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# **How Can Agricultural Trade Reform Reduce Poverty?**

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**July 2003**

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**CIES DISCUSSION PAPER 0321**

# **How Can Agricultural Trade Reform Reduce Poverty?**

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## I. Introduction

The first of the eight Millennium Development Goals articulated at the UN General Assembly in 2000 was to halve by 2015 the proportion of people in absolute poverty, that is, those living on less than US\$1 per day and suffering from hunger. Throughout most of the 19<sup>th</sup> and 20<sup>th</sup> centuries, the number of people in the world that were poverty stricken to that extent had been increasing almost continually (Bouguignon and Morrisson 2002). Since the late 1970s, however, the number has declined by more than 200 million (Sala-i-Martin 2002). Remarkable though that recent achievement has been in such a short period, the World Bank estimates that there were still as many as one in five people, or 1.2 billion, below that poverty line in 2000 (e.g., Collier and Dollar 2002, Figure 3).<sup>1</sup>

Efforts to alleviate poverty for those remaining poor people, if they are to be successful, need to be based on a clear understanding of the reasons behind successful alleviation to date. The evidence presented by Sala-i-Martin suggests aggregate economic growth differences have been largely responsible for the differences in poverty alleviation across regions, a finding supported by numerous other studies (e.g., Dollar and Kraay 2002). Initiatives that boost economic growth are therefore likely to be helpful in the fight against absolute poverty.

Trade liberalization is such an initiative that tends to boost economic growth.<sup>2</sup> But it also alters relative product prices, so its net effect on poverty reduction depends also on the signs of those product price changes and how they affect factor prices and household incomes. If the price changes (whether due to own reforms and/or those of other countries) are pro-poor, then they will tend to reinforce any positive growth effects of trade reform on the poor, although the outcome depends also on the extent to which complementary changes in policies abroad or at home:

- create new markets that are pro-poor;
- stimulate the poor to respond to altered prices and new market opportunities;
- provide second-round spillover effects that are pro-poor;

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<sup>1</sup> Sala-i-Martin's data suggest the number has fallen to 350 million, at least in 1985 PPP terms. Even if that lower figure were to be correct, it is an unacceptable number of people in extreme poverty.

<sup>2</sup> The link between openness and economic growth, while not completely unambiguous and universal, is strong, and there is no evidence that openness is harmful to growth (see the discussion in McCulloch, Winters and Cirera 2001, Ch. 2). Trade's impact on growth can be much reduced in the absence of liberal domestic markets, macro stability, and appropriate institutions and infrastructure, however, since those are all necessary to enable producers to respond to changes in international market signals (Hoekman et al. 2002). For a comprehensive survey of the links between trade, growth and poverty, see Berg and Krueger (2002). The theory is also covered succinctly in Winters (2002) while a survey of the empirical evidence is available in Winters, McCulloch and McKay (2002).

- minimize any transitional unemployment that is concentrated on the poor;
- raise government revenue that leads to pro-poor public expenditure; and
- reduce the vulnerability of the poor.

The present paper explores the potential poverty implications of one aspect of the current Doha Development Agenda of the World Trade Organization (WTO) trade liberalization agenda. At the WTO Ministerial in Doha in November 2001, members agreed, in launching the next comprehensive round of multilateral trade negotiations (MTNs), that there to be a substantial focus on development concerns (see the Doha Ministerial Declaration in WTO (2001b)). Even so, numerous developing countries remain sceptical that they will receive sufficient gains from that MTN to warrant the inevitable costs of negotiations and adjustments.<sup>3</sup> They and the donor community are sceptical not least because they perceive the OECD countries as unwilling to provide developing countries access to highly protected agricultural (and textile) markets. Some of them also still need to be convinced that reducing distortions in world food markets would alleviate rather than add to poverty and food insecurity in developing countries. Those in net food-importing developing economies worry too that, because of a higher food import bill, they will be worse off because of agricultural trade reform. Yet two-thirds of the world's poor live in rural areas and, in least-developed countries, the proportion is as high as 90 per cent (OECD 2003), so an alternative prior is that agricultural trade liberalization would be pro-poor. Given these differing priors, the aspect of the WTO negotiations focused on in below is the poverty impact reform of agricultural policy reform relative to liberalizing trade in other goods.<sup>4</sup>

This paper begins with a brief history of government intervention in agricultural markets, pointing to the historical tendency for countries to gradually change from taxing to subsidizing agriculture relative to other tradable sectors as they develop. That suggests domestic political economy forces on their own are unlikely to deliver permanently liberal food markets. Hence the need for external influences to alter that domestic political economy (Anderson 1992). The Uruguay Round agreements on agriculture and other sectors had the potential to alter outcomes, but it

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<sup>3</sup> Their scepticism is supported by recent reviews of the benefits to date to developing countries from the Uruguay Round Agreement on Agriculture. See, for example, Mathews (2002).

<sup>4</sup> An additional reason for focusing on agriculture is that – contrary to conventional wisdom – productivity growth in agriculture historically has outpaced that in manufacturing, including in developing countries (Martin and Mitra 2001). That empirical evidence suggests liberalizing markets for farm products could provide an above-average boost to economic growth in poor countries, *ceteris paribus*, which would add further to poverty alleviation. In so far as new agricultural technologies tend to have a labour-saving bias, however, maximizing the benefits from agricultural productivity growth requires flexible labour markets so that displaced farm workers can find employment readily in non-farm sectors.

did little more than establish a framework for reversing that policy transition process. For Doha to deliver a more successful outcome, evidently there will need to be more political gains to offset the domestic political losses associated with cuts to agricultural support programs.

The paper then reports modelling results suggesting that agricultural trade policies remain by far the most costly of all goods market distortions in world trade. What also becomes clear from those results is that if developing countries want to maximize their benefits from the Doha MTN round, they need also to free up their own agricultural and other markets so their producers are better able to take advantage of new market-opening opportunities abroad. The paper goes on to address such questions as whether some developing countries would be made worse off through preference erosion, whether net food-importing developing economies would suffer from higher food prices in international markets, and whether Doha would worsen food security for the urban poor of developing countries. To help answer that question by way of example, the paper examines China's accession to WTO, which involves altering relative prices in China to a much larger extent than the Doha Round is likely to do. While the conventional wisdom has been that WTO accession for China will exacerbate poverty in that country, the results summarized below offer a somewhat more optimistic view, particularly if mooted reforms to domestic policies are implemented.

The paper concludes with suggestions of ways to increase the prospects of a pro-poor reform outcome from the Doha Round, including changes needed to the domestic and trade policies of developing countries themselves.

## **II. Need for further reform**

### **A brief history of government intervention in agriculture**

During more than three centuries of modern economic growth there has been only one significant episode involving a major liberalization of agricultural protectionism, namely the mid-nineteenth century repeal of Britain's Corn Laws. Other than that, the history of industrial and post-industrial development has included a repeated pattern of agricultural protection growth. Poor agrarian economies tend to tax agriculture relative to other tradables sectors, but as nations industrialize – and for understandable political economy reasons (Anderson 1995) – their policy regimes tend

to gradually change from negatively to positively assisting farmers relative to other producers (and from subsidizing to taxing food consumers). The period since the 1950s has seen substantial growth in agricultural protectionism in the advanced industrial economies and its spread to newly industrializing economies, tendencies that accelerated in the 1980s (Anderson and Hayami 1986; Anderson 1994; Lindert 1991; OECD 2002).

Consistent with that theory is the reduction in developing countries' taxation of agriculture since the 1980s, either directly and/or indirectly via reductions in manufacturing protection and currency overvaluation (Hensen, Robinson and Tarp 2002). Such unilateral reforms, while by no means universal, have been more widespread and faster than in earlier decades. Learning from the economic policy lessons of history may be part of the reason, added to which has been World Bank etc. loan conditionality (since removing those agricultural disincentives boosts economic welfare and growth). This process can be expected to continue.

Once countries cross the line and begin protecting their farmers, however, the task of future unilateral liberalization becomes much more difficult politically. A possible solution is to open the polity, for example via trade negotiations whereby market access can be exchanged to the mutual political benefit of the trading partners' leaders (Grossman and Helpman 1995, Hillman and Moser 1995).

Given that history, the attempt in the Uruguay Round to reduce farm price supports was seen as both exciting and daunting: exciting, because a successful liberalization would reduce the huge and growing waste of resources that would be associated with the continuation of past trends in farm policies; and daunting, because the history of those policy trends across many countries and over a long period suggests major counter-acting of domestic political forces would be needed for a multilateral agreement to be reached.

It seems almost incredible that the Uruguay Round could have been prolonged for years by a farm trade dispute affecting products that account for one-twelfth of world trade and less than one-twentieth of GDP and employment in the main countries seeking exceptional treatment for agriculture. It seems all the more amazing given that the economies hurt most by these policies are those of the protecting countries themselves. The protectionist policies are wasteful in terms of raising consumer prices for food; requiring ever-larger treasury outlays to farmers; redistributing welfare with increasing inefficiency (not only because it costs consumers and taxpayers much more than one dollar for every dollar received by farmers, but also because the largest

producers receive the lion's share of the benefits); making non-agricultural producers less competitive in so far as farm programs retain resources in agriculture; and damaging the natural environment, not least because these price-support policies typically encourage excessive use of farm chemicals (Tyers and Anderson 1992).

Why has agreement on farm trade reform been so difficult to reach? The issue involves two key groups of countries.<sup>5</sup> On the one hand, there are the traditionally lightly protected, food-exporting countries, involving not only the members of the Cairns Group<sup>6</sup> but also numerous other developing countries; and on the other hand, there are industrial countries of Western Europe, Japan, Korea and a few food-importing developing countries that are highly protective of some of their farmers. Both groups have felt strongly about their positions for a long time. Indeed it is *because* those policies are so contentious that (a) the first four rounds of GATT-based multilateral trade negotiations virtually ignored them and the next three eventually had to drop them, and (b) many minilateral (regional and other preferential) trade agreements also largely exclude farm products. It is therefore not surprising that the inclusion of farm policies in the Uruguay Round caused problems. Their inclusion was considered necessary, however, because they had become extremely distortionary by the 1980s, both absolutely and relative to non-farm trade policies, and because there were indications that agricultural protection growth, unless explicitly checked, would continue to spread to newly industrializing countries and economies in transition (both in China and in Central and Eastern Europe).<sup>7</sup>

The growth of agricultural protectionism in industrializing countries has contributed to the long-term downward trend (0.5 per cent per year during the 20<sup>th</sup> century) and to the fluctuations in international prices of farm products relative to those for industrial products. That, together with the EC's provision from the latter

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<sup>5</sup> Two other groups of countries referred to below are the net food-importing developing countries, who fear farm trade reform will raise their food import bills, and certain low-income countries currently enjoying preferential access to developed-country agricultural markets.

<sup>6</sup> The Cairns Group as of early 2003 comprised the following countries: Argentina, Australia, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Indonesia, Malaysia, New Zealand, Paraguay, Philippines, South Africa, Thailand, and Uruguay. Originally it involved 14 countries excluding Bolivia, Costa Rica, Guatemala, Paraguay and South Africa but including Fiji and Hungary. The group is named after the Australian city where it first met in August 1986. The Group's sole purpose was to ensure that agricultural trade liberalization remained high on the agenda of the Uruguay Round – and that objective has continued just as strongly into the Doha Round.

<sup>7</sup> Note from Figure 2 below that Poland and Hungary have begun to raise their farm producer support in anticipation of accession to the EU and its Common Agricultural Policy. In 2000 the Czech Republic, Hungary, Latvia, Poland and Slovakia each had agricultural producer subsidy equivalents (PSEs) of around 20 per cent. Unless the EU's protection is lowered, EU accession by those countries would over time involve a doubling of their PSEs. The rise would be even larger for Estonia, Lithuania and Romania whose PSEs averaged only one-quarter of the EU-15 average in 2000, and for Bulgaria whose PSE is only one-tenth (OECD 2002; Baker 2003).

1970s of export subsidies to dispose of its induced surpluses, stimulated the US to defend its foreign markets by subsidizing US farm exports as well -- a move that contributed to international food prices falling by 1987 to their lowest level from the twentieth century in real terms. The export subsidies under the US Export Enhancement Program were very costly to the US, added only very modestly in proportional terms to the EC budgetary cost of the Common Agricultural Policy, and imposed large costs on other actual or would-be agricultural-exporting countries. As a consequence of these policy developments, the deadweight welfare losses in those protecting countries from distorting their food markets more than doubled over the 1980s, while the benefits to their farmers as a group increased by 'only' 50 per cent (Tyers and Anderson 1992, Tables 6.5, 6.6). To that increase in inefficiency of these policies as redistributive devices has to be added the costs of lobbying for and administering the policies plus the collection and by-product distortion costs of raising the government revenue needed to finance the subsidies.

### **What cuts in agricultural support resulted from the Uruguay Round?**

Despite the strong emphasis in the Uruguay Round (UR) on agriculture, the extent of agricultural protectionism has diminished little. In the OECD countries, the total net transfer from consumers and taxpayers to farmers was 2.3 per cent of their GDP at the start of the UR (1986-88). By the end of the UR negotiations that had fallen to 1.8 per cent (1993-95); and by the end of implementation of commitments by those countries those net transfers were just 1.3 per cent of their GDP. That indicator is not very relevant, however, because agriculture's share of GDP has continued to diminish over that period. The total *value* of that transfer has in fact not fallen at all. On the contrary, it has risen from 302 to 330 billion US dollars between 1986-88 and 1999-2001 (OECD 2002).

Of more relevance is the producer nominal protection coefficient (the ratio of prices received by producers and the border price, both adjusted to refer to the same point in the marketing chain). That fell between 1986-88 and 1993-95 from 1.57 to 1.40, but mainly just because international food prices rose from historically low to historically high levels while policies ensured that domestic prices changed little. Since then that ratio has fallen only slightly, to 1.35 in 1999-01 (OECD 2002). Similar changes have been estimated by the OECD for its percentage producer and consumer subsidy equivalents (PSEs/CSEs). But with the number of active farmers

declining over time, support per farmer has continued to rise in numerous OECD countries. Meanwhile, the range of support across OECD countries remains almost as wide now as it was fifteen years ago: averaging less than 5 per cent of gross farm receipts in Australasia and 20 per cent in North America but 35 per cent in the EU and more than 60 per cent in Japan, Korea, Norway and Switzerland (Figure 1).

There have been some changes in the ways in which support for farmers is provided, but they too have been minor. The key shift – mainly confined to the EU and Switzerland – has been away from production- and trade-distorting measures towards area payments, payments subject to input constraints, and payments subject to an income means test. Even so, market price support still accounted for four-fifths of all OECD agricultural support in 1999-2001 (Figure 2). Since then the United States has introduced its 2002 Farm Bill which shifted some of its producer support to more direct means – at the same time raising overall assistance to farmers, much to the chagrin of the Cairns Group and other agricultural exporters. Orden (2003) argues that despite that Bill, the US is still capable of offering substantial reductions in protection if others are willing to do likewise in the Doha Round.

### **Where are the biggest potential gains from the Doha Round?**

Given those and all the other changes in farm and non-farm protection expected by the end of the Uruguay Round implementation period, what is the potential for further welfare gains from the WTO's Doha Development Round? This question was addressed in a recent empirical study (Anderson et al. 2001), using an applied general equilibrium model of the global economy known as GTAP.<sup>8</sup> According to that study, of all the economic gains to be had in 2005 from removing the barriers to trade in goods that will still be in place after all Uruguay Round commitments are implemented, almost half (48 per cent) would come from agricultural and processed food policy reform in OECD countries (Table 1) – even though such products in those countries contribute only 4 per cent of global GDP. But notice also that another one-sixth of the welfare gains would come from reform of farm and food policies of developing countries.

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<sup>8</sup> The GTAP (Global Trade Analysis Project) model is based in Purdue University (see Hertel 1997). It is a standard, multi-region model that is currently in use by several hundred researchers in scores of countries on five continents. The data base builds on contributions from many of these individuals, as well as the national and international agencies in the GTAP Consortium.

Textiles and clothing reforms would be the next biggest contributor, although they appear small by comparison with agricultural reform: their potential global welfare contribution is only one-ninth that of agriculture's (7 per cent compared with 65 per cent). This big difference reflects two facts. One is that projected distortions to prices for agriculture are more than twice those for textiles and clothing in 2005. The other is that textiles and clothing contribute only 1.5 per cent to the value of world production and 5 per cent to the value of world trade, half or less the shares for farm products.<sup>9</sup>

The distribution of the gains across regions that would result from full trade liberalization is clear from the upper half of Table 1. As always, most of the gains accrue to the liberalizing region. For example, all but one-tenth (12/122) of the gains from high-income countries removing distortions to their trade in farm and food products accrues to those countries. Even so, that farm trade reform contributes more than one-quarter of the total welfare gains to developing countries from developed countries liberalizing their merchandise trade (12/43). As for developing countries liberalizing their own farm and food policies, three-quarters of the benefits therefrom stay with the developing countries themselves (31/43), and those policies contribute almost half of the gains from those countries' overall merchandise trade reform (31/65). In total, 26 per cent (43/165) of the gains from global agricultural trade liberalization would accrue to developing countries.<sup>10</sup>

Clearly, developing countries as a group have a major stake in the process of farm policy reform continuing: according to the model results in Table 1, farm and food policies globally contribute 40 per cent (43/108) of the cost to developing economies of global goods trade distortions. Textile and clothing policies also harm them greatly, but barely one-third as much as farm policies.<sup>11</sup> The Table shows that 60 per cent of the contribution to developing countries from trade liberalization – and 72

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<sup>9</sup> Two assumptions are crucial in generating the results reported in Table 1, however. One is that China and Taiwan, having joined the WTO at the end of 2001/start of 2002, enjoy the same accelerated access to OECD markets under the Uruguay Round Agreement on Textiles and Clothing (ATC) as other developing countries that were already WTO members. The other crucial assumption is that OECD countries fully implement the spirit of the ATC by the end of 2004, that is, they remove remaining import quotas and do not replace them with similarly protective instruments such as safeguard measures. Dropping either of those assumptions reduces very substantially the estimated gains from Uruguay Round implementation (Anderson et al. 1997b), and therefore would raise the potential gains from textile and clothing reform in the next and subsequent WTO rounds above that reflected in Table 1.

<sup>10</sup> This compares with an estimate for 2015 of 32 per cent in a study that examined just agricultural trade reform alone (Beghin, Roland-Holst and Mennsbrughe 2003).

<sup>11</sup> It should be recognised that these results ignore the effect of tariff preference erosion. In so far as a developing country receives such preferences at present in OECD markets, the above results slightly overstate the potential gains from their reforms. This point is taken up below.

per cent of that from farm trade liberalization -- would come from reforms by developing countries themselves. This reflects the importance of South-South trade: since the mid-1980s, the share of developing countries' agricultural exports that are going to other developing countries has risen from less than 30 per cent to around 40 per cent (Martin 2001).

*What would be the impact on international food prices?*

The above GTAP modeling study found that full liberalization of OECD farm policies would boost the volume of global agricultural trade by more than 50 per cent, but would cause real international food prices to rise by only 5 per cent on average.<sup>12</sup> For the subset of low-income countries that would remain net food-importing economies after such a reform and thereby suffer a deterioration in its terms of trade, the extent of the rise in their food import prices from a phased and partial reform (as distinct from the instantaneous and complete reform modelled above) would be indiscernible from other changes in terms of trade due to such things as exchange rate movements. Even the complete reform generates estimated losses for only two of the food-importing countries/country groups shown in the disaggregated Table 2, namely China and Middle East/North Africa.

*Would rich countries gain more than developing countries?*

The final two columns of Table 2 reveal that, even though developing countries would gain slightly less than rich countries in aggregate dollar terms from a move to global free trade in merchandise, they gain much more as a percentage of GDP: 1.9 per cent, which is more than three times the percentage for rich countries. For Sub-Saharan Africa (other than South Africa) the gain would be 1.4 per cent of its GDP.

Furthermore, those developing countries would gain less if they abstained from reforming their own policies. To illustrate the point, the effects on low-income countries in Sub-Saharan Africa and South Asia have been examined first without and then with those economies participating in reform (Anderson and Yao 2003). If all regions other than South Asia and Sub-Saharan Africa were to remove their trade distortions remaining after the end of 2004 when all Uruguay Round commitments are to have been implemented, the world economy would structurally adjust to allow each

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<sup>12</sup> Beghin et al. (2003) estimate a slightly higher price rise for numerous agricultural commodities (but close to zero for others), but their study does not include reform to non-farm trade and so overstates what the relative price change would be in a multi-sector agreement.

region to exploit even more its comparative advantages. Sub-Saharan Africa and South Asia would have to undertake some structural changes within and between key sectors even if they chose not to join in such a trade reform (Table 3(a)). In particular, agriculture would expand at the expense of labour-intensive manufacturing in those low-income countries. However, Sub-Saharan Africa would expand its agricultural output more, and contract its manufacturing more, if it also undertakes reforms itself than if it stands aside from reform. The trade balance for the different product groups is affected by the above production effects plus changes in consumption, following relative price and income changes. By comparing Tables 3(a) and 3(b) it is evident that net food imports are less for Sub-Saharan Africa and South Asia following the removal of remaining trade barriers in 2005, but more so when those developing countries participate in the reform.

*Would poor African countries gain more from Doha if they abstained from reform?*

The results in Anderson and Yao (2003) suggest Sub-Saharan Africa's aggregate economic welfare gain is twice as great from participating in than from standing aside from further trade liberalization. However, most of that greater gain goes to the South African Customs Union. The reason that Other Sub-Saharan Africa as an aggregate does not gain more is that the very considerable gains from more efficient resource use there would be offset by an adverse change in the region's terms of trade when all of those countries expand their primary product exports simultaneously.

That raises the question: would the economy of each Sub-Saharan African country be better off if its government did not participate in the next WTO round? The answer is: certainly not. On the contrary, their economy's welfare would be even worse if their government did not participate, for several reasons. One is that it would forego the economic efficiency gains from reforming its own policies while still suffering the terms of trade loss from others' reforms (since any one of those countries is too small for its own policy choice to alter the terms of trade significantly).<sup>13</sup> Second, it would forego the opportunity to seek through the negotiations greater market access for its particular exports to other countries. And third, there is the promise in this next round that any participating poor economies that lose from taking part in the multilateral liberalization could secure much more

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<sup>13</sup> For empirical support for this proposition, see for example Anderson and Strutt (1999) with respect to Indonesia. The point is made strongly also in the volume on the Uruguay Round edited by Martin and Winters (1996).

compensation than in previous rounds, in the form of technical assistance and funds for trade policy capacity building (WTO 2001b).

It is thus in the national economic interest of such countries to be pressured from abroad to commit to such reform, painful though that may be politically for its government. The political pain tends to be less, and the prospect for a net economic gain greater, the more sectors the country involves in the reform. The economic gain is prospectively greater the more sectors it involves because a wider net reduces the possibility that reform is confined to a subset of sectors that are not the most distorted. (When so confined, resources might move from the reformed sector to even more inefficient uses, thereby reducing rather than improving the efficiency of national resource use.)

#### *Further reasons for developing countries to participate in Doha-induced reform*

If there were not enough reasons for a developing country government to become an active participant in the Doha Round, including embracing trade reform at home, there are at least three other reasons for doing so. One is that the more each country is prepared to provide trading partners with greater access to its own market, the more those partners are willing to reciprocate by providing greater access to their markets. That benefits exporters in all countries, offsetting the loss of domestic political support from import-competing producers. The second reason is that once a country binds its reform commitments, as required under WTO, its government is better able to resist the temptation to give in to political pressure to reverse that reform. And the third reason has to do with the spread of globalization, which is raising the net political benefits of opening up markets versus remaining protectionist and interventionist. The dramatic falls in the costs of doing business across national boundaries mean not only that the rewards from opening one's own economy to foreign trade and investment flows have risen, but also that the costs of *not* adopting and maintaining an open, stable and transparent set of economic policies also are rising. If, as a result of these globalization forces, the governments of developing economies choose to embrace more reform at home, it makes sense to capitalize on that decision by using the next WTO Round to demand greater access to trading partners' markets in return.

#### *Qualifications to the global modeling results*

There are three other important source of gains from trade reform that are not captured in the above results, namely, gains from reform to trade in services, gains from increasing competition and economies of scale, and dynamic gains.

The nature of service sector policies makes estimating their effects much more difficult than is the case for goods barriers to trade. Nonetheless, preliminary empirical attempts suggest restrictions on services trade and investment flows are very substantial, particularly by developing countries (Findlay and Warren 2000). Moreover, the GATS negotiations during the Uruguay Round resulted in almost no commitments to lowering those impediments (Hoekman 1996). During that Round many developing countries considered the negotiations that led to the General Agreement on Trade in Services (GATS) as something they had to put up with in order to get agriculture and textiles ‘concessions’. Yet the gains to developing countries from opening up their services markets, as for developed countries, would be enormous. Those gains would come not just directly to consumers but also to producers who purchase services as intermediate inputs into their goods production. Farmers in particular would benefit from services reform because they depend heavily on such things as transport services to get their produce to domestic and overseas markets (Anderson and Hoekman 2000).

While measuring distortions to services trade and mark-ups by imperfectly competitive firms is fraught with difficulty, initial attempts are beginning to bear fruit. A new study by Francois (2001) includes one set of estimates of the tariff equivalent of those distortions in a version of the GTAP model that also incorporates imperfect competition and scale economies. Specifically, that study assumes monopolistic competition exists in the non-primary sectors involving economies of scale that are internal to each firm. These modifications amplify the estimated gains from trade considerably. For example, that study finds that if applied tariff rates for both goods and services were to be cut in half, the global gains would be US\$385 billion, of which 51 per cent would be due to services reform. The 49 per cent due to halving tariffs on goods trade (\$192 billion) in the Francois study compares with the above estimate (where no imperfect competition is assumed) of around \$250 billion from totally removing all tariffs on merchandise trade. The key point to draw from this comparison is that the gains from trade reported above should be interpreted as lower-bound estimates for at least two reasons: because they apply only to goods trade, leaving aside the important distortions prevalent in services markets; and because they

are based on the assumption that there are no economies of scale and that perfect competition prevails in all sectors.

None of the studies reported above draw on a truly dynamic economic model. They measure well the effects of producers reallocating their resources and consumers adjusting their purchases when relative product prices change with trade reform, but they do not measure the impact of such reform on investment behaviour. Yet we know from experience that when markets are freed up, investors divert their funds towards expanding the now-more-profitable activities and away from the now-less-profitable ones. They are also willing to invest more in aggregate, because of the reduced uncertainty associated with binding the reforms in WTO schedules. That boost to investment applies even more following the reductions in barriers to foreign investment and hence international technology transfers of the past two decades. Thus economic growth is boosted by that diversion and expansion of investment funds, over and above the boost in output from reallocating existing resource endowments.

This additional effect is omitted from most empirical modelling efforts for two reasons: partly because it takes much longer for analysts to build and to run dynamic models than comparative static ones, and partly because the extent to which investors respond to changing incentives is less well understood and hence cannot be included with as much certainty as the other behavioural characteristics that are common to both comparative static and dynamic models. Keeping that in mind, it is nonetheless instructive to note the results of a recent study that examined the range of outcomes generated as the responsiveness of productivity to openness is varied.

The World Bank (2002, Ch. 6) conducted a study very similar to the one reported above, and obtained very similar results when its version of the GTAP model was in comparative static mode (a global welfare gain from complete liberalization of merchandise trade of \$355 billion per year by 2015, compared with the present study's estimate of \$254 billion as early as 2005 when the world economy would be somewhat smaller, and with agricultural policies still responsible for about two-thirds of that gain). When their same model was switched into dynamic mode, however, that global gain increased two- to three-fold over reasonable ranges of productivity responsiveness parameters. This adds further weight to the claim that the earlier welfare results should be considered as very much lower-bound estimates of the gains from trade liberalization.

In short, developing countries have much to gain economically from taking part in the next round of WTO negotiations to liberalize trade, and more so the more

they are willing to embrace reform at home so as to enable their firms to take greatest advantage of the opportunities provided by the opening up of markets abroad. And this applies especially to agricultural trade reform.

### **III. Likely impacts of further reform on particular groups of developing countries**

In thinking about the impacts that further trade reform could have on people in developing countries, it needs to be recognised that developing countries are quite heterogeneous in their degree of food nutrition and in their production and trade specialization patterns. This is evident, for example, in the sample of 23 countries included in a recent FAO study on the impact of the Uruguay Round (Mathews 2002). Table 4 shows that the proportion of the population that is undernourished is not highly correlated with the income grouping of countries. Also clear from that table is that not all low-income countries are classified as LDCs (least-developed countries), nor is the subset of them that are net importers of food defined on a calorie basis highly correlated with the WTO's list of so-called NFIDCs (net food-importing developing countries). And the countries shown vary hugely in the value of their food imports when expressed as a percentage of either total exports or just exports of agricultural products, with again not a high correlation between those indicators and the food-deficit status of countries.

Given that heterogeneity, it is helpful for present purposes to categorize developing countries as follows:

- net exporters of foods protected by OECD countries (grains, meats, dairy products, oilseed products, sugar, fruits and vegetables);
- those sufficiently close to self sufficient in protected OECD products as to be likely net exporters under global free trade;
- those net food importers who would remain so under free trade at home and abroad and are net exporters of:
  - tropical agricultural products (e.g. beverages)
  - non-agricultural primary products (e.g. petroleum)
  - non-primary products (e.g. textiles and clothing).

It is also helpful to recognise that *within* each country there are various types of households. For present purposes the key ones are net sellers of food, landless farm

labourers, and non-farm low-skilled labourers (including underemployed workers). Those households mainly supplying non-farm skilled labour and/or capital typically are not poor and so are of less concern here.

With those categories in mind, we turn to some of the concerns raised in the paper's introduction.

### **Does it matter that global trade reform erodes tariff preferences?**

Among the net exporters of foods protected by OECD countries are developing countries who receive some form of preferential access to OECD country markets. Such countries typically have put their negotiating efforts more into seeking extensions of preferential trading schemes than into cuts to remaining most-favoured-nation (MFN) barriers to trade in agricultural, textile or other products. While that option is currently still before them, it is worth considering whether it is wise to take it up.

There are several types of preferential access schemes that have been designed to mitigate the effects of high tariffs on exports from developing countries to advanced economies. They range from very broad ones with minor tariff concessions, such as the Generalized System of Preferences (GSP), to market-specific ones such as the European Union's provision of duty free access for certain volumes of certain products from certain developing countries (mostly former colonies of EU member states) in Africa, the Caribbean and the Pacific (ACP – formerly the Lome Convention, now the Cotonou Agreement), to the new EU proposal for duty- and quota-free access for most exports from the Least Developed Countries (LDCs, as classified by the United Nations). To what extent are these arrangements stepping stones or stumbling blocks towards better market access abroad for poor countries? In particular, how effective are these arrangements as compared with MFN liberalizations under the WTO in delivering benefits to poorer economies (as distinct from just being easier politically for national governments to sign)?

African, Caribbean and Pacific (ACP) developing countries that have been granted preferential access to European Union markets for some of their exports typically consider themselves privileged, believing that it better enables them to compete in those markets. Not only do they not have to pay the same import duty as other foreign suppliers, but also they receive the EU domestic price, which is higher than the international price to the extent of the protection afforded by the tariff and other restrictions such as quotas on non-ACP imports.

Beneficial though this might sound, five important points need to be borne in mind. First, many other equally poor but non-ACP developing countries are harmed by the ACP preferences. This was made abundantly clear in the 1990s during the infamous dispute-settlement case that was brought to the WTO concerning the EU's banana import regime. One background study showed that for every dollar of benefit that the banana policy brought to producers in ACP countries, the regime harmed non-ACP developing country producers by almost exactly one dollar – and in the process harmed EU consumers by more than thirteen dollars (Borrell 1999a). It is difficult to imagine a more inefficient way of transferring welfare to poor countries, since EU citizens could have, through direct payments, been thirteen times as effective in helping ACP banana producers and not hurt non-ACP banana producers at all. Such wasteful trade diversion is avoided under non-discriminatory, most-favoured-nation (MFN) liberalizations that result from multilateral trade negotiations under WTO.

Second, the additional production that is encouraged in those ACP countries when they get privileged access to the high-priced EU market is not internationally competitive at current prices (otherwise it would have been produced prior to getting that preferential treatment). Indeed the industry as a whole may not have existed in the ACP country had the preference scheme not been introduced.<sup>14</sup> In that case, its profits are likely to be lean despite the scheme, and would disappear if and when the scheme is dismantled. Efforts to learn the skills needed, and the sunk capital invested in that industry rather than in ones in which the country has a natural comparative advantage, would then earn no further rewards.

Third, the ACP preferential access scheme under the Lome Convention has not been a reciprocal agreement, that is, the developing countries were not required to open their markets to EU products. While that makes life easy for ACP politicians, it contributes nothing to the removal of the wasteful trade-restrictive policies of the ACP countries. This contrasts with market access negotiations under WTO, which are characterized by reciprocity: you receive greater access to my markets (on an MFN basis) on the condition that your trading partner receives a similar degree of improvement in access to your markets.

Fourth, in so far as a developing country sells only part of its exports into a protected market to which it has preferential access, it receives a lower price for the rest of its exports than would be the case under free trade because of the price-

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<sup>14</sup> Alternatively, the ACP scheme may have caused an existing industry to become less competitive. An extreme example of an industry that has ossified as a consequence of regulations introduced to share the expected benefits of EU preferences is sugar in Mauritius (Borrell 1999b).

depressing effect of that OECD protection on the free international market. It is therefore conceivable that the weighted average price for its exports is lower than what it would be under free trade, notwithstanding the benefit of preferential access for some of its exports.

Fifth and perhaps most importantly, the ACP preference scheme reduces very substantially the capacity for developing countries as a group to press for more access to EU markets. It does this in two ways: by reducing the number of such countries arguing against protection, and by creating a subset of developing countries supporting the EU's protectionist stance (in order to continue to receive the high domestic prices in the EU market). This point is crucial, and yet it is often not appreciated. Perhaps if these preferences had not been offered in the first place, developing countries would have negotiated much more vigorously in previous GATT rounds for lower tariffs on agricultural and other imports into the EU. That in turn would have placed greater pressure on Japan and others to reduce their agricultural protectionism also. The end result would have been higher international prices for agricultural products that, for developing country producers as a group, may have been more than sufficient to offset the lower prices received in the EU market for a favoured subset of those producers.

A similar set of provisos can be made about the EU's recent proposal to extend preferences for UN-designated 'least developed countries' (LDCs). That initiative would provide duty- and quota-free access to the EU for exports of all merchandise except arms. It received in-principle, best-efforts endorsement at the WTO Ministerial in Doha in November 2001, but without any specific timetable.<sup>15</sup>

Liberal though that proposal sounds, note that it does not include trade in services (of which the most important for LDCs would be movement of natural persons, that is, freedom for LDC labourers to work in the EU or other high-wage countries).<sup>16</sup> Also, a number of safeguard provisions are included in addition to the EU's normal anti-dumping measures. Furthermore, access to three politically sensitive agricultural markets, bananas, rice and sugar, would be phased in by the EU only gradually over the next eight years (and would be subject to stricter safeguards).

Several empirical studies of the proposal have already appeared. A World Bank study by Ianchovichina, Mattoo and Olarreaga (2001) compares the EU

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<sup>15</sup> In Paragraph 42 of the Ministerial Declaration (WTO 2001b) it simply says: "We commit ourselves to the objective of duty-free, quota-free market access for products originating from LDCs."

<sup>16</sup> On the potential gains from freeing international trade in unskilled labour services globally, see Walmsley and Winters (2002).

proposal, from the viewpoint of Sub-Saharan Africa (SSA), with recent initiatives of the United States and Japan. Their GTAP modelling results suggest that even the most generous interpretation of the US's Africa Growth and Opportunity Act (which they model as unrestricted access to the US for all SSA exports) would benefit SSA very little because the US economy is already very open and, in the products where it is not (e.g. textiles and clothing), SSA countries have little comparative advantage. Likewise they find the Japanese proposal of free access to Japan's market for industrial products helps SSA hardly at all, since the region exports few industrial products. By contrast, the EU proposal, especially if it were to apply to all Quad countries (the EU, the US, Canada and Japan), would have a sizeable effect on SSA trade and welfare – provided agriculture is included in the deal. Just from EU access alone, SSA exports would be raised by more than US\$0.5 billion and SSA economic welfare would increase by \$0.3 billion per year (a 0.2 per cent boost). This is very similar to a recent estimate by UNCTAD/Commonwealth Secretariat (2001, Ch. 3).

The estimated benefits are not surprising given that agriculture and food products account for more than half SSA exports. These items are highly protected in the EU and other Quad countries, and little is provided for them in the way of preferential access under the GSP. The results overstate the benefits of the EU proposal, however, as this World Bank study assumes all SSA countries (excluding relatively wealthy South Africa and Mauritius), not just the LDCs amongst them, would get duty- and quota-free access.

Another World Bank study, by Hoekman, Ng and Olarreaga (2002a), uses a partial equilibrium approach and looks at the benefit of the EU initiative for LDCs not just in SSA but globally. It finds that trade of LDCs would increase by US\$2.5 billion per year if all Quad countries provided them duty- and quota-free access on all merchandise.<sup>17</sup> However, almost half of that increase would come as a result of trade diversion from other developing countries. The authors suggest this is trivial because it represents less than 0.1 per cent of other developing countries' exports (about \$1.1 billion).<sup>18</sup> That misses a similar point to the one made above, however. It is that if the 48 LDCs are given such preferences, they will become advocates *for* rather than

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<sup>17</sup> This and other estimates of gains from preferential market access provisions need to be discounted to the extent that rules of origin, sanitary and phytosanitary barriers, anti-dumping duties and the like limit the actual trade allowed. For a detailed analysis of these types of restrictions on EU imports from Bangladesh in recent years, see UNCTAD/Commonwealth Secretariat (2001, Ch. 5).

<sup>18</sup> The impact outside the LDC group would be far from trivial for Mauritius, however, since the vast bulk of its exports are quota-restricted sales of clothing and sugar to the EU and US. See the discussion in UNCTAD/Commonwealth Secretariat (2001, Ch. 6).

*against* the continuation of MFN tariff peaks for agriculture and textiles – diminishing considerably the number of WTO members negotiating for their reduction. It may be true that reductions in agricultural and textile tariffs would help LDCs much less than it would help other developing countries, as the study by Hoekman, Ng and Olarreaga (2002a) finds; but the gains to consumers in the Quad would be more than sufficient to allow them to increase their aid to LDCs to compensate for the loss of income from preference erosion. To put the point in a blunter but more general way, trade can be worse than direct aid if the trade is preferential and thereby distortionary.

### **Wouldn't net food-importing developing countries lose from higher food import bills?**

Among the net food-importing developing countries (NFIDCs), some fear agricultural protection cuts by OECD countries will lead to an unaffordably higher international food import bill. Yet even those developing countries – who may be part of one of the country aggregates in Table 2 – need not lose out from farm support cuts abroad. If, for example, they are close to self-sufficient in food without price supports (as many net food importing developing countries are), and reform abroad raises the international price of food, they may switch to become sufficiently export-oriented that their net national economic welfare rises. A second possibility is that the developing country's own policies are sufficiently biased against food production that the country is a net importer, despite having a comparative advantage in food. In that case, the international price rise can improve national economic welfare even if the price change is insufficient to turn that distorted economy into a net food exporter (Anderson and Tyers 1993). That comes about because the higher price of food attracts mobile resources away from more-distorted sectors, thereby improving the efficiency of national resource allocation. Because of these two possibilities, the number of poor countries for whom a rise in international food prices might cause some hardship is much smaller than the number that are currently not net exporters of agricultural products.

What about the other NFIDCs? Some are exporters of tropical agricultural products such as beverages, while others export energy raw materials or other mining products. They would be less concerned about a higher food import bill if they received in return better access to OECD markets for more-processed versions of their primary products. Tariff escalation in many instances makes access difficult through

raising the effective protection to processors in OECD countries, who crowd out potential exports from developing country processors.

What about those developing countries whose comparative advantage is gradually moving from primary products to (initially unskilled) labour-intensive manufactures, as in much of Asia? While that industrialization lowers their direct interest in agricultural trade reform abroad, it heightens their keenness to see barriers to exports of textiles and clothing lowered. That interest of theirs in textile trade expansion should be shared by agricultural-exporting developing countries, for if the former group could export more manufactures, it would tend to become a larger net importer of agricultural products. Conversely, lowered industrial-country barriers to agricultural trade would reduce the need for the more land-abundant developing countries to move into manufactures in competition with the newly industrializing ones. Scope clearly exists for the two groups to band together and negotiate as a single voice calling for barriers to both farm and textile trade to be lowered, so that each group can better exploit its comparative advantage to the direct benefit of the vast majority of poor people in both. If that means lowering protected domestic food prices, some farm labourers will find jobs in the expanding light industrial sector where wages will have risen. Even those staying in agriculture need not lose, if savings from cuts in price supports were used to reduce underinvestment in such areas as agricultural R&D and rural roads, education and health.

### **Wouldn't higher international food prices increase poverty and food insecurity for poor households?**

The impact of trade liberalization on income distribution and thereby on poverty at the *household* level is not always clear: even though the effects of trade policies on capital owners and workers have been studied by trade theorists for centuries, applying that theory to the real world turns out to be a complex empirical task (Winters 2000; McCulloch, Winters and Cirera 2001; Hoekman et al. 2002). This is because the economy-wide effects depend (a) on the shares of households' income from different productive factors such as labour and land, whose prices will have changed (depending on the size of the changes in relative producer prices, factor

substitutability, factor intensities, and factor mobility between sectors), (b) on their expenditure shares on different products (whose consumer prices also will have changed and not necessarily to the same extent as producer prices not least because of marketing margins), and (c) on any changes in net transfers to them (e.g. increased handouts, decreased taxation, more remittances from urban relatives). Those complexities make it difficult to generalize a priori, or even in the face of empirical modelling studies when they report effects of reform just on production, trade, prices and aggregate economic welfare. Even so, some observations are nonetheless worth making about the effects on poverty and food security of reducing agricultural protectionism globally.

Most low-income countries have not propped up the producer price of food. In so far as an international food price rise is transmitted domestically,<sup>19</sup> the vast majority of the poor would benefit directly. This is because they are in farm households and are net sellers of food. Even poor landless farm labourers who are net buyers of food would benefit indirectly from agricultural trade liberalization via a rise in the demand for their unskilled farm labour, assuming that raises their wage sufficient to more than offset the rise in food prices in rural areas. Since the more affluent people in cities would find it relatively easy to pay a little extra for food, the only other major vulnerable group is the under-employed urban poor. But even that group may not be worse off in so far as trade reform generates a more-than-offsetting increase in the demand for (often informal sector) services that use that group's labour relatively intensively.

What about the impact of reform on food price variability and other aspects of food security, especially as it affects the poorest households? Contrary to popular belief, trade liberalization is much more likely to reduce than raise food insecurity for the vast majority of the world's poor. Food security means always having access to the minimum supply of basic food necessary for survival. The key to that, in addition to peace and greater efficiency in the functioning of staple food markets, is strengthened purchasing power of the poor. That is, enhancing food security is mainly about alleviating poverty. The rate of food self-sufficiency is at most only a supplementary indicator, and only while there remains a perception that food insecurity rises when the level of food self-sufficiency in basic foods falls much below 100 per cent.

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<sup>19</sup> The elasticity of price transmission is usually less than one for importing countries, especially in the short run where governments intervene at the border in an attempt to cushion the domestic market from international price fluctuations (Tyers and Anderson 1992, Sharma 2003).

Eliminating all agricultural policy distortions in developed countries would raise international prices for agricultural products on average, and reduce their variance by ‘thickening’ the market, which would stimulate production in non-protected countries.<sup>20</sup> According to one recent study (Diao, Somwaru and Roe 2001), that would boost the value of agricultural exports of developing countries by 24 per cent and dampen their agricultural imports by 2 per cent. That suggests food self-sufficiency in many low-income countries would rise. As well, since a high proportion of the poorest households in developing countries are producers and net sellers of food, they would benefit from such reform. In both respects, therefore, food security for the vast majority of households in low-income countries should be enhanced on average. Those same households would be helped even further if agricultural price-depressing policies were in place domestically and these are removed. The latter reform also boosts self-sufficiency in agricultural products and thereby boosts even further perceived food security in those economies.

The Diao, Somwaru and Roe (2001) study estimates that eliminating developing countries’ own agricultural price distortions would boost their farm export value by a further 6 per cent. True, the households that are net buyers of food in such economies will face higher food prices; but whether they become less food secure depends also on what happens to their earnings (and/or transfers). If they are landless rural poor, their earning prospects will have risen along with the growth in demand for farm labour, or for labour in local enterprises that grow as farmers spend their enhanced income on simple manufactures and services made nearby. As for urban households, the vast majority of them are more affluent than those in rural households and so can well afford to pay higher market prices for food. This suggests only a small proportion of households in low-income economies would be net food buyers at risk of becoming more food-insecure as a result of rising domestic food prices following trade liberalization. Even that group could be better off if developed countries were to reduce also their barriers to imports of textiles and clothing, since that would expand the demand for unskilled labour in the apparel industry of developing countries.

What about in developing countries where agricultural trade liberalization means lower domestic prices for agricultural products because such countries have

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<sup>20</sup> Unfortunately ‘dirty’ tariffication and the continuing use of specific tariffs by developed countries, the setting of high ceiling bindings by developing countries, and the introduction of tariff rate quotas greatly weakened (relative to pure ad valorem tariffication) the extent to which the Uruguay Round Agreement on Agriculture raised the mean and lowered the variance of international food prices during the past seven years.

kept domestic food prices above international levels via import restrictions? It is true that removing those distortions will reduce farm incomes in those countries (but by more for larger than smaller farms), and urban households will benefit from lower food prices. However, food self-sufficiency will fall – and it is the fall in both farm earnings and food self-sufficiency that focuses the attention of those who argue that agricultural trade liberalization is bad for poor households. Focusing on just the direct effects of agricultural trade policy reform can be misleading, however, not least because it does not take account of the fact that such reform is typically done in the context of multilateral, economy-wide liberalization. Being multilateral means that other countries' farm protection cuts raise international food prices, and so less of a price fall occurs than when a country cuts its agricultural protection unilaterally. And being economy-wide means the decline in demand for farm labour is more or less than offset by a growth in demand for labour in expanding non-farm industries.

In short, at least two points are worth stressing.<sup>21</sup> First, reducing agricultural policy distortions in developed countries would increase the mean and decrease the variance of international prices for agricultural products, which would stimulate production in other countries. That suggests food self-sufficiency would rise in those developing countries that transmit international prices to their domestic market. Second, since a high proportion of the poorest households in low-income countries are producers and net sellers of food, they would be key beneficiaries of such reform. In both respects, therefore, food security for the vast majority of households in low-income countries should be enhanced on average. Those same households would be helped even further by the reduction/removal of any policies that are depressing farmers' returns (e.g., directly via agricultural export taxes or indirectly via import protection for non-agricultural sectors or an over-valued currency). The latter reform also boosts self-sufficiency in agricultural products and thereby boosts perceived food security even further in those economies.

### **What about lowering domestic food prices in protective developing countries, as with China's accession to WTO?**

Those food-importing developing countries that currently protect their farmers have a different set of concerns. The case of China's accession to WTO illustrates the

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<sup>21</sup> For a more in-depth analysis of the food security aspects of WTO farm trade reform, see Diaz-Bonilla, Thomas and Robinson (2003).

situation. That accession, which will be on-going until the latter part of the present decade, involves a decline in the domestic price of some farm products. Because farm households in China are among the country's poorest, that trade reform is often pointed to as an example of one that will exacerbate poverty. To explore that possibility, a set of empirical studies was commissioned recently by the World Bank. A global economy wide numerical simulation model was used to generate the changes in product and factor prices expected from the commitments to reform that China made in its accession negotiations. These were then mapped to the earning and spending patterns of various household types and regions in China as revealed in China's rural and urban household surveys.

The conventional wisdom that China's WTO accession will impoverish its rural people, via greater import competition in its agricultural markets, need not prevail. One needs to keep in mind that, even if prices of some (land-intensive) farm products fall, those for other (labour-intensive) farm products could rise. Also, the removal of restrictions on China's exports of textiles and clothing will boost town and village enterprises, so demand for non-farm workers in rural areas may grow even if demand for farm labour in aggregate falls.

New estimates of the likely changes in agricultural prices as a result of WTO accession are drawn on to examine the factor reward implication of China's WTO accession empirically using the GTAP model. Results reported in Anderson, Ianchovichina and Huang (2002) suggest farm-nonfarm and Western-Eastern income inequality may well rise but rural-urban income inequality need not. That conclusion is supported by a more-detailed study of households by Chen and Ravallion (2002). They find negligible impacts on inequality and a small reduction in poverty in aggregate, but some variance across households and regions. Farm households tend to lose, especially those highly dependent on feed grain production (in Northeastern China) and in hinterland regions with weak links to the booming non-farm sectors and eastern provinces. But the losses are at most very small, amounting to less than 5 per cent of household income. Facilitating the transfer of some labour from less-lucrative farm activities to now-more-lucrative non-farm work could (with the usual remittances back to the farm household) be sufficient to ensure all gain from China's WTO accession.

The study by Anderson, Ianchovichina and Huang (2002) also examines how much difference it could make if the *hukou* system that restricts rural-to-urban migration were to be abolished. Their results suggest that the sign of the effects could

be switched to favour the poorer farm households – albeit at the expense of the richer non-farm ones – if the remaining WTO accession-related reforms were to be accompanied by reform of the *hukou* system that allowed some members of those households to obtain higher-paying non-farm employment and repatriate earnings back to their farm family. And of course aggregate national economic welfare would be enhanced by that labour market reform as well. This illustrates the general point that gains from trade reform will be greater, the more liberal are domestic product and factor markets.

A summary of those modelling results can be seen in Table 5. Without labour market reform, WTO accession for China would slightly reduce rewards to unskilled farm labour and to agricultural land while raising rewards to all other factors of production. That suggests farm households earning less than 60 per cent of their income from unskilled nonfarm work could be harmed (albeit only slightly) from WTO accession. If complete abolition of restrictions to off-farm migration accompanied WTO accession reforms, however, the final column of Table 5 suggests all types of farm households could be better off as more family members are attracted to higher-paying off-farm work.

In so far as China's WTO accession puts upward pressure on international farm product prices, that would have the same pro-poor consequences in other developing countries as the multilateral farm trade reform discussed above. However, the extent of that price rise and the associated increase in China's imports of farm products is going to be minor, and certainly will not, as implied by the title of Lester Brown's 1995 book, 'starve the world' (see the empirical results in Anderson et al. 1997a,b).

#### **IV. Strategies for furthering reform**

##### **Priorities for agricultural policy reform in the Doha Round**

Adding poverty alleviation to the list of major concerns of the international community only adds to what was already an overwhelmingly strong case for reducing distortions to world food markets, based on greater national and global efficiency, improvements in intra- and inter-national equity, and better natural resource and environmental outcomes. From the viewpoint of poverty alleviation in low-income countries, what should be the priorities for agricultural policy reform in

the Doha Round? Consider in turn the main issues of export subsidies, import restrictions, and domestic support.

### *Export subsidies*

Nothing less than a ban on farm export subsidies is needed to bring agriculture into line with non-farm products under the GATT. They are, after all, almost exclusively a Western European phenomenon apart from sporadic US involvement: five-sixths of all export subsidies in the mid-1990s were granted by the EU, and all but 2 per cent of the rest were accounted for by the US, Norway and Switzerland (Tangermann and Josling 1999, p. 16; OECD 2002b). The EU has proposed just a 45 per cent cut in budgetary outlays on export subsidies, while virtually all other WTO members' submissions call for their rapid phase-out. Also, it has been suggested that the any assistance provided via export credits, food aid and/or export state trading enterprises should be treated as export subsidies and therefore disciplined similarly.

### *Import restrictions*

As for the other two key interventions, import barriers and production subsidies, recent empirical work suggests agricultural market access restrictions by OECD countries are currently far more important restraints on growth and poverty reduction in developing economies than are OECD domestic support measures (Hoekman, Ng and Olarreago 2002b). Access is currently restricted by tariffs and tariff rate quotas (TRQs), in addition to technical barriers including sanitary and phytosanitary (SPS) measures. Among the things developing countries would wish to see are the conversion of specific tariffs (which harm low-priced exports from developing country most) to ad valorem tariffs, the removal of TRQs because they harm most those with least familiarity with developed-country licensing procedures, and less-onerous SPS measures because developing country exporters are least able to overcome those barriers.

While TRQs guarantee a certain level of market access at a low or zero tariff for some products, they have several undesirable features: they legitimize a role for state trading agencies, they generate quota rents that convert would-be free traders into supporters of the protective regime, they introduce scope for discriminating between countries, and they can reduce national welfare by much more than similarly protective import tariffs. If they cannot be eliminated immediately, developing countries should at least seek their expansion at the same time as seeking reductions

in out-of-quota bound tariffs. A quota expansion need not expand trade and welfare, however, for it is always possible for the quota administrator to allocate quotas so as to ensure under-fill. Stronger disciplines on and greater transparency of quota administration are therefore also required.

Reductions in tariffs too may not expand trade, because the bound (out-of-quota) tariff for many farm products is several times its applied rate in numerous countries. Developing countries also worry about the tariff escalation, tariff peaks, and specific (as distinct from ad valorem) tariffs their exporters face. A repeat of the Uruguay Round pace of reform as proposed by the EU (an average 36 per cent cut with a minimum of 15 per cent on each tariff line spread over several years) would again produce almost no cut in actual tariff protection. A formula involving higher percentage cuts on higher tariffs would be more likely to deliver cuts to applied rates. The revised (18 March) draft of the modalities paper by the Chair of the WTO's Committee on Agriculture (WTO 2003) contains such an approach, and also proposes higher cuts on processed items where tariff escalation exists, while still proposing lesser cuts for developing than for developed countries (and none for least-developed countries) – even though poorer countries have on average even bigger gaps between their ceiling bindings and applied rates, and even though their tariffs on food imports hurt their poorest non-farm households.<sup>22</sup>

### *Domestic support*

The revised modalities paper – which has been rejected as too modest by the US and Cairns Group and too radical by the EU and others with high agricultural protection<sup>23</sup> – also proposes significant cuts in domestic support for farmers (WTO 2003). However, it is conceivable that domestic measures could be found to compensate farmers in developed countries for tariff and export subsidy cuts while not eroding the welfare gains such cuts could bestow on developing countries. Dimaranan et al. (2002), for example, use the GTAP model to show that a shift in developed countries from market price support (amber box) measures to fully compensating decoupled land-based payments (blue box measures) could benefit most developing countries. But what if less-efficient measures were used? This is part of the broader issue of the risk of re-instrumentation of protection.

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<sup>22</sup> For a comprehensive analysis of flexible Swiss-type formulae see Francois and Martin (2003).

<sup>23</sup> For a first analysis of the likely effects of implementing the Harbinson proposal (on its own, without any non-agricultural reforms), see FOI (2003). That study, using the GTAP model, finds that following full implementation global economic welfare would be higher by almost \$100 billion per year and agricultural exports would be 25 per cent greater despite the elimination of export subsidies.

### **What are the risks of re-instrumentation of agricultural protection?**

If increasing market access in OECD countries through reducing farm production and export subsidies and agricultural protection is able to contribute to poverty alleviation in developing countries, then to what extent would that objective be compromised by efforts to substitute new forms of assistance to farmers as traditional protective instruments are phased out? The imposition of tariff rate quotas accompanied by very high out-of-quota tariffs, and the administration of quotas so as to ensure less than full usage of them, were two ways in which agricultural protection changes following the Uruguay Round were minimized – to the point that many developing countries struggled to identify any significant growth in agricultural export earnings resulting from the UR Agreement on Agriculture (Mathews 2002).

There are at least two ways in which cuts in assistance to developed country farmers may be minimized following the Doha Round too. One is via an expansion of exempt support measures to satisfy so-called non-trade concerns related to the alleged ‘multifunctionality’ of agriculture – even though those concerns can readily be met much more directly and hence in less trade-distorting ways than is being proposed (Anderson 2000; Paarlberg, Bredahl and Lee 2002). While the multifunctionality concept originated in the richest, most-protective economies, it is now being embraced by farmer groups in numerous developing countries as well. More than twenty such countries’ farm groups plus the EU met in Geneva 23-25 October 2002 and signed a declaration calling on WTO members to acknowledge that “agriculture cannot be treated in the same way as industrial sectors” because farming “fulfils a multitude of functions ...” Since then, however, some developing countries have been at pains to stress that their concerns are very different from those emphasized by rich countries.

The other likely form of re-instrumentation is via the adoption of stricter standards that then act as technical barriers to trade. Quarantine measures are an obvious case in point. They often add relatively large cost burdens to exporters from poorer countries because those countries do not have the same capability as developed countries to meet high standards (Wilson 2002). Numerous developing countries have cited examples of SPS measures of OECD countries that are already significantly hindering their exports (Mathews 2002). Another is the increasing use of geographical indications and traditional expressions aimed at differentiating rich-country products,

which effectively reduces the demand for substitute products from other countries.<sup>24</sup> A less-obvious possibility is the restriction of imports of food products containing genetically modified organisms (GMOs). The direct, short-term effects of a ban on GMOs could help exports from developing countries that choose not to adopt GMOs, even though it harms those who have already adopted GMOs (Nielsen and Anderson 2001; Anderson and Yao 2004). But the indirect, longer-term, and potentially much larger effects are adverse for the world's poor, namely, the disincentive effect of such restrictions on investment in agricultural biotechnologies that could lower food prices and/or raise the nutritional attributes of foods available in developing countries (not to mention the potential damage a GMO trade dispute could inflict on the global trading system – see Isaac and Kerr 2003).

### **How can the prospects for and benefits from reform be maximized?**

Consumers in developed countries are more concerned with food safety and the environment than with the price-raising effect of agricultural protection. They are therefore not a force for reform except perhaps for switching support to payments tied to better environmental or food safety outcomes. So the political force for agricultural (and textiles and clothing) reform in developed countries has to come from those countries' exporters of other industrial goods and of services. That requires developing countries providing increased access to those producers' exports as a quid pro quo. Such reform would provide additional benefits to the farm sector of poor countries, both directly through lower-cost inputs and indirectly through the currency devaluation that would accompany it. While the farm sector is typically a weak lobbying force in poor countries, membership of or association with a coalition such as the Cairns Group could enhance its lobbying skills.<sup>25</sup> So too could support from the more-enlightened non-government development agencies who realize how damaging OECD farm policies are to sustainable development in poorer countries (see, e.g., Oxfam 2002).

As mentioned above, textile and clothing exporters have an indirect interest in seeing agricultural protection reductions in their own country as well as in the OECD,

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<sup>24</sup> See, for example, the concerns raised by Cairns Group members in WTO (2001c). An analysis of the prospects for producers in developing countries also harnessing GIs as a marketing tool is provided in Maskus (2003).

<sup>25</sup> Within agriculture, developing countries' interests in Doha agenda items align closely with those of the Cairns Group of non-subsidizing agricultural-exporting countries (Bjornskov and Lind 2002). See Cairns Group (2002) for its proposal on market access in the Doha Round.

so that potential food-exporting countries can access those markets instead of competing with them by turning to manufacturing. An alliance between those two types of developing countries would allow them to jointly push for greater agricultural and textile market access in rich countries.

People in developing countries also need to recognise that while so-called special and differential treatment (such as slower reform for developing countries, as in the Harbinson proposal for the Doha round) may be what their governments prefer for political reasons, it is not in the economic interests of developing countries. Faster and larger reforms bestow greater national gains from trade liberalization.

To maximize the gains from trade reform, however, developing countries need to have well-functioning domestic economies. If factor markets are inflexible, or public infrastructures are in poor shape, only a fraction of the gains from trade reform will be realized.

### **How best to deal with residual concerns about food security?**

If a society would feel too food-insecure under *laissez faire*, then what needs to be determined is a sense of (a) its willingness to pay for more security by various means, and (b) the costs of those insurance measures. One such measure involves encouraging the holding of food stocks above those that would be commercially viable -- a public good that is explicitly allowed for in Annex 2 of the WTO's Agreement on Agriculture. The optimal level of encouragement is that which boosts stocks so that the marginal social benefit in terms of food security equals the marginal social cost of that intervention. Costs are non-trivial, however. Storage and interest costs and the costs of spoilage and quality deterioration can amount to more than 20 per cent a year. The cost part of the calculation also would need to include the risk of government failure if stocks were to be managed by an inefficient (or corrupt) public agency.

If greater domestic production capability was considered by society to be one of the desirable means of boosting food security (because of a perception that food import dependence is too unreliable), there are far less costly ways of achieving that than via farm product price supports and import protection. For example, boosting production alone, rather than also taxing consumption as with an import barrier, would be a lower-cost and less-trade-distortive means of achieving that end. Even more effective could be improvements in land tenure and more investment in the

stocks of primary factors used in food production: agricultural research,<sup>26</sup> rural human capital, and rural infrastructure (Otsuka 2002). That would provide an especially high payoff in situations where, as in so many countries, there has been gross under-investment in these activities in the past. Simultaneously, production could be boosted in many low-income countries simply by better clarifying and enforcing land rights, since they are a key source of collateral for securing loans for productive investments by farm households.

Where targeted programs to boost the earning capacity of the poverty-stricken (e.g. via basic education/training) are still not enough to boost their food security in the short term, targeted consumer subsidies to provide that core group with food staples are much less costly than general subsidies to all food consumers via price-depressing agricultural policies. Food aid that is targeted to just that group could be readily provided by the international community without depressing very much the prices received by farmers in recipient countries.<sup>27</sup> And greater technical and economic cooperation in the areas of agricultural research, rural education and health, and rural infrastructure may be important co-requisites of trade policy reform if developing countries are to be convinced that they would gain unequivocally from the Doha round.

## **V. Conclusions and implications for developing countries**

Low-income countries have much to gain from the WTO's Doha Round of trade negotiations. In particular, they have a strong vested interest in working together to push simultaneously for the freeing up of trade in both farm and textile products. Achieving that end will require some opening up of developing economies themselves as a *quid pro quo*, but that will benefit rather than hurt the poor in their own economies -- especially if it includes reducing the relatively high levels of protection currently afforded many capital-intensive manufacturing industries and the service sector. For the subset of net food-importing developing countries that also protect farmers, it will be politically easier for them to deliver some reform in agriculture (a) the more developed countries reform their farm policies and thereby raise the mean

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<sup>26</sup> For recent reviews of the substantial contribution that a further boost to agricultural research could do for poverty alleviation in low-income countries, see Hazell and Haddad (2001) and Ryan (2002).

<sup>27</sup> If such subsidies are only paid in the towns and cities, however, this increases the risk of excessive, socially costly migration out of agriculture as analysed by Harris and Todaro (1970).

and reduce the variance of international food prices and, if necessary, (b) mechanisms are introduced to increase perceived food security.

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Table 1: Sectoral and regional contributions to economic welfare gains<sup>a</sup> from completely removing trade barriers globally, post-Uruguay Round, 2005

(a) in 1995 US\$ billions

<b>Liberalizing Region<sup>b</sup>: Benefiting region<sup>b</sup>:</b>	Agriculture and Food	Other Primary	Textiles & Clothing	Other Manufactures	Total
<b>High Income</b>					
<i>High Income</i>	110.5	-0.0	-5.7	-8.1	96.6
<i>Low Income</i>	11.6	0.1	9.0	22.3	43.1
<b>Total</b>	<b>122.1</b>	<b>0.0</b>	<b>3.3</b>	<b>14.2</b>	<b>139.7</b>
<b>Low Income</b>					
<i>High Income</i>	11.2	0.2	10.5	27.7	49.6
<i>Low Income</i>	31.4	2.5	3.6	27.6	65.1
<b>Total</b>	<b>42.6</b>	<b>2.7</b>	<b>14.1</b>	<b>55.3</b>	<b>114.7</b>
<b>All Countries</b>					
<i>High Income</i>	121.7	0.1	4.8	19.6	146.2
<i>Low Income</i>	43.0	2.7	12.6	49.9	108.1
<b>Total</b>	<b>164.7</b>	<b>2.8</b>	<b>17.4</b>	<b>69.5</b>	<b>254.3</b>

(b) in per cent of total global gains

<b>Liberalizing Region: Benefiting region</b>	Agriculture and Food	Other Primary	Textiles & Clothing	Other Manufactures	Total
<b>High Income</b>					
<i>High Income</i>	43.4	0.0	-2.3	-3.2	38.0
<i>Low Income</i>	4.6	0.1	3.5	8.8	16.9
<b>Total</b>	<b>48.0</b>	<b>0.0</b>	<b>1.3</b>	<b>5.6</b>	<b>54.9</b>
<b>Low Income</b>					
<i>High Income</i>	4.4	0.1	4.1	10.9	19.5
<i>Low Income</i>	12.3	1.0	1.4	10.9	25.6
<b>Total</b>	<b>16.7</b>	<b>1.1</b>	<b>5.5</b>	<b>21.7</b>	<b>45.1</b>
<b>All Countries</b>					
<i>High Income</i>	47.9	0.1	1.9	7.7	57.5
<i>Low Income</i>	16.9	1.0	4.9	19.6	42.5
<b>Total</b>	<b>64.8</b>	<b>1.1</b>	<b>6.8</b>	<b>27.3</b>	<b>100.0</b>

<sup>a</sup> No account is taken in these calculations of the welfare effects of environmental changes associated with trade liberalization, which could be positive or negative depending in part on how environmental policies are adjusted following trade reforms.

<sup>b</sup> High and low income here are short-hand for developed and developing countries.

Source: Anderson et al. (2001).

Table 2: Disaggregation of sectoral and regional contributions to economic welfare gains<sup>a</sup> from completely removing trade barriers globally, post-Uruguay Round, 2005

(1995 US\$billion)

	Rich country liberalization			Developing country liberalization			Global liberalization		
	Total	Primary	Manuf.	Total	Primary	Manuf.	All merchandise		
	\$bil	\$bil	\$bil	\$bil	\$bil	\$bil	\$bil	% of GDP	
North America	3	11	-9	19	9	11	22	<b>0.2</b>	
Western Europe	50	61	-11	21	2	19	71	<b>0.7</b>	
Australia/New Zealand	8	8	-1	2	1	1	10	<b>2</b>	
Japan	36	30	6	8	0	8	44	<b>0.8</b>	
China	5	-5	10	-11	-4	-7	-6	<b>-0.4</b>	
HKong, Korea, Taiwán	4	1	6	24	12	12	28	<b>2.3</b>	
Indonesia	1	0	0	1	0	1	2	<b>0.9</b>	
Other Southeast Asia	0	-1	1	10	6	5	11	<b>2.6</b>	
India	4	1	3	5	2	3	9	<b>1.8</b>	
Other South Asia	1	0	1	5	3	2	7	<b>4.6</b>	
Brazil	3	1	2	13	5	9	16	<b>2</b>	
Other Latin America	15	14	1	4	3	2	19	<b>2.4</b>	
Turkey	0	-1	1	2	1	1	2	<b>0.9</b>	
Middle East & N. Africa	-1	-3	2	-1	0	0	-2	<b>-0.2</b>	
Economies in Transition	4	1	3	2	2	0	6	<b>0.7</b>	
South African CU	1	1	0	1	0	0	1	<b>0.9</b>	
Other Sub-Saharan Africa	2	2	0	1	1	0	3	<b>1.4</b>	
Rest of world	4	3	1	7	3	4	11	<b>3</b>	
<b>Low income</b>	<b>43</b>	<b>12</b>	<b>31</b>	<b>65</b>	<b>34</b>	<b>31</b>	<b>108</b>	<b>1.9</b>	
<b>High income</b>	<b>97</b>	<b>110</b>	<b>-14</b>	<b>50</b>	<b>11</b>	<b>38</b>	<b>146</b>	<b>0.6</b>	
<b>Total</b>	<b>140</b>	<b>122</b>	<b>17</b>	<b>115</b>	<b>45</b>	<b>69</b>	<b>254</b>	<b>0.8</b>	

Source: Anderson et al. (2001).

Table 3: Percentage difference in sectoral output when all merchandise trade distortions remaining post-Uruguay Round are removed, 2005

(a) Reform in all regions except Sub-Saharan Africa and South Asia

	South Africa	Other Sub- Sahara Africa	India	Other South Asia
Rice	6	1	12	9
Wheat	18	2	6	6
OtherCerealGrain	114	85	1	1
VegFruitNuts	1	0	1	1
OilSeeds	2	3	-1	2
OthCrops	43	-8	-2	1
PlantFibre	-12	11	-2	0
Livestocks	28	15	0	1
OthFoodProd	28	2	-2	29
MeatDairyPrd	38	14	1	3
ForestryFish	2	0	0	1
EnergMineral	-2	0	1	2
VegOilsFats	0	0	-4	-5
TextileWap	-8	-2	-10	-16
OtherManuf	-7	0	3	11
Services	0	0	0	0

(b) Reform in all regions including Sub-Saharan Africa and South Asia

	South Africa	Other Sub- Sahara Africa	India	Other South Asia
Rice	4	-1	19	18
Wheat	-3	-6	15	7
OtherCerealGrain	171	90	1	2
VegFruitNuts	1	9	0	-3
OilSeeds	-5	-1	0	7
OthCrops	61	9	-2	-4
PlantFibre	-10	-1	-2	-1
Livestocks	-6	54	0	6
OthFoodProd	22	3	1	38
MeatDairyPrd	-6	0	2	8
ForestryFish	7	4	0	3
EnergMineral	29	7	6	3
VegOilsFats	0	2	-15	-17
TextileWap	1	-13	5	29
OtherManuf	-8	-5	19	60
Services	1	0	2	4

Source: Anderson and Yao (2003).

Table 4: Income category and food trade status of a sample of developing countries.

	<b>% of population under- nourished, 1998-00</b>	<b>Income/food trade status groupings</b>			<b>Food imports as % of total exports, 1995-99</b>	<b>Food imports as % of agric exports, 1995-00</b>
Bangladesh	35	LI	LDC	LIFDC	21	829
Botswana	25	UMI		NFIDC	14	256
Brazil	10	UMI			7	30
Costa Rica	5	UMI			6	19
Côte d'Ivoire	15	LI		NFIDC LIFDC	9	17
Egypt	4	LMI		NFIDC LIFDC	20	542
Fiji	na	LMI			9	52
Guyana	na	LMI			7	23
Honduras	21	LMI		NFIDC LIFDC	13	48
India	24	LI		LIFDC	5	42
Indonesia	6	LI		LIFDC	6	56
Jamaica	9	LMI		NFIDC	12	111
Kenya	44	LI		NFIDC LIFDC	13	32
Malawi	33	LI	LDC	LIFDC	13	16
Morocco	7	LMI		NFIDC LIFDC	12	146
Pakistan	19	LI		NFIDC LIFDC	15	134
Peru	11	LMI		NFIDC	14	152
Philippines	23	LMI		LIFDC	6	123
Senegal	25	LI	LDC	LIFDC	26	357
Sri Lanka	23	LMI		NFIDC LIFDC	12	68
Thailand	18	LMI			2	14
Uganda	21	LI	LDC	LIFDC	20	41
Zimbabwe	38	LI			5	13

Note: LI, LMI and UMI refer to the World Bank classifications of low-income, lower middle-income and upper middle-income countries; LDCs are least-developed countries, as recognized by the UN; LIFDCs are low-income food-deficit countries, defined by FAO as those countries with a GNP per capita less than \$1,445 in 2000 and which are net importers of food defined on a calorie basis; NFIDCs are net food-importing developing countries, as defined by the WTO Committee on Agriculture.

Source: Compiled from data in Mathews (2002) and the FAO's *State of Food Insecurity 2002*, Rome.

Table 5: Changes in China's real factor prices and national economic welfare due to its WTO accession, 2001 to 2007

(per cent and, for national welfare, 1997 US\$ billions)

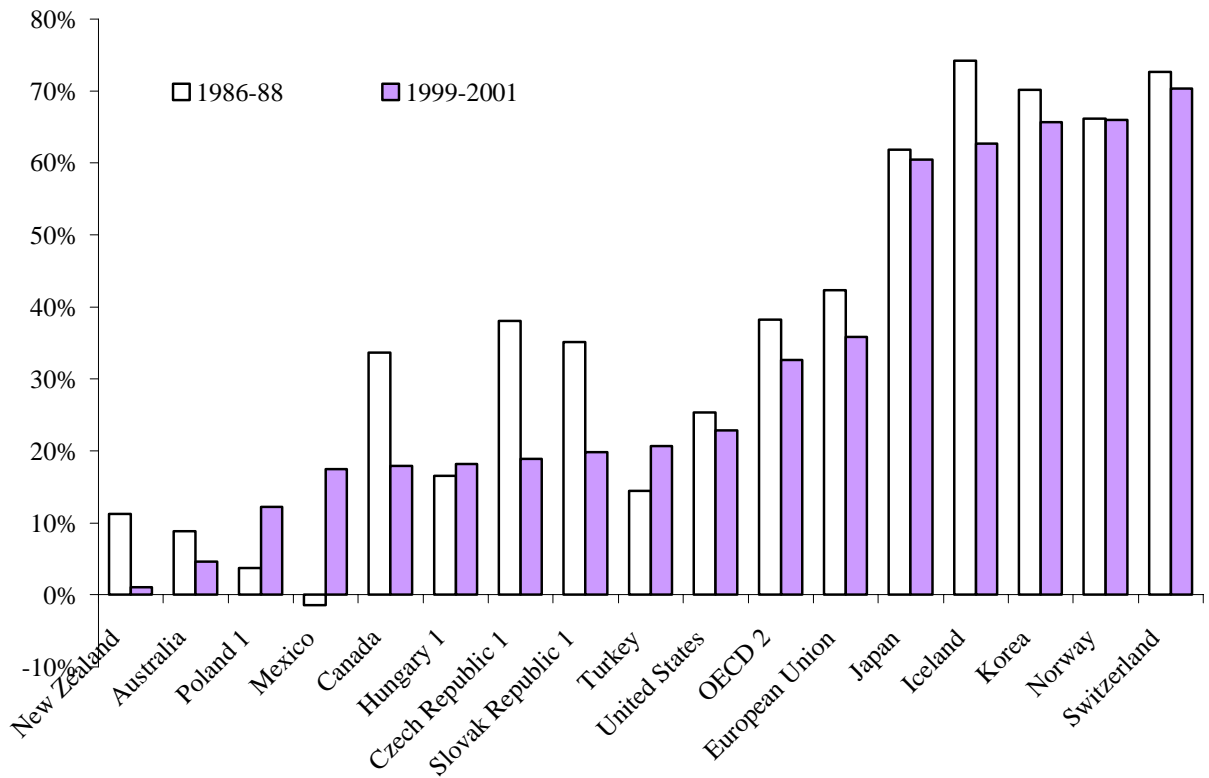
	Core WTO accession scenario	Alternative scenario: core case plus also removing labour market distortion
<b>Factor rewards:</b>		
Farm unskilled wages	-0.7	16.8
Rental price of land	-5.5	-9.7
Nonfarm unskilled wages	1.2	-3.8
Skilled labor wages	0.8	-1.7
Rental price of capital	1.3	-1.4
<b>Farm household income<sup>a</sup>:</b>		
Farm household type-A	-1.6	6.8
Farm household type-B	-0.8	3.6
Farm household type-C	0.1	0.4

<sup>a</sup> Farm income from agriculture is made up of 57 per cent from unskilled farm labour, 26 per cent from agricultural land and 17 per cent from farm capital, according to the GTAP database. In 1999 on average 51 per cent of rural household income in China was earned outside agriculture, mostly from unskilled labour. Therefore, to illustrate the importance of those off-farm earnings for farm families, three types of farm households are shown in this table: it is assumed nonfarm unskilled labour contributes 0 per cent of total farm household income for type A, 30 per cent for type B, and 60 per cent for type C.

Source: Anderson, Ianchovichina and Huang (2002).

Figure 1: Agricultural producer support estimate by country

(% of value of gross farm receipts)



*Notes:*

Countries are ranked according to 1999-2001 levels.

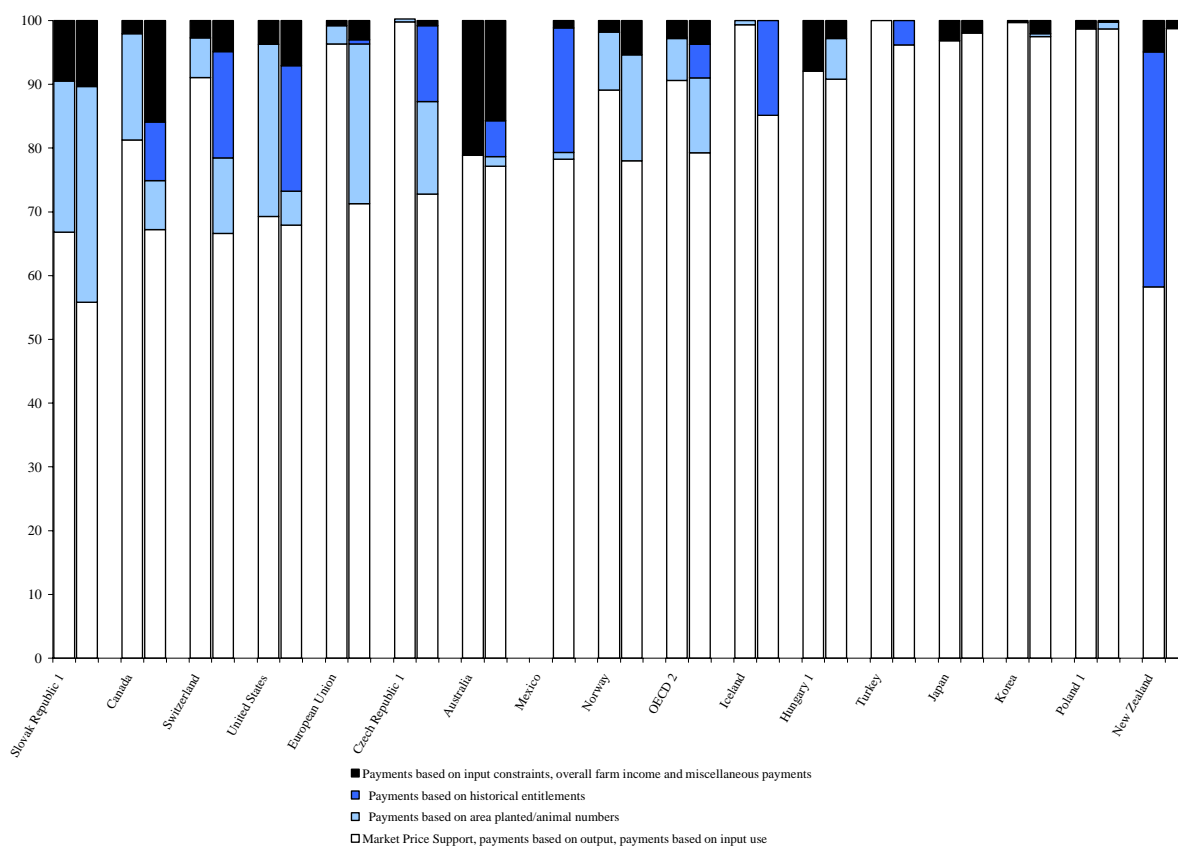
1. For the Czech Republic, Hungary, Poland and Slovak Republic 1986-88 is replaced by 1991-93.

2. For 1986-88, the Czech Republic, Hungary, Poland and Slovak Republic are excluded.

Source: Legg (2003), based on OECD (2002).

Figure 2: Composition of agricultural producer support estimate by country

1986-88 and 1999-2001 (Percentage share in PSE)



Notes: Countries are ranked according to the 1999-2001 share of market price support, payments based on output and payments based on input use in the PSE.

1. For the Czech Republic, Hungary, Poland and Slovak Republic 1986-88 is replaced by 1991-93.
2. For 1986-88, the Czech Republic, Hungary, Poland and Slovak Republic are excluded.

Source: Legg (2003), based on OECD (2002).

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