higher production costs, so that preferential access may undermine the longer-run competitiveness of these suppliers on world markets. For the countries directly affected, however, these general arguments are of little comfort. Particularly where the beneficiaries are among the most vulnerable countries in the world, there is a strong case for specific measures to address preference erosion in the context of either unilateral or multilateral trade reforms. Preference erosion is a sufficiently important issue for some developing countries that they have insisted that it should be addressed as part of the negotiations on the Doha Development Round.

91. Slowing the pace of multilateral liberalisation in order to maintain the value of preferences is not the right response. The simulations on which the EBA numbers above were calculated point out that the overall welfare cost to the rest of the world of keeping protection in place for the sake of a meaningful EBA would be hard to justify from a purely economic perspective – the world would have to forego gains of USD 15 billion, as compared to the benefits of USD 300 million to the LDCs from the EBA (Yu, 2004).

12. Economic rents arise because of the difference between the price at which the exporting country would be prepared to supply and the preferential price it actually receives. If the beneficiary country's export supply curve is upward-sloping, then additional exporter surplus will also be gained.

The cost to the EU and the US of providing USD 1 of preferential access through their sugar policies is estimated to be more than USD 5 (Beghin and Aksoy, 2003). Other studies also show that preferences have a high transfer efficiency cost in terms of the benefits conferred on recipients relative to their overall cost (Stoekel and Borrell, 2001).

92. Indeed, multilateral liberalisation may be one of the ways to reduce the impact of preference erosion by providing preference beneficiaries with new market access opportunities. Beghin and Aksoy (2003) report that world sugar price increases alone generated by multilateral liberalisation would offset about half of the lost quota rents for countries that have preferential access. Even in the case of unilateral agricultural policy reform, compensatory trade measures could compensate beneficiaries by providing new market access opportunities of similar value. For example, the reduction of EU beef support prices under the Agenda 2000 CAP reform had the effect of reducing the value of beef exports from southern Africa under the Cotonou Agreement beef protocol. The adverse effects on southern African beef producers could be alleviated by abolishing the remaining element of the special duty, or by broadening the beef product range which can be exported within the scope of the beef protocol, or by extending preferences to other products. Financial assistance to enable preferred suppliers to become more competitive in the context of more liberal trade arrangements is a further option and has been promised under the Cotonou Agreement to ACP banana producers. A final option is financial assistance for diversification to encourage alternative income-generating opportunities to replace those lost through preference erosion. In principle, the savings made from policy reform could fund additional targeted development assistance of this kind.

4.3 *Tariff escalation*

93. Over time there has been a gradual shift from primary to processed products in agri-food trade flows. As a group, exports of processed agricultural products grew at 6% annually during the period 1981-2000 compared to 3.3% for primary products, raising their share in total agricultural trade from 60% in 1981-1990 to 66% in 1991-2000. At the same time, however, the share of developing countries in world exports of processed agricultural products decreased from 27% in 1981-1990 to 25% in 1991-2000 (Elamin and Khaira, 2003). Among the factors responsible for this declining share is tariff escalation in both developed and developing country markets. Tariff escalation refers to a situation where tariffs rise along processing chains. The practice affords significant protection to processed products in importing countries, and makes it more difficult for commodity exporters (primarily developing countries) to diversify into food processing. Adding value to locally-grown agricultural products is one of the keys to an agriculture-led industrialisation strategy. Tariff escalation can hinder this.

94. A number of studies have documented the existence of tariff escalation in post-Uruguay Round tariff structures for both developed and developing countries (OECD, 1996; UNCTAD, 2000; Elamin and Khaira, 2003). One conclusion from these studies is that, while tropical products generally face lower tariffs compared with basic food commodities, the tariff wedge between tariffs at their primary and processed stages tend to be higher than for basic food commodities. Fewer studies have attempted to measure the trade impact of tariff escalation for processed products, but they indicate that developing countries would gain significant benefits from liberalisation of processed products compared to primary products (UNCTAD, 2003a). Most of these studies refer to the structure of bound tariffs. There is evidence that the extent of tariff escalation may be attenuated when applied tariffs are considered and when tariff preferences are taken into account (Elamin and Khaira, 2003). Taking account of the actual tariffs faced by developing countries, one study concluded that, while tariff escalation may act as a barrier against further processing in some cases, its relative importance should not be overestimated at the aggregate level (OECD, 1996). There is also an interaction between tariff escalation and preferential access. For preference-receiving countries, tariff escalation translates into a greater encouragement to export in the form of processed rather than primary products. One implication of this is that tariff reduction formulae

which would lower higher tariffs proportionately more than lower tariffs would also have a bigger impact on eroding the preferential margin for developing countries in receipt of preferences.

4.4 Trade remedy measures

95. International trade law allows the use of three different types of trade remedy measures as a defence against imports causing injury to a domestic industry. These include countervailing duties (CVDs, aimed at offsetting the export subsidies of foreign governments), anti-dumping duties (designed to counter “unfair” pricing practices of private firms), and safeguard measures (designed to provide a temporary respite to countries experiencing a surge in imports causing or likely to cause serious injury to a domestic industry). While trade remedy measures have been mainly used by developed countries in the past, their use particularly by developing countries has greatly increased since the conclusion of the Uruguay Round. As tariff measures are disciplined, there are fears that countries may increasingly resort to trade remedy measures to block import access. As a result, specific agreements on subsidies, CVDs, safeguards and anti-dumping duties were included in the Uruguay Round Agreement. Unlike previous attempts to agree disciplines on the use of trade remedy measures in the GATT, these agreements are binding on all WTO Members.

96. A recent review of the use of trade remedy measures concluded that, while CVDs were mainly used in non-agricultural sectors by developed countries, CVD use by developing countries is primarily for agricultural products (Regmi and Skully, 2002). High value food products appear to be the most targeted. The study concluded that agriculture accounted for about 6% of the total number of antidumping investigations launched between 1987 and 1997, but that it accounted for about 10% of the total initiated by non-traditional users (primarily middle-income developing countries). Like CVDs, the use of antidumping measures in agriculture is limited primarily to high-value products such as fresh produce, meat and processed foodstuffs. On one argument, anti-dumping measures in agricultural trade should be relatively rare as the main target of these measures – predatory pricing designed to drive out competitor firms and create a monopoly position – is highly unlikely, particularly for primary commodities, where entry into a market is easy and relatively inexpensive. On the other hand, agricultural products may be more vulnerable to antidumping investigations given the way a dumping margin is calculated as the difference between the export price and the ‘normal’ price, defined as the price for domestic consumption in the exporting country. The perishable nature of agricultural produce means that it may be rational for firms to sell at below full production cost as a loss-minimising strategy.

97. The general safeguards measure in the WTO allows countries to impose temporary import restrictions if a surge of imports causes or threatens to cause serious injury to a domestic industry. Unlike the other trade remedy measures which apply only to particular exporters, safeguards must apply to all suppliers. About half of all safeguard investigations notified to the WTO since 1995 have covered agricultural products, primarily high-value products such as meat, milk powder, edible oils, peaches and tomatoes (Regmi and Skully, 2002). In addition, the Agriculture Agreement has a special safeguards provision for agricultural products. This differs from normal safeguards in that it is not necessary to demonstrate that serious injury is being caused to the domestic industry. The special agricultural safeguard can only be used on products that were tariffed — which amount to less than 20% of all agricultural products (as defined by tariff lines), and then only if the Member reserved the right to do so in its schedule of commitments on agriculture. Because few developing countries used the option of tariffication, it is mainly OECD countries which have the right to use the special safeguard. In practice, the special agricultural safeguard has been used in relatively few cases.

98. From a PCD perspective, there are two main questions which are raised by trade remedies. The first is whether the use of trade remedies by developed countries against agricultural products is abused or discriminates unfairly against developing countries. The literature cited does not directly address this

question. The second issue is whether the trade remedies available are appropriately designed for, and accessible by, developing countries. This issue has been raised particularly with respect to food security concerns. If developing countries make commitments to a maximum level of tariff protection, they may not be able to intervene to protect vulnerable low-income producers against particularly volatile world prices. Unlike farmers in developed countries, producers in developing countries are unlikely to have easy access to risk management institutions. The use of the general safeguard measure is cumbersome and requires proof of serious injury, while few developing countries have reserved the right to make use of the special agricultural safeguard. Discussions are continuing in the Doha Round on whether developing countries might be given the right to a special safeguard measure. With respect to countervailing subsidies, it should also be noted that, under the Peace Clause of the Agriculture Agreement (Article 13) which was in force until 31 December 2003, WTO Members agreed to exercise restraint in making use of their rights to countervail or challenge domestic and export subsidies. Now that this provision has lapsed, developing countries can make use of their rights to challenge the use of domestic or export subsidies in the WTO dispute settlement mechanism.

4.5 *Recognition of development concerns in international trade*

99. An important development aspect of OECD countries' agricultural trade policy is the attitude taken to developing country demands in the international trading system. Two areas are highlighted for discussion here: special and differential treatment with respect to trade in agricultural products, and the regulation of international commodity markets.

100. Special and differential treatment (SDT) has been a GATT principle since the 1960s. It is embodied in the URAA in various ways. The Preamble to the URAA commits developed country WTO Members to provide for greater improvement in market access for agricultural products of particular interest to developing countries. As discussed above, the more immediate beneficiaries of increased market access are likely to be middle-income developing countries with existing supply capacity. The concerns of import-competing sectors in developing countries are very different and have also been recognised in the URAA. Developing countries were required to make lower reduction commitments in the main areas of market access and disciplines on domestic and export subsidies and the least developed countries were not required to make any reduction commitments. They have greater flexibility to pursue domestic policy objectives through exemptions from rules and disciplines that would otherwise apply, they have longer implementation periods to meet the obligations they are required to undertake, and technical assistance may be made available to help them to meet these obligations. The *Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net Food-Importing Developing Countries* was taken to safeguard the interests of these particular groups of countries during the reform process. This Decision contains many exhortatory and 'best endeavour' commitments although no real action has flowed from it during the implementation period of the URAA to date.

Box 1. Potential provisions in a development box

General

Exempt certain products from AoA commitments, using either a negative or positive list approach.¹

Market access

Link tariff reductions to reductions in trade-distorting support to agriculture in developed countries.

Exempt basic food security crops from tariff reductions or other commitments.

Permit (upward) renegotiation of tariff bindings that apply to food security crops where those bindings are low.

Provide access to special safeguards providing automatic increases in tariffs, with a provision to impose quantitative restrictions under specified circumstances in the event of a rapid increase in imports or decline in prices.

Exempt developing countries from any obligation to provide any minimum market access.

Domestic support

Double de minimis support ceilings for product-specific and non-product-specific support in developing countries to 20% each.

Expand Article 6.2 exemptions, for example, by allowing subsidised credit and other capacity building measures as exemptions when provided to low income or resource poor farmers.

Allow developing countries to offset negative product-specific support (*i.e.* where farmers are taxed) against positive non-product-specific support (*i.e.* where farmers are supported).

Permit measures to increase domestic production of staple crops for domestic consumption.

Export measures

Permit developing countries to provide export subsidies in certain circumstances, including those that reduce the costs of marketing and those that reduce charges for export shipments, should be continued.

1. Under the positive list approach, all products would be exempt except those listed by developing country members. This approach is used in negotiations on industrial tariffs and services. Countries volunteer to include only those products in the Agreement they feel ready for. Under the negative list approach, products would have to be nominated by developing country members to be exempt from AoA commitments (it is envisaged that these would be products important from a food security perspective). In other words, all products are included unless a country explicitly decides to exclude it.

101. Despite this apparent asymmetric and more favourable treatment in the Uruguay Round, developing countries argue that the Agreement represents a very unbalanced set of obligations. Many developing countries argue that WTO rule changes are necessary to give them the flexibility to implement policies to address their food security, rural development and poverty alleviation concerns. The huge imbalance in the amount of both Green Box and trade-distorting support provided to farmers as between developed and developing countries, despite the URAA, leaves many developing countries fearful that further liberalisation of their agricultural policies will leave their farmers exposed to unfair competition. Some countries fear that lowering the protection provided to their own farmers would result in a fall in agricultural incomes which would further exacerbate the problem of rural poverty. There is a general concern that poor farmers in developing countries are much less capable of dealing with the consequences of world market price volatility and deserve some protection against this volatility. Some countries which believe that food self-sufficiency is an important element in their food security strategy and which have bound their tariffs on food staples at relatively low levels are concerned at the possible consequences of further reductions for their food security. Other countries are concerned that their ability to pursue growth-promoting agricultural policies may be limited because they will come up against the low ceiling limits for domestic support. The exemptions and rule changes sought have become known as the Development Box in the Doha Development Round negotiations to revise the Agreement on Agriculture. A summary of the main ideas proposed for the Development Box is shown in Box 1.

102. The Doha Declaration launching the Doha Development Round of multilateral trade negotiations reaffirmed that “special and differential treatment for developing countries shall be an integral part of all elements of the negotiations on agriculture”. SDT proposals feature in the negotiating proposals of OECD

country Members and in the framework drafts of the modalities which have been prepared to date. Nonetheless, SDT elements remain a contentious part of the Doha Round negotiations, and not only as an OECD country – developing country issue. A number of developing countries have expressed concerns that some SDT proposals would harm trade between developing countries, which should be encouraged instead. Broadly, the discussion revolves around two main questions (see WTO, 2004).

- **Special rules versus flexibility in implementing common rules.** Should developing countries be allowed special protection and support (for example, exempting certain products from all commitments) to address their particular situations, or should all countries be expected to participate in market liberalisation, even if the terms are more relaxed? There are some countries opposed to the idea of different sets of rules for developed and developing countries because of their potential for trade distortion. Other countries oppose the idea of allowing developing countries to protect themselves against trade from other developing countries.
- **Should all developing countries be treated equally?** Should the agricultural deal accept that there are distinctly different subcategories within the developing country category? The GATT Enabling Clause adopted in 1979 which enables developed country members to give differential and more favourable treatment to developing countries does allow additional special treatment for least developed countries, but otherwise is generally interpreted as requiring all developing countries to be treated equally. Some developing country groups with special needs, such as single commodity exporters and small island developing states, have been highlighted. Given that the Development Box proposals are intended to address concerns about food insecurity, there have been some calls to define a new grouping of food-insecure countries which might benefit from additional flexibilities. The US-EU framework draft in August 2003 defined a new category of significant net food exporters and stated that SDT for these countries should be adjusted. Other countries oppose the idea of reopening the enabling clause and stress that SDT should be available equally to all developing countries. However, some negotiating proposals suggest that some middle-income developing countries might also be asked to extend preferential access to the agricultural and other exports of the least developed countries.

103. The policy coherence perspective would require OECD countries to evaluate these proposals in the light of their impact on the MDG goals of poverty and hunger alleviation. OECD countries accept that the successful integration of developing countries into the global economy is a necessary condition if these goals are to be achieved (the evidence is reviewed in OECD, 2001b). However, without agreeing rules which would encourage developing countries to opt out of integration, there is scope to address some legitimate concerns that developing countries have that agricultural trade rules should reflect their particular concerns. Research and analysis are clearly important in helping to define SDT rules which contribute to the MDG goals.

104. International commodity market interventions are another area where policy coherence issues arise. Price volatility and the secular decline in real commodity prices with its attendant terms of trade losses have resulted in heavy costs in terms of incomes, indebtedness, investment, poverty and development. Between 1997 and 2001, the UNCTAD combined price index of all commodities in US dollars fell by 53% in real terms. That is, commodities lost more than half of their purchasing power in terms of manufactured goods (UNCTAD, 2003b). The role that market access barriers play, including tariff peaks and tariff escalation, as well as domestic subsidies in OECD countries has already been discussed. Another problem is the increasing disconnection between the prices paid by final consumers and those received by producers reflecting the growing market power of intermediaries in the marketing chain. The salience of commodity market problems is increased by the dependence of many developing countries on a narrow range of commodity exports, leaving them very vulnerable to adverse trends in commodity markets.

105. Perceived difficulties in international commodity markets are not new, and international efforts to address these go back at least to the negotiations leading to the 1948 agreement on the Havana Charter (UNCTAD, 2003b). Various attempts were made to establish commodity price stabilisation agreements during the 1960s and 1970s, but none of these proved sustainable on a longer-term basis. The use of compensatory financing mechanisms, designed to compensate for shortfalls and short-term price shocks, has not proved more successful. More recently, more attention has been paid to market-based mechanisms, such as forward, futures and option contracts as well as swaps, to address price volatility and market-based risks.

106. Many of the responses required to these commodity problems must take place at local and national levels, but to be successful these will need to be complemented by supportive actions at the regional and international levels. Tackling the significant market concentration in commodity chains, promoting corporate social responsibility including the use of codes of conduct, helping to develop new market opportunities, promoting diversification, helping to raise quality and encouraging increased value-added processing are among the issues where OECD countries could intervene to help promote the MDG goals in these sectors.

5. Consequences of development assistance policies for agricultural trade and development

5.1 *Trends in agricultural aid*

107. The justification for supporting agricultural development in developing countries as a key element of the global strategy to alleviate poverty and hunger has been discussed earlier in this paper. Much of the impetus behind the call to reduce trade-distorting agricultural support in OECD countries is because of the pro-poor effect this will have in stimulating agricultural development in developing countries. But it is increasingly recognised that more open markets, on their own, are not the whole answer. There is a need to help developing countries, and particularly the least developed among them, to take advantage of new market opportunities. The earlier discussion also emphasised that there are winners and losers in any policy reform, both between and within countries. Because the losers from OECD agricultural policy reform may be found among the most vulnerable countries and communities, the case for accompanying reform by targeted safety net and compensation measures is particularly strong. This gives development assistance an important role to play in OECD agricultural policy reform.

108. The long-standing goal of raising official development assistance (ODA) to 0.7% of industrial country GNP is an important element of the strategy to reduce global poverty and to meet the Millennium Development Goals by 2015. To the extent that countries move towards this target, the overall volume of assistance will increase. But equally important is how donors choose to allocate these funds, and in particular, the priority which is given to assistance to agriculture. There are definitional problems in estimating the share of assistance which goes to agriculture and rural areas. However, the evidence suggests that this has been steadily falling over the past two decades. Overall DAC bilateral aid to agriculture has fallen from 11.7% of total bilateral aid in 1980-82 to 5.6% of the total in 2000-2001. For individual donors, the fall is even more striking. For Canada, the fall was from 18.8 to 2.2%; for Italy, from 11.7 to 2.1%; for the Netherlands, from 20.8 to 3.5% and for the United States from 14.4 to 3.5% (OECD, 2004b). In the case of aid to agriculture, the multilateral agencies have always been the most important source of development finance; their share has traditionally varied between 55 and 65% of the total. Lending to agriculture by the World Bank alone in most years exceeds bilateral aid to agriculture from the DAC countries. Both multilateral and bilateral donors reduced their assistance to agriculture equally severely in the 1990s, although the share of the multilateral agencies recovered slightly from its relatively low point at the end of the 1980s.

Table 4. Distribution of bilateral aid commitments by major purpose, %

	1982-83	1987-88	1989-90	1994-95	2002
Social and administrative infrastructure	22.1	24.7	23.3	29.0	33.8
Economic infrastructure	21.3	20	17	22.7	12.3
Agriculture	12.1	12.1	8.6	7.4	5.7
Industry and other production	15.1	5.8	5.8	3.1	5.3
Food aid	6.9	5.4	3.6	1.2	-
Programme assistance	13.5	32	11.9	5.8	5.0
Other	11	-	29.7	30.7	37.9
Total	100	100	100	100	100

Note: The definition of purposes may not be comparable over time. For example, in 2002 food aid is not separately distinguished as such.

Source: OECD, Development Co-operation Annual Reports, Paris.

109. The reasons for agricultural aid fatigue are to be found on both the supply and the demand side (FAO, 2001). On the supply side, there is no doubt that donors and lending agencies have been put off by the high failure rate of agricultural projects and the inherent complexity and risk and the high transactions costs (preparation, supervision and monitoring) involved in agricultural and rural development projects. Also, the number of technically competent staff in agriculture employed by donor agencies has shrunk, making it even more difficult to design successful projects to claw back some of the share which was lost. In some cases, projects performed poorly because of unfavourable domestic policies which discriminated against the agricultural sector. But over the last decade developing countries have taken some steps to eliminate these distortions. The increased profile of the poverty alleviation objective also led many donors to give priority to social spending in the areas of health and education. The initial Poverty Reduction Strategy Papers were strongly oriented towards social services, health and education, while the growth in programme lending and in other areas such as debt forgiveness also squeezed the resources available for the directly productive sectors. Some donors may have been influenced by the attitudes of domestic farm lobbies who opposed assistance which was perceived as increasing the supply capacity of potential markets. This is despite the evidence that agricultural assistance can lead to a rise in exports from donor countries as broadly-based growth in low-income countries results in demand growth for food which exceeds the capacity of the local agricultural sector to supply (Pinstrup-Andersen and Cohen, 1998).

110. A strong case can be made that donors should upgrade the priority given to agricultural development and ensure that they have the technical expertise to prepare and monitor agricultural projects. This will only be possible if developing countries, too, increase their investment in agriculture. Here, there are hopeful signs, for example, the resolution by the African Union that member countries should increase their agricultural budgets to at least 10% of the government budget, compared to less than 5% currently. The pervasive importance of global public goods for the livelihoods of poor people is a further argument. These include the generation of technologies for the sustainable management of land and water, forest and marine resources; the control of trans-boundary animal and crop pests and diseases; the conservation of agro-biodiversity; ensuring food safety; carbon sequestration; and the rehabilitation of degraded lands. Another argument for re-evaluating the priority given to agricultural assistance is the link with trade policy reform discussed in the following section.

5.2 Trade-related assistance

111. Whether market access is provided through ongoing multilateral liberalisation or through preferential trade arrangements, many developing countries continue to have difficulty in taking advantage

of these opportunities, not because markets are closed but because of supply constraints at home. The latter can broadly be divided into policy-induced constraints resulting from trade and macroeconomic policies that have biased the structure of incentives against agriculture and exports, and structural constraints, which are particularly prevalent in Sub-Saharan Africa. Typical structural constraints are a high dependence on a limited number of export commodities; weak technological capacities; inadequate legal and regulatory institutional frameworks; limited access of farmers to credit; and inadequate transport, storage and marketing infrastructure.

112. To take advantage of OECD country agricultural policy changes and the resulting improvements in market access requires that the structural impediments to raising the productivity of domestic firms and improving their international competitiveness are addressed. Inadequate export related infrastructure and bottlenecks can significantly undermine a country's export potential. Hence the importance of a range of flanking elements such as human capital development, reliability of transport and communication infrastructure, effectiveness of public utilities, efficiency of financial services and trade-related institutions and good governance. In the donor community, these elements are now referred to as trade capacity building or 'aid for trade'.

113. The efforts of major donors to provide trade-related assistance to developing countries are now tracked in the Doha Development Agenda Trade Capacity Building Database launched by the WTO and OECD Secretariats in November 2002 (the Trade Capacity Building Database can be accessed at <http://tcbdb.wto.org>). Activities are classified into trade policy and regulation (supporting recipients' effective participation in trade negotiations, improving trade facilitation and supporting regional trade arrangements), trade development (covering business development, access to trade finance and trade promotion in the productive sectors) and activities to enhance the infrastructure necessary for trade. The latter includes assistance to the transport, communications and energy sectors which clearly benefit trade although this may not be its primary purpose. Special programmes include the Integrated Framework for Trade-Related Technical Assistance to Least-Developed Countries as well as the Joint Integrated Technical Assistance Programme which provides trade capacity building to a number of African country partners.

114. In many developing countries, the withdrawal of governments from direct involvement in agricultural marketing has left large gaps which the private sector is not yet able to fill. Firms often lack trade support services, including trade finance, general business services, telecommunications and transport services, and trade promotion and marketing services. Where such services are provided, this is often through public trade promotion organisations which by and large are not effective (OECD, 2002c). Increasingly, therefore, 'aid for trade' projects focus on the micro- and firm-level, on encouraging improvements in product presentation and the production process as well as developing the capacity of export promotion organisations. Support for training of exporters, strengthening local associations and enterprise networking, providing trade information, and promoting investment are other examples of initiatives which can be taken. An important factor in the success of such projects is the degree to which the private sector in developing countries is actively involved in setting priorities and determining the uses to which assistance is put.

115. Exporters may face difficulties in entering OECD food markets not necessarily because their products are unsafe but often because their countries lack the monitoring, testing and certification infrastructure that would make it possible for them to demonstrate compliance with import requirements. The cost of meeting legitimate SPS standards is large, and developing countries need help to address the weaknesses in their food safety and quality control systems, and the associated institutions. Assistance can be provided for the establishment of verification and certification bodies in developing countries in order to demonstrate compliance with food safety and other traceability requirements.

5.3 Food aid

116. Food aid remains an important element in donor countries' assistance programmes, although its share has greatly declined. There is no controversy in principle about the provision of food aid in emergencies and for humanitarian purposes, although even emergency food aid needs to be managed carefully to avoid unintended adverse side effects in the recipient country. The provision of long-term food aid is more controversial. There are three sets of interests in the debate on food aid which are relevant from the PCD perspective.

117. First, there are the interests of commercial exporters who fear that food aid may be used to circumvent restrictions on subsidised exports. These countries point to the way in which food aid donations vary in line with the availability of surpluses, and to the possibility that food aid may be abused as a marketing tool to help expand exports from the donor country. These concerns are central to the debate on disciplines on export competition in the Doha Development Round. While these disciplines concern exporting countries in the first instance, they have a development dimension. For example, a provision that only food aid given in grant form would be exempt from export subsidy disciplines would improve the coherence of food aid policy with development objectives.

118. Second, there are the concerns of net food-importing developing countries for which food aid currently makes an important contribution to their food supplies. Agricultural policy reform, for these countries, holds the threat that food aid supplies might diminish and thus that the cost of meeting the food needs of their populations would increase. To the extent that food aid in kind has been replaced by financial aid in donor commitments, this linkage is less important than in the past. However, financial aid commitments have their own problems, for example, they are worth less to the recipient when world prices are high which is the time when food aid may be most needed. It was to address this latter concern that the Uruguay Round Agreement included the Marrakesh *Decision on the Possible Negative Effects of the Reform Programme on the Least-Developed and Net-Food Importing Developing Countries*. This included a commitment that the reform programme would not adversely affect the availability of food aid at a level which is sufficient to continue to provide assistance in meeting the food needs of developing countries, especially least-developed and net food-importing developing countries. It also established a mechanism whereby the level of food aid would be regularly reviewed and a minimum level of food aid commitments established sufficient to meet the legitimate needs of developing countries during the reform programme. The minimum commitments established under the 1999 Food Aid Convention amount to 4.9 million tonnes, which is well below the 10 million tonne target set in the 1995 Convention. Actual food aid flows have been well above the minimum in recent years, though still below the 10 million tonne target, particularly if only flows to low-income food deficit countries are considered.¹³

119. Third, regardless of the motives behind it, food aid is criticised for its negative impacts on developing country interests as regards food security and the alleviation of poverty. Food aid in kind is often attacked for being wasteful, needlessly expensive and for consisting of inappropriate foods which may lead to changes in local food preferences. It is blamed for lowering food prices and creating disincentives for developing country food producers, and it may also remove the incentive to make necessary changes in agricultural and trade policy at policy-making levels in these countries. For this reason, many donors advocate the integration of food aid operations with overall food security and development policies. Guidelines to ensure that food aid is targeted and consistent with agricultural development in recipient countries are set out in the Food Aid Convention. The current Convention has been rolled over for a two-year period until mid-2005 with a view to using this period to review and renegotiate it. Some members wish to move away from a preoccupation with targets to putting more emphasis on the quality of food aid.

13. There have been significant flows of food aid to the Russian Federation, for example, in recent years.

6. Key messages and proposals for further work

6.1 *Improving policy coherence*

120. This paper has surveyed the most important issues that arise with respect to the coherence of OECD agricultural policies with the Millennium Development Goals' objectives of reducing poverty and overcoming hunger in developing countries. While the primary focus is on the impact of OECD country agricultural policies, it is also important to take into account closely-related measures which also impact on agricultural and rural development in developing countries. Thus OECD country policies have been classified into four policy domains for the purpose of this discussion: domestic agricultural policies, related domestic non-agricultural policies, agricultural trade policy and development co-operation policy. Policy coherence for development, in this context, is defined not just as avoiding negative spillovers which would adversely affect the development prospects of poor countries but also, more positively, as seeking to exploit the potential for positive spillovers in the way these OECD policy objectives are pursued.

121. Policy incoherence is an important issue for OECD country agricultural and related policies. In order to assess the impact of these policies on developing countries, we need to know what the world would look like in the absence of these policies. We can only attempt to understand this with the aid of empirical models of how the global economy works. Because all models are simplifications of reality, the results are dependent, inevitably, on the assumptions which are made. However, there is a broad consensus among recent model results that OECD agricultural protection costs developing countries between USD 5 and USD 10 billion per annum, and that these costs multiply as other, plausible, transmission channels such as trade-technology spillovers and capital accumulation effects are taken into account. There is also a growing awareness that, particularly in the case of partial liberalisation, some countries, and particularly developing countries, may be worse off as a result. Thus the design of liberalisation, its sequencing and the availability of accompanying measures to provide a safety-net or compensation to countries adversely affected are all important issues.

122. The empirical results suggest that, the more comprehensive and deeper the liberalisation, the more likely that all countries can gain. It makes sense, therefore, to include agricultural trade liberalisation as part of the single undertaking agreed in the Doha Development Round where non-agricultural market access, further liberalisation of services trade and rule changes are also on the agenda.

123. In the context of agricultural trade liberalisation, attention should be focused on reducing tariff barriers to improve market access. Tariff peaks and tariff escalation have particularly adverse effects on developing countries. The gains to developing countries from increased market access are considerably reduced if developed countries are able to avail of lower reduction commitments for commodities where tariff barriers are high. The impact of an agreement to reduce tariff barriers is also strengthened where appropriate commitments are undertaken by middle-income developing countries. Certain types of domestic subsidies can have a significant trade-distorting effect. However, the impact of disciplining domestic subsidies is smaller, partly because these are mainly used by developed countries and to a much smaller extent by developing countries, and partly because many domestic subsidies are exempted from reduction commitments because they are deemed not to be trade-distorting. Export subsidies can be very disruptive for particular commodities and in particular markets, but their scale now is such that even their total elimination would have limited macro-level effects for food markets. The model results also suggest that export subsidies should be removed in the context of a broader liberalisation of agricultural trade, as otherwise there is the potential for negative welfare impacts on developing countries. Further expansion of TRQs is likely to have limited value, partly because of the low utilisation rates for existing TRQs, and partly because those countries most likely to make use of global TRQs have more to gain from MFN liberalisation. For less competitive exporters, TRQs hold the danger of locking them into production patterns which are vulnerable to further MFN liberalisation in any event. Finally, there is a need to address

the question of access to trade remedies such as safeguard measures. In principle, from a policy coherence perspective, it would be desirable to give greater access to developing countries while limiting the access of OECD countries to such measures.

124. Other aspects of agricultural trade policy also have the potential for policy incoherence. Regional trade arrangements (RTAs) are a growing feature of international trade, and increasingly link developing countries not just with neighbouring countries but also with developed countries. Agricultural trade is more and more encompassed by these arrangements. The danger with RTAs is the potential for trade diversion, either for developing country importers who are party to the arrangement and who may be asked to pay over the odds for their food imports, or for developing country exporters who are not party to the arrangement, and who may find their food exports substituted by those of the partner countries. Trade impact assessments should accompany proposals for RTAs to assess the likely magnitude of these effects. Seen in a more dynamic framework, however, there is evidence that the inclusion of agriculture in RTAs can help to drive the process of agricultural policy reform by raising the cost of support arrangements to a prohibitive level.

125. One approach favoured by some OECD countries to address market access issues for developing countries while maintaining in place a basic structure of agricultural support for domestic farmers is to extend non-reciprocal preferential access to the agricultural exports of developing countries, and particularly the least developed countries. Targeting improved access at producers in very poor countries who usually have limited supply capacity is advocated as one way to reconcile the interests of producers in OECD countries and those in the least developed countries. But there are dangers to this approach. Experience suggests that preferential access arrangements are often under-used because of the complexity of rules of origin requirements and for other reasons, while there is a systemic danger that beneficiary countries have a vested interest in opposing further multilateral reform because of the way in which this would erode the value of the preferences they receive. It is also the case that the majority of the world's rural poor are not located in the least developed countries, so confining improved market access to these countries risks having a very limited impact on poverty alleviation.

126. The fear of preference erosion among countries with preferential access to OECD country markets at supported prices resulting from further MFN liberalisation is a very real one. Slowing the pace of multilateral liberalisation in order to maintain the value of preferences is not the right response. However, once preferences are in place, the need for policy coherence suggests that donor countries should actively monitor the impact of their withdrawal or reduction and put in place compensatory trade measures or financial assistance as appropriate.

127. Preference erosion is not the only reason why some developing countries may lose from further agricultural trade liberalisation. Net food-importing countries are also vulnerable and there is a need to address their concerns. Putting teeth into the Marrakesh *Decision* is one possible route. Making a commitment to the world's poorest countries that their food import needs would be met and their import bills kept under control would remove one real source of concern that they have.

128. Developing countries, more generally, have proposed various exemptions from new WTO disciplines for their import-competing sectors as part of special and differential treatment. OECD countries, while sympathetic in principle to these proposals, have been reluctant to fully embrace them. One issue of contention is whether different rules should apply to developing countries, or simply a more relaxed version of common rules. Another issue is whether exemptions should apply to all developing countries or to particular sub-groups among them. Those countries advocating the latter position favour trading special and differential treatment for greater differentiation among developing countries. The policy coherence perspective does not point unambiguously in one direction, given that developing countries themselves are likely to be adversely affected by any generalised exemptions from WTO rules.

129. The paper also highlighted the importance of regulatory coherence in the design of food safety measures, environmental protection, consumer protection and intellectual property protection. As traditional trade barriers are reduced, regulatory barriers are on the increase and may now be more important obstacles to increased exports from developing countries. No one questions the right of OECD countries to introduce measures for these purposes, but given the potential for policy incoherence, all such measures should be reviewed to assess their impact on development. Among the steps which can be taken are to ensure that the regulations are proportionate to the desired objectives, to assist compliance by developing country exporters through early notification and technical assistance, to encourage developing countries to make their voices heard in international standard-setting bodies, and to be willing to recognise the mutual equivalence of standards and certificates where this is justified. Intellectual property protection for plant varieties and genetic resources is a particularly important issue, given the potential sums of money at stake. The rules in place should do nothing to hinder the flow of useful knowledge to developing countries, whether as scientific knowledge or embodied in new technologies such as new seed varieties. Striking the right balance between providing incentives through the grant of monopoly rights to plant breeders and seed companies in the hope that this will generate useful knowledge to the benefit of developing countries, while at the same time maintaining the access of farmers in these countries to productive new varieties, will have important long-term consequences for poverty alleviation.

130. A policy coherence perspective needs to be aware of the distributional impacts of agricultural policy reform, both within developing and OECD countries. The growing amount of literature on the household level and poverty impacts of agricultural policy reform in developing countries highlights the complexities of the impacts. Within each country there will be winners and losers, depending on the structure of income sources and expenditure patterns of the poor. Because it is difficult to draw generalisations, it will be important to ensure that the methodologies now being developed to map the impact of food market price changes on to households are made available widely so that individual countries can identify those likely to be vulnerable in their own specific circumstances. These findings, in turn, should influence the direction of aid policy and help in the design of appropriate safety nets. Distributional impacts are also important in OECD countries. Although OECD farm incomes may be more robust to the removal or reduction of agricultural support than is sometimes supposed, the shocks to income arising from agricultural policy reform may justify specific interventions to promote resource adjustment and to cushion the impact on asset values.

131. Policy coherence also has implications for OECD countries as aid donors. This is obviously the case with respect to food aid, where there is a need to ensure that food aid deliveries are consistent with the food security policies of recipient countries. More generally, it is increasingly recognised that improvements in market access and the elimination of subsidised competition is only part of the requirements for agriculture-oriented growth strategies in developing countries. A huge need exists to promote greater supply capacity as well. Investment and support for agricultural production is required, as well as investment in a wide range of complementary services and activities. While developing countries themselves must take primary responsibility for this, aid donors can help in various ways. Donors can give more support to agricultural projects in their aid budgets, particularly those geared towards the provision of global public goods such as agricultural research, disease control, and water and land management. There is also a greater need for trade-related aid, and the increased monitoring of this by the WTO and OECD jointly will ensure that it receives greater prominence in the future.

6.2 *Improving the knowledge base*

132. What are the most critical gaps in knowledge for the making of good policy? This final section suggests some priority areas for further research with a view to strengthening policy coherence for development in the design of agricultural policy and related policy areas.

133. The policy coherence argument for OECD agricultural policy reform is based on the evidence that OECD agricultural policies damage the growth prospects of developing countries. There is a growing convergence of the estimates of this damage at the aggregate level, although there are greater disagreements among the empirical studies on the individual country effects. It is also clear that the estimates of the overall impact are influenced by the model specification and database used. Research to identify the reasons for differences in model results and to help bring about a greater consensus on the appropriate features to be included in empirical models would help to increase confidence in their predictions. This includes investing in databases, in model specification and testing, and in parameter estimation.

134. The growing volume of work attempting to predict the household level impacts of agricultural trade liberalisation should be welcomed. As discussed in the paper, this work is still at an early stage and the techniques to integrate household-level data with global models continue to improve. This work should be supported. It would be particularly valuable to gain a better understanding of the impact on rural households of domestic policy reforms undertaken by developing countries themselves, as the fear that reductions in agricultural protection would undermine rural incomes is one of the factors leading some developing countries to seek exemption from further WTO disciplines in import-competing sectors under special and differential treatment. Helping developing countries to understand how adverse effects on rural incomes could be avoided through undertaking complementary reforms in parallel would have a high pay-off. For example, to what extent would employment and income gains from non-agricultural trade liberalisation help to lift rural households out of poverty through making non-farm opportunities more plentiful and more attractive? A difficulty in interpreting the output of the trade and poverty studies is the complexity and country-specific nature of the findings. Thus it would be useful to investigate if there are systematic differences across countries which would help to predict whether higher international food prices increase or decrease poverty and food insecurity among poor households, allowing policy makers and aid officials to identify potential winners and losers based on household characteristics?

135. The likelihood that some countries could be worse off as a result of liberalisation should be the focus of more research. It would be desirable to have better estimates of the potential cost to beneficiary countries arising from the phase out of MFN tariff preferences and special trade arrangements. Also, identifying ways in which the exposure of net food-importing countries to fluctuations on world food markets could be reduced and their confidence in the value of closer integration with these markets increased should be a high priority. More work to produce case study on how the welfare gains to developing countries from regional arrangements compare with those from multilateral liberalisation would also be useful.

136. The growing importance of regulatory coherence has been highlighted in the paper, but the real extent of regulatory measures in creating trade barriers is still little understood. We need better evidence of the impact of regulatory measures, including food safety, animal health, environment and consumer protection measures, on developing countries. Case studies of how developed country governments have helped to alleviate any adverse impacts on developing country exports should also be developed as examples of best practice. Some types of regulations may have the potential to benefit developing countries, for example, through the creation of niche marketing opportunities. More widespread protection of geographical indications is one example. Whether this is the case or not, and under what circumstances, should be investigated further.

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