Chapter 1

Agriculture, Trade Reform, and the Doha Agenda

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Why all the fuss over agriculture?

Agriculture is yet again causing contention in international trade negotiations. It caused long delays to the Uruguay Round in the late 1980s and 1990s, and it is again proving to be the major stumbling block in the World Trade Organization's Doha round of multilateral trade negotiations (formally known as the Doha Development Agenda, or DDA). For example, it contributed substantially to the failure of the September 2003 Trade Ministerial Meeting in Cancún to reach agreement on how to proceed with the DDA, after which it took another nine months before a consensus was reached on the Doha work program, otherwise referred to as the July Framework Agreement (WTO 2004).

It is ironic that agricultural policy is so contentious, given its small and declining importance in the global economy. The sector's share of global GDP has fallen from around one-tenth in the 1960s to little more than one-thirtieth today. In developed countries the sector accounts for only 1.8 percent of GDP and only a little more of full-time equivalent employment. Mirroring that decline, agriculture's share of global

merchandise trade has more than halved over the past three decades, dropping from 22 percent to 9 percent. For developing countries its importance has fallen even more rapidly, from 42 to 11 percent (Figure 1.1).

Since policies affecting this declining sector are so politically sensitive, there are always self-interested groups suggesting it be sidelined in trade negotiations – as indeed it has been in numerous sub-global preferential trading agreements, and was in the GATT prior to the Uruguay Round.[1] That, however, would do a major disservice to many of the world's poorest people, namely those in farm households in developing countries. It is precisely *because* agricultural earnings are so important to a large number of developing countries that the highly protective farm policies of a few wealthy countries are being targeted by them in the WTO negotiations: Better access to rich countries' markets for their farm produce is a high priority for them.[2]

Some developing countries have been granted greater access to developed-country markets for a selection of products under various preferential agreements. Examples are the EU's provisions for former colonies in the Africa, Caribbean and Pacific (ACP) program and more recently for Least Developed Countries under the

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[1] The rules of the GATT are intended, in principle, to cover all trade in goods. However, in practice, trade in agricultural products was largely excluded from their remit as a consequence of a number of exceptions. Details are to be found in Josling, Tangermann and Warley (1996) and in Anderson and Josling (2005).

[2] According to the UN's Food and Agriculture Organization, 54 percent of the economically active population is engaged in agriculture in developing countries, which is nearly five times larger than the sector's measured GDP share (FAO 2004, Table A4). While some of that difference in shares is due to under-reporting of subsistence consumption, it nonetheless implies that these people on average are considerably less productive and hence poorer than those employed outside agriculture.

Everything But Arms (EBA) agreement. Likewise, the United States has its Africa Growth and Opportunity Act (AGOA) and Caribbean Basin Initiative (CBI). These schemes reduce demands for developed-country farm policy reform from preference-receiving countries, but they exacerbate the concerns of other countries excluded from such programs and thereby made worse off through declining terms of trade – and they may even be worsening rather than improving aggregate global and even developing country welfare.

Apart from that, many in developing countries feel they did not get a good deal out of the Uruguay Round. From a mercantilistic view, the evidence seems to support that claim: Finger and Winters (2002) report that the average depth of tariff cut by developing countries was substantially greater than that agreed to by high-income countries. As well, developing countries had to take on costly commitments such as those embodied in the SPS and TRIPS agreements (Finger and Schuler 2001). They therefore are determined in the Doha round that they get significantly more market access commitments from developed countries before they contemplate opening their own markets further.

Greater market access for developing countries exporters, and especially for poor producers in those countries, is to be found in agriculture (and to a lesser extent in textiles and clothing). This can be seen from a glance at Table 1.1. It shows that developing country exporters face an average tariff (even after taking account of preferences) of 16 percent for agriculture and food, and 8 percent for textiles and clothing, compared with just 2.5 percent for other manufactures. The average tariff on agricultural goods imported by developing countries themselves is high too, suggesting even more reason why

attention should focus on that sector (along with textiles) in the multilateral reform process embodied in the DDA.

If agriculture were to be ignored in the Doha negotiations, there is the risk that agricultural protection would start rising again. That is what happened throughout the course of industrial development in Europe and Northeast Asia (Anderson, Hayami and Others 1986, Lindert 1991). It was only with the establishment of the World Trade Organization, in 1995, that agricultural trade was brought under multilateral disciplines via the Uruguay Round Agreement on Agriculture (URAA).

That URAA was ambitious in scope, converting all agricultural protection to tariffs, and limiting increases in virtually all tariffs through tariff bindings. Unfortunately, the process of converting non-tariff barriers into tariffs (inelegantly termed "tariffication") provided numerous opportunities for backsliding that greatly reduced the effectiveness of the agreed disciplines (Hathaway and Ingco 1996). In developing countries, the option for "ceiling bindings" allowed countries to set their bindings at high levels, frequently unrelated to the previously prevailing levels of protection. Hence agricultural import tariffs are still very high in both rich and poor countries, with bound rates half as high again as MFN applied rates (Table 1.2).

As well, agricultural producers in some countries are supported by export subsidies (still tolerated within the WTO only for agriculture) and by domestic support measures. Together with tariffs and other barriers to agricultural imports, these measures support farm incomes and encourage agricultural output to varying extents. The market price support component also typically raises domestic consumer prices of farm products. Figure 1.2 shows the value and the percentage of total farm receipts from these support

policy measures, called the Producer Support Estimate or PSE by the OECD secretariat.[3]

For OECD members as a group, the PSE was almost the same in 2001-03 as in 1986-88, at about $240 billion per year. But because of growth in the sector, as a percentage of total farm receipts (inclusive of support) that represents a fall from 37 to 31 percent. Figure 1.2 also shows that there has been a significant increase in the proportion of that support coming from programs that are somewhat "decoupled" from current output – such as payments based on area cropped, number of livestock, or some historical reference period – that have less impact on current production than measures that raise product prices.

Agricultural protection levels remain very high in these developed countries, especially when bearing in mind that 1986-88 was a period of historically very low international food prices and hence above-trend PSEs. And, as Figure 1.3 shows, the PSEs have fallen least in the most-protective OECD countries. By contrast, tariff protection to OECD manufacturing has fallen over the past 60 years from a level similar to that for OECD agriculture today (above 30 per cent nominal rate of protection) to only one-tenth of that now. This means far more resources have been retained in agricultural production in developed countries – and hence fewer in developing countries – than would have been the case if protection had been phased down in both sectors simultaneously.

Nonetheless, the achievements of the Uruguay Round Agreement on Agriculture provide some scope for optimism about what might be achieved via the WTO as part of

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[3] Until recently the PSE referred to the Producer Subsidy Equivalent. For more about the concept and its history, see Legg (2003).

the DDA and beyond. The current Doha round has the advantage over the Uruguay

Round of beginning from the framework of rules and disciplines agreed in that previous

Round. In particular, it has the three clearly identified "pillars" of market access, export

subsidies, and domestic support on which to focus. True, it took more than three years to

agree on a framework for the current negotiations, reached on at the end of July 2004

(WTO 2004), but now that July Framework is likely to guide the negotiations for some

time. It therefore provides a strong basis for undertaking *ex ante* analysis of various

options potentially available to WTO members during the Doha negotiations.

What differentiates this book from other volumes?

This study builds on numerous recent analyses of the Doha Development Agenda

and agricultural trade, including five very helpful books that appeared in 2004. One

edited by Aksoy and Beghin (2004) provides details of trends in global agricultural

markets and policies, especially as they affect nine commodities of interest to developing

countries. Another, edited by Ingco and Winters (2004), includes a wide range of

analyses based on papers revised following a conference held just prior to the aborted

WTO Trade Ministerial meeting in Seattle in 1999. The third, edited by Ingco and Nash

(2004), provides a follow-up to the broad global perspective of the Ingco and Winters

volume: it explores a wide range of key issues and options in agricultural trade reform

from a developing country perspective. The fourth, edited by Anania, Bohman, Carter

and McCalla (2004), is a comprehensive tenth-anniversary retrospective on the Uruguay

Round Agreement on Agriculture as well as a look ahead following also numerous

unilateral trade and subsidy reforms in developed, transition and developing economies. And the fifth focuses on implications for Latin America (Jank 2004).

All of those studies were completed well before the July Framework Agreement was reached in the early hours of 1 August 2004, and before the public release in December 2004 of the new Version 6 database of the Global Trade Analysis Project (GTAP) at Purdue University. That Version 6 database is a major improvement over the previous version for several reasons. One is that it includes global trade and protection data as of 2001 (previously 1997). Another is that the new protection data include, for the first time, bound as well as applied tariffs, non-reciprocal as well as reciprocal tariff preferences, the *ad valorem* equivalents of specific tariffs (which are plentiful in the agricultural tariff schedules of many high-income, high-protection countries), and the effects of tariff rate quotas. In addition, key trade policy reforms occurring irrespective of the outcome of the Doha negotiations have been added, namely, the commitments associated with accession to WTO by such economies as China and Taiwan (China), the implementation of the last of the Uruguay Round commitments (including the abolition of quotas on trade in textiles and clothing at the end of 2004, and final agricultural tariff reductions in developing countries), and the enlargement of the European Union from 15 to 25 members in April 2004.

Hence what distinguishes the present volume from the above 2004 studies and other books with similar titles is that (a) its *ex ante* analysis focuses on the core aspects of the July Framework Agreement from the viewpoint of agriculture and developing countries, taking account also of what might happen to non-agricultural market access and the other negotiating areas, and (b) it does so in an integrated way by using the new

GTAP Version 6 database (amended to account for key protection changes agreed prior to 2005) and related global economy-wide models.[4]

What questions are addressed in this study?

Among the core questions addressed in this volume, following an intense program of integrated research during the latter half of 2004 by a complementary set of well-informed scholars from four continents, are the following:

- What is at stake in this Doha round, in terms of efficiency gains foregone by the various regions of the world because of current tariffs and agricultural subsidies?

- How much are each of the three "pillars" of agricultural distortions (market access, export subsidies and domestic support) contributing to those welfare losses, compared with non-agricultural trade barriers?

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[4] This analysis is vastly more sophisticated than the *ex ante* analyses undertaken for the Uruguay Round. At that time there were very few economy-wide global models, so primary reliance was on partial equilibrium models of world food markets (see, e.g., World Bank 1986, Goldin and Knudsen 1990, Tyers and Anderson 1992); estimates of protection rates were somewhat cruder and less complete; and analysts grossly overestimated the gains because they did not anticipate that tariffication would be so "dirty" in the sense of creating large wedges between bound and MFN applied tariff rates, nor did they have reliable estimates of the tariff preferences enjoyed by developing countries or the ad valorem equivalent of specific tariffs. Some of these limitations also applied to *ex post* analyses of the Uruguay Round (see, e.g., Martin and Winters 1996).

- How might the demands for Special and Differential Treatment for developing and least-developed countries be met without compromising the potential gains from trade expansion for those economies?

- What are the consequences of alternative formulas for cutting bound agricultural tariffs for applied tariffs, for trade, for national income, and for income distribution?

- In the case of products whose imports are subject to tariff rate quotas, what are the trade-offs between reducing in-quota or out-of-quota tariffs versus expanding the size of those quotas or the in-quota tariffs?

- To what extent would the erosion of tariff preferences, that necessarily accompanies MFN trade liberalization by developed countries, reduce the developing countries' interest in agricultural and other trade reform?

- What should be done about agricultural export subsidies, including those implicit in export credits, food aid, and arrangements for state trading enterprises?

- Based on recent policy changes in key countries, how might domestic farm support measures be better disciplined in the WTO?

- What are the consequences of reducing the domestic support commitments made in the Uruguay Round, in terms of cuts to the actual domestic support levels currently provided to farmers?

- In particular, how might reductions in cotton subsidies help developing country farmers in West Africa and elsewhere?

- What difference does it make to expand market access for non-agricultural products at the same time as for farm goods under a Doha agreement?

- Which developing countries would have to reduce their farm output and employment as a result of such a Doha agreement?

- Taking a broad brush, and in the light of past experience and our understanding of the political economy of agricultural policies in rich and poor countries, how might reform of those policies best be progressed during the DDA negotiations?

- What would be the overall market and welfare consequences by 2015, for various countries and regions as well as globally, of the alternative Doha reform commitments considered in addressing each of the above questions?

What have we learnt?

In addressing the above questions, the following are among the key messages that emerge.

The potential gains from further global trade reform are huge. Global gains from trade reform post-2004 are estimated to be large even if dynamic gains and gains from economies of scale and increased competition are ignored.[5] Freeing all merchandise trade and agricultural subsidies is estimated to boost global welfare by nearly $300 billion per year by 2015, plus whatever productivity effects that reform would generate.

Developing countries could gain disproportionately from further global trade reform. The developing countries would enjoy 45 percent of the global gain from completely freeing all merchandise trade (Table 1.3a), well above their one-fifth share of

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[5] The evidence is that trade reform in general is also good for economic growth and, partly because of that, for poverty alleviation (Winters 2004, Dollar and Kraay 2004, Winters, McCulloch and McKay 2004).

global GDP. Their welfare would increase by 1.2 percent, compared with an increase of just 0.6 percent for developed countries. The developing countries' higher share is partly because they have relatively high tariffs themselves (so they would reap substantial efficiency gains from reforming their own protection), and partly because their exporters face much higher farm and textile tariffs in developed country markets than do exporters from developed countries themselves (Table 1.1) – notwithstanding non-reciprocal tariff preferences for many developing countries.

Benefits could be as much from South-South as from South-North trade reform. Trade reform by developing countries is as important economically to those countries as is reform by developed countries, including from agricultural liberalization (Table 1.3b). Hence choosing to delay their own reforms or reforming less than developed countries, and thereby holding back South-South trade growth, could reduce substantially the potential gains to developing countries.

Agriculture is where cuts are needed most. To realize that potential gain from opening up goods markets, it is in agriculture that by far the greatest cuts in bound tariffs and subsidies are required. This is because of the very high rates of assistance in that sector relative to other sectors. Food and agricultural policies are responsible for more than three-fifths of the global gain foregone because of merchandise trade distortions (column 1 of Table 1.3a) – despite the fact that agriculture and food processing account for less than 10 percent of world trade and less than 4 percent of global GDP. From the point of view of welfare of developing countries, agriculture is just as important as it is for the world as a whole: their gains from global agricultural liberalization represent almost two-thirds of their total potential gains, which compares with just one-quarter

from textiles and clothing and one-ninth from other merchandise liberalization (Table 1.3b).

Subsidy disciplines are important, but increased market access in agriculture is crucial. Much of the attention in the negotiations has focused on the abolition of export subsidies, and the framework agreement envisages their complete abolition, and only partial reform of agricultural tariffs. However, extremely high applied tariffs on agricultural relative to non-farm products are the major reason for food and agricultural policies contributing 62 percent of the welfare cost of current merchandise trade distortions. Subsidies to farm production and exports are only minor additional contributors: 4 and 1 percentage points respectively, compared with 56 points due to agricultural tariffs.[6] This is even truer for developing countries than for developed ones (compare columns 1 and 2 of Table 1.4), where Panagariya (2004) has pointed to the risk of some developing countries losing from abolition of export subsidies. Disciplining those domestic subsidies and phasing out export subsidies is nonetheless very important, so as to prevent re-instrumentation of assistance from tariffs to domestic subsidies and to bring agriculture into line with non-farm trade in terms of not using export subsidies.

Large cuts in domestic support commitments are needed to erase binding overhang. Commitments on domestic support for farmers are so much higher than actual support levels at present that the 20 percent cut in the total bound AMS promised in the

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[6] In our initial empirical analysis we also included crude estimates of implicit forms of farm export subsidization such as via food aid, export credits or state trading enterprises, but even that was not enough to raise that export subsidy share above 1 percent. The finding that tariffs distort much more than subsidies is not surprising when one recalls that the former involve government outlays that are scrutinized annually in the budget process, whereas import tariffs tend to *raise* government revenue.

July Framework Agreement as an early installment would require almost no actual support reductions. Indeed a cut as huge as 75 percent for those with most domestic support is needed to get some action, and even then it would only require significant cuts from 2001 levels of domestic support for four industrial countries: the US (by 28 percent), the EU (by 16 percent), Norway (by 18 percent) and Australia (by 10 percent). The–EU reforms since 2001 would enable it to meet this target without further adjustments.

Large cuts in bound rates are needed also to erase binding overhang in agricultural tariffs. In turning from those potential gains to what might be achievable under a Doha partial reform package, the devil is going to be in the details. Table 1.2 shows there is substantial binding overhang in agricultural tariffs: the average bound rate in developed countries is almost twice as high as the average applied rate, and in developing countries the ratio is even greater. Thus large reductions in bound rates are needed before it is possible to bring about *any* improvements in market access. To bring the global average actual agricultural tariff down by one-third, bound rates would have to be reduced for developed countries by at least 45 percent, and up to 75 percent for the highest tariffs, under a tiered formula.

A complex tiered formula may be little better than a proportional tariff cut. It turns out that, because of the large binding overhang, a tiered formula for cutting agricultural tariffs would generate not much more global welfare – and no more welfare for developing countries as a group – than a proportional cut of the same average size (columns 1 and 2 of Table 1.5). This suggests there may be little value in arguing over the finer details of a complex tiered formula just for the sake of reducing tariff escalation.

Instead, a simple tariff cap of, say, 100 or even 200 percent could achieve many of the same objectives.

Even large cuts in bound tariffs do little if "Sensitive Products" are allowed, except if a cap applies. If members succumb to the political temptation to put limits on tariff cuts for the most sensitive farm products, most of the prospective gains from Doha could evaporate. Even if only 2 percent of HS6 agricultural tariff lines in developed countries are classified as sensitive (and 4 percent in developing countries, to incorporate also their "Special Products" demand) and thereby subject to just a 15 percent tariff cut (as a substitute for the TRQ expansion mentioned in the Framework Agreement), the welfare gains from global agricultural reform would shrink by three-quarters. However, if at the same time any product with a bound tariff in excess of 200 percent had to reduce it to that cap rate, however, these losses could be offset to some degree and the welfare gain would shrink by 'only' one-third (columns 3 and 4 of Table 1.5).

TRQ expansion could provide additional market access. Only a small number of farm products are subject to tariff rate quotas, but they protect over half of all developed countries' production and 44 percent of their agricultural imports (de Gorter and Kliauga 2005). Bringing down those products' (out-of-quota) MFN bound tariff could be supplemented by lowering their in-quota tariff or expanding the size of the quota. While this may increase the aggregate rent attached to those quotas and hence resistance to eventually removing them, the extent of binding overhang is such that quota expansion may be the only way to get increased market access for some TRQ products in the Doha round – especially if they are among the ones designated as 'sensitive' and hence subject to lesser cuts in their bound tariffs.

High binding overhang means DCs would have to made few cuts. Given the

high binding overhang of developing countries, even with their high tariffs – and even if

tiered formulae are used to cut highest bindings most – relatively few of them would have

to cut their actual tariffs and subsidies at all. That is even truer if "Special Products" are

subjected to smaller cuts and DCs exercise their right – as laid out in the July Framework

Agreement – to undertake lesser cuts (zero in the case of LDCs) than developed

countries. Politically this makes it easier for developing and least developed countries to

offer big cuts on bound rates – but it also means the benefits to them are smaller than if

they had a smaller binding overhang.

Cotton subsidy cuts would help cotton-exporting developing countries. The

removal of cotton subsidies (which have raised producer prices by well over 50 percent in

the US and EU) would raise the export price of cotton (although not equally across all

exporters because of product differentiation). If those subsidies were removed as part of

freeing all merchandise trade, that price rise is estimated to be 8 percent for Brazil but

less for Sub-Saharan Africa on average. However, cotton exports from Sub-Saharan

Africa would be a huge 75 percent larger, and the share of all developing countries in

global exports would be 85 percent instead of 56 percent in 2015, vindicating those

countries' efforts to ensure cotton subsidies receive specific attention in the Doha

negotiations.

Expanding non-agricultural market access would add substantially to the gains

from agricultural reform. By adding a 50 percent cut to non-agricultural tariffs by

developed countries (and 33 percent by developing countries and zero by LDCs) to the

tiered formula or proportional cut to agricultural tariffs would double the gain from Doha

for developing countries. That would bring the global gain to $96 billion from Doha merchandise liberalization, which is a sizable one-third of the potential welfare gain from full liberalization of $287 billion. Adding services reform would of course boost that welfare gain even more.

Adding non-agricultural tariff reform to agricultural reform helps to balance the exchange of "concessions". The agricultural reforms would boost the annual value of world trade in 2015 by less than one-quarter what would happen if non-agricultural tariffs were also reduced. The latter's inclusion also would help balance the exchange of "concessions" in terms of increases in bilateral trade values: in that case developing countries' exports to high-income countries would then be $62 billion, which is close to the $55 billion increase in high-income countries' exports to developing countries. With only agricultural reform, the latter's bilateral trade growth would be little more than half the former's (Table 1.6).

Most developing countries gain, and the rest could if they reform more. Even though much of the DC gains from that comprehensive Doha scenario go to numerous large developing countries, notably Brazil, Argentina and Other Latin America plus India, Thailand and South Africa, the rest of Sub-Saharan Africa gains too. This is particularly so when developing countries participate as full partners in the negotiations. An important part of this result comes from the increases in market access—on a non-discriminatory basis—by other developing countries.

Preference erosion may be less of an issue than commonly assumed. Some least developed countries in Sub-Saharan Africa and elsewhere appear to be slight losers in our Doha simulations when developed countries cut their tariffs and those LDCs choose not

to reform at all themselves.[7] These simulations overstate the benefits of tariff preferences for LDCs, however, since they ignore the trade-dampening effect of complex rules of origin and the grabbing of much of the rents by developed-country importers. Even if they were to be losers after correcting for those realities, it remains true that preference-receiving countries could always be compensated for preference erosion via increased aid at relatively very small cost to current preference providers – and in the process other developing countries currently hurt by LCD preferences would enjoy greater access to the markets of reforming developed countries.

Farm output and employment would grow in developing countries under Doha.
Despite a few low-income countries losing slightly under our Doha scenarios, in all the developing countries and regions shown the levels of output and employment on farms expand. It is only in the most protected developed countries of Western Europe, Northeast Asia and the US that these levels would fall – and even there it is only by small amounts, contrary to the predictions of scaremongers who claim agriculture would be decimated in reforming countries (Table 1.7). Even if there was a move to completely free merchandise trade, the developed countries' share of the world's primary agricultural GDP by 2015 would be only slightly lower at 25 instead of 30 percent (but their share of global agricultural exports would be diminished considerably more: from 53 to 38 percent).

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[7] As warned by Panagariya (2004) among others, some low-income countries' terms of trade could deteriorate either because they would lose tariff preferences on their exports or because they are net food importers and so would face higher prices for their imports of temperate foods.

Poverty could be reduced under Doha. Under the full merchandise trade liberalization scenario, extreme poverty in developing countries (those earning no more than $1/day) would drop by 32 million in 2015 relative to the baseline level of 622 million, a reduction of 5 percent. The majority of the poor by 2015 are projected to be in Sub-Saharan Africa, and there the reduction would be 6 percent. [8] Under the Doha scenarios reported in Table 1.8, the poverty impacts are far more modest. The number of poor living on $1/day or less would fall by 2.5 million in the case of the core Doha Scenario 5 (of which 0.5 million are in SSA) and by 6.3 million in the case of Doha Scenario 6 (of which 2.2 million are in SSA). This corresponds to the relatively modest ambitions of the merchandise trade reforms as captured in these Doha scenarios. If only agriculture was reformed (Doha Scenario 1) there would be much less poverty alleviation globally and none at all in SSA. This shows the importance for poverty of including manufactured products in the Doha negotiations.

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[8] The approach here has been to take the change in the average per capita consumption of the poor, apply an estimated income-to-poverty elasticity, and assess the impacts on the poverty headcount index. We have done this by calculating the change in the real wage of unskilled workers and deflating it by a food/clothing consumer price index, which is more relevant for the poor than the total price index. That real wage grows, over all developing countries, by 3.6 percent, or more than four times greater than the overall average income increase. We are assuming that the change in unskilled wages is fully passed through to households. Also, while the model closure has the loss in tariff revenues replaced by a change in direct household taxation, the poverty calculation assumes – realistically for many developing countries -- that these tax increases only affect skilled workers and high-income households. While these simple calculations are not a substitute for more-detailed individual country case study analysis using detailed household surveys as in, for example, Hertel and Winters (2005), they are able to give a broad region-wide indication of the poverty impact.

Key policy implications

Among the numerous policy implications that are drawn out by the various chapter authors, the following are worth highlighting.

Prospective gains from Doha are too large to not find the needed political will. With gains of the order of $300 billion per year at stake from implementing the July Framework Agreement, even if no reforms are forthcoming in services, and even if the counterfactual would be the status quo rather than protectionist backsliding, the political will needs to be found to bring the round to a successful conclusion, and the sooner the better. Multilateral cuts in MFN bindings are helpful also because they can lock in previous unilateral trade liberalizations that otherwise would remain unbound and hence vulnerable to backsliding; and they can be used as an opportunity to multilateralize previously agreed preferential trade agreements and thereby reduce the risk of trade diversion from those bilateral or regional arrangements.

Since developed countries would gain most, and have the most capacity and influence, they need to show leadership at the WTO. The large developed countries cannot generate a successful agreement on their own, but nor can the Doha round succeed without a major push by the key traders. Their responsibility to assist poorer economies could hardly manifest itself more clearly than in encouraging global economic integration via trade reform.

Agricultural reforms need to be significant if the Doha agreement is to be pro-development and pro-poor. There is no better beginning to meet that responsibility to developing countries than the opening of developed country markets to the items of

greatest importance to poorer countries, namely farm (and textile) products. The more that is done, the more developing countries will be encouraged to reciprocate by opening their own markets more – accelerating South-South trade in addition to South-North trade.

Outlawing agricultural export subsidies is the obvious first step. That will bring agriculture into line with the basic GATT rule against such measures, and in the process help to limit the extent to which governments encourage agricultural production by other means (since it would raise the cost of surplus disposal). China has already committed not to use them, and other developing countries too can find more-efficient ways of stabilizing their domestic food markets than by dumping surpluses abroad.

Domestic support bindings must be cut very substantially, to remove binding overhang. In so doing, the highest-subsidizing countries, namely the EU, US and Norway, need to reduce their support, not just for the sake of their own economies but also to encourage developing countries to reciprocate by opening their markets as a quid pro quo. An initial installment of a 20 percent cut is fine[9] but is nothing more than a start towards getting rid of that overhang.

Even more importantly, agricultural tariff bindings must be cut hugely to remove binding overhang and provide some genuine market opening. Getting rid of the tariff binding overhang that resulted from the 'dirty tariffication' of the Uruguay Round should be the first priority, but more than that is needed if market access is to expand. If a choice had to be made, reducing MFN bound tariffs in general would be preferable to

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[9] As Francois and Martin (2004) have shown, any binding cut is useful for the long run even if it brings no immediate cut in applied rates.

raising tariff rate quotas, because the latter help only those lucky enough to obtain quotas and crowd out non-quota holders. (Being against the non-discrimination spirit of the GATT, they deserve the same fate as textile quotas which were abolished at the end of 2004.) Exempting even just a few Sensitive and Special Products is undesirable as it would reduce hugely the gains from reform and would tend to divert resources into, instead of away from, enterprises in which countries have their least comparative advantage. If it turns out to be politically impossible not to designate some Sensitive and Special Products, it would be crucial to impose a cap such that any product with a bound tariff in excess of, say, 100 percent had to reduce it to that cap rate.

The tiered formula for cutting farm tariffs could be traded for a proportional cut with a cap. Should it prove to be too difficult or time-consuming to negotiate a complex tiered formula, our results suggest a proportional cut of nearly the same average magnitude plus a cap to bring down the very highest bound tariffs would be just as effective in raising welfare.

Expanding non-agricultural market access at the same time as reforming agriculture is essential. A balanced exchange of concession is impossible without adding other sectors, and it needs to be more than just textiles and clothing (which also benefit DCs disproportionately) even though they are the other highly distorted sector. With other merchandise included, the trade expansion would be four times greater for both rich and poor countries – and poverty in low-income countries would be reduced considerably more.

South-South "concessions" also are needed, especially for developing countries, which means reconsidering the opportunity for developing countries to liberalize less.

Since developing countries are trading so much more with each other now, they are the major beneficiaries of reforms within their own regions. Upper middle-income countries might consider giving least developed countries duty-free access to their markets (mirroring the recent initiatives of developed countries), but better than such discriminatory action would be MFN tariff reductions by them. Even least developed countries should consider reducing their tariff binding overhang at least, since doing that in the context of Doha gives them more scope to demand "concessions" (or compensation for preference erosion or other contributors to terms of trade deterioration) from richer countries – and yet would not require them to cut their own *applied* tariffs very much.

What the subsequent chapters contribute

Each of the following chapters contributes to this integrated study. What follows is a brief description of key aspects of each chapter's analysis.

What's at stake

Hertel and Keeney (2004) examine the potential implications of trade reform, estimate that moving to zero agricultural subsidies and complete free trade in goods and services would boost global welfare by $151 billion per year.[10] Developing countries

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[10] This is considerably below the estimate reported in Anderson et al. (2001), based on the GTAP Version 5.4 database for 1997, despite the inclusion of liberalization of commercial services in the results presented here from Version 6.05 for 2001. The reasons for the differences include the reductions in global protection between 1997 and 2001, the inclusion of preferences in the latest dataset, and structural changes in the global economy.

would enjoy a disproportionate large share of those gains at 23 percent, well above their share of 16 percent of global GDP. The reason is two-fold: they have relatively high tariffs themselves and, much more importantly (as we will see below), their exporters face much higher tariffs in high-income markets than do exporters from the high-income countries themselves..

What are the policy measures contributing most to those potential gains from full trade liberalization? First, despite agriculture contributing only 4 percent to global GDP, policies for that sector are responsible for an enormous two-thirds of the global cost of merchandise protection. Almost four-fifths of that is because of high-income countries' policies, with only one-fifth due to farm policies of developing countries. Not surprisingly, therefore, it is high-income countries that gain the most from removal of farm programs – but developing countries also gain a sizable portion--more than half the total gains to developing countries from removing all merchandise trade restrictions globally.

Second, textiles and clothing liberalization would contribute only one-fifth as much to global welfare as agricultural reform. Their contribution to welfare in developing countries would be considerably greater though, equal to nearly three-quarters that from farm trade reform and accounting for most of their gain from non-farm merchandise reform.

What happens when services trade reform also is included? Estimates are very much more difficult to obtain for this category, especially when it potentially involves foreign direct investment (commercial presence) and temporary labor migration (movement of natural persons). Two important points about services can be drawn from

their results. One is that even with just this small subset of services included, they

enhance very considerably the potential gains from trade reform, accounting for 44

percent of those total gains from goods and services reforms. That exceeds agriculture's

share of that total, namely 37 percent (with other merchandise accounting for just 19

percent). And second, developing countries' services policies contribute over one-fifth of

the gain from that reform to services trade, again well above their 16 percent share of

global GDP. So even though the bulk of the gain from services trade reform goes to high-

income countries, developing countries would do well to embrace rather than oppose

their inclusion in the Doha round.

Table 2 also exposes the relative importance of the three separate pillars of

agricultural support programs: import market access inhibited by tariffs and tariff rate

quotas, domestic support measures, and export subsidies. According to these results, it is

market access measures that deliver by far the greatest prospects for gains from

agricultural reform – ten times the combined contribution of domestic support and export

subsidies. Farm export subsidies are now of relatively minor importance globally, thanks

to their cuts following the Uruguay Round. But developing countries as a group would

lose a little from their removal because some are net food-importing countries.

Agricultural-exporting developing countries, on the other hand, would gain from the

removal of developed country subsidies.

Special and differential treatment for developing countries

In Chapter 3, Tim Josling first considers the institutional arrangements for Special

and Differential Treatment (SDT) in the GATT/WTO. He points out that the concept of

SDT is well-established, and that the framework agreement refers to it in a large number of situations, including provisions for: longer implementation periods; lower reduction commitments; consistency with the provisions of the Ministerial Decision on Least Developed and Net Food Importing Countries; and the provisions on food and livelihood security in the agricultural Annex to the framework.

The key question for developing countries, however, is how they should seek to use these opportunities for SDT. Since the framework does not give quantitative magnitudes, these must be negotiated, and the results will depend on where, and to what extent, developing countries use their negotiating capital to achieve their objectives. Josling's key recommendation is that developing countries use an economic approach to evaluate where it is in their interests to push hard to avoid making commitments, and where they should use their negotiating capital to seek broader liberalization commitments from their trading partners. In particular, he suggests that developing countries "sell off" assets that are of declining value-- such as preferential access to markets where protection is falling—and seek greater liberalization in areas such as agriculture, textiles, and labor movement that promise longer-term gains.

The chapter asks whether SDT can be meaningful when developing countries are self-designated, and asks whether self-designation should continue. It concludes that there is little likelihood of changing this criterion, but considers the potential feasibility of Hoekman's (2004) suggestion that countries might be allowed to opt-out of some provisions based on objective development-oriented criteria.

In market access, the framework envisages developing countries having to make smaller tariff reductions. Josling notes that developing countries tend to have much

higher binding overhang than the industrial countries in agriculture, and asks whether developing countries might offer to reduce this overhang as a way to ensure larger reductions in applied tariffs in the industrial countries. The framework also envisages that developing countries will have more flexible treatment on "Special Products". Here, Josling argues that developing countries will face some major choices. Attempts to seek greater coverage of these products are likely to intensify industrial countries' demands for greater flexibility for their own "sensitive" products.

Under domestic support, Josling argues that developing countries should avoid spending negotiating capital on longer implementation periods and lower reduction commitments, since virtually no developing countries will need to undertake reduction commitments. Inclusion of some specific measures, such as some credit subsidies, in the Green Box might be worthwhile. However, he questions whether establishing a specific Development Box would be worth a substantial amount of negotiating capital given that most such measures are already in the Green Box set of allowed measures.

Agricultural market access formulae

In Chapter 4, Jean, Laborde and Martin examine the potential impact of the "tiered" formula approach to increasing market access set out in the framework. They note that this approach is more ambitious in a critical way than the preceding reform proposals in that it does require that high tariffs be cut by more than other tariffs. However, it remains very general, and so considerable effort is likely to be needed to convert it into specific proposals.

The fundamental notion of a tiered formula with higher cuts in higher tariffs raises important questions. Simply having higher proportional cuts in higher tiers would create discontinuities, with some tariffs being reduced by more than slightly lower tariffs, and potentially creating sharp political resistance from affected groups. Jean, Laborde and Martin highlight this problem and point to a potential solution involving increasing the marginal tariff-cutting rate.

Any meaningful analysis of a nonlinear tiered formula requires detailed information on tariffs, including: the effects of specific and other non-ad valorem tariffs; information on the levels of the bindings being used as the basis for tariff cuts, and applied tariff rates; the effects of tariff preferences; and the use of tariff-rate-quotas. Fortunately, the authors of this paper were able to base their analysis on the detailed tariff data bases developed by CEPII and the ITC that capture these critical features.

An important feature of the framework is greater flexibility for sensitive products in all countries, and for Special products in developing countries. Negotiators must choose how many such tariff lines are to be allowed; the extent of flexibility permitted; and the extent of liberalization of these products to be undertaken. Jean, Laborde and Martin assume that policy makers will use these flexibilities to shelter important products—in the sense that these products involve substantial amounts of trade, and that substantial reductions in applied rates would have been required by application of the formula—and that flexibilities will allow for only modest (15 percent) cuts in these tariffs. They then consider the implications of allowing 2 and 5 percent of tariff lines to be sheltered as sensitive products in the industrial countries, with twice these percentages in developing countries to allow for Special products. In the baseline simulations, SDT is

incorporated by allowing developing countries to make smaller tariff reductions than industrial countries.

Jean, Laborde and Martin begin their analysis by examining a tiered formula with higher tariff cuts on higher-tariff items. A tiered formula with 75 percent marginal reductions on the highest tariffs in industrial countries, and 60 percent in developing countries, was found to make generate worthwhile increases in market access, with bound rates falling by around a half on average worldwide, and applied rates by roughly one-third. However, the reductions in applied rates required are generally quite modest, with only four country groups being required to undertake a reduction in average agricultural tariffs of more than five percentage points.

A striking finding of this chapter is the potentially dramatic impact of incorporating flexibility for sensitive and special products. When two percent of tariff lines in the industrial countries are given flexibility for sensitive products, and four percent in developing countries for sensitive and special products, the worldwide average cut in bound duties falls from 19 to 6 percent. The reduction in applied rates falls by a factor of five, from 5.5 percentage points to 1.1. Interestingly, raising the share of sensitive products from 2 to 5 percent of tariff lines causes a relatively small additional diminution in market access gains—the real damage is done by the first two percent. Jean, Laborde and Martin find that this follows from specifying sensitive product using a number of tariff lines. Many countries have a few very important product lines, so two percent of tariff lines may account for a very substantial share of imports. If sensitive products were limited to 2 percent of imports, then their impact on average tariff reductions was found to be much smaller.

If, as experience suggests, it proves to be difficult to agree on boundaries for tiers under a tiered formula, then a proportional cut of the type used for manufactures trade in the Kennedy Round would generate large absolute—if not proportional—reductions in higher tariffs. Jean, Laborde and Martin explore the implications of using such a formula, set to achieve the same proportional reductions in bound tariffs as the tiered formula. They find that this approach brings about rather similar patterns of reduction in tariffs as a tiered formula, except for very high-protection Korea, which needs to make smaller reductions under the proportional-cut approach. Adding a tariff cap—even one set at a very high level such as 200 percent—is found to offset much of the lost benefits of the tiered formula in terms of reductions in the overall variability of tariffs.

The SDT provisions in the framework reduce the extent to which developing countries have to cut their bound tariff rates. With SDT, they have to make a cut of 21.3 percentage points, without it they would have to cut by 31 percent. However, the corresponding reductions in their applied rates are much smaller. With SDT, developing country applied rates would have to decline on average, by 4.3 percent, while without it, the required decline would be 6.9 percent. Given the binding overhang that drives these gaps, a key question for developing country policy makers is whether the mercantilist "benefits" of smaller tariff reductions justify the resulting loss in the negotiating capital that could be used to demand larger cuts in support in the developed countries.

The market access gains resulting from a tiered formula vary substantially across countries and commodities. The tiered formula used in this chapter would reduce the average applied tariff facing developing countries by 5.2 percent, and by an extraordinary 14.8 percent for China. In terms of commodities, the largest gain would be in cereals, for

which the average tariff world-wide would fall by over half, from 41.2 percent to 19.2

percent. Substantial gains in market access would also be expected for sugar, meat and

dairy products.

Tariff rate quotas

Harry de Gorter and Erika Kliauga analyze the key issue of Tariff-Rate-Quotas in

Chapter 5. These products involve a lower in-quota tariff for a limited volume of imports,

and a higher out-of-quota tariff on additional imports. The chapter shows that they have

been implemented by 43 WTO members, on about 20 percent of their tariffs, a total of

1425 tariff lines.

However, these products are subject to extraordinarily high tariffs—an average

out-of-quota tariff of 115 percent. These products account for an estimated 50 percent of

the agricultural production of developed countries, and 43 percent of their imports and so,

clearly, have major implications for developing countries' market access. For some

products, their importance is overwhelming, 95 percent of OECD rice production is

protected by TRQ regimes, and 85 percent of OECD wheat imports are regulated using

TRQs.

The most effective approach to expanding market access under a TRQ regime is

critically determined by whether imports are being determined by the in-quota tariff, the

quota, or the out-of-quota tariff. De Gorter and Kliauga show that approximately 33

percent of quotas are filled, with an trade-weighted average fill rate of 72 percent. $25

billion, or roughly 60 percent of TRQ imports, are subject to a regime in which the out-

of-quota tariff determines the level of imports, with a further 20 percent of imports

coming under a regime where imports exceed the quota, but are not charged the out-of-quota tariff.

This chapter provides a glimpse into the complexity of the TRQ regime. The three most important means of administering TRQs are found to be the use of Applied Tariffs; Licenses on Demand; and First-Come-First Served. These forms of administration account for almost 80 percent of total TRQs, and 46 percent of TRQ imports. Yet none of these approaches to quota allocation provides a basis for determining who should obtain scarce and valuable rights to import. Only the less widely used forms of allocation, such as historical imports (8.2 percent of TRQs); quota auctioning (4.6 percent); and allocation to favored groups such as producers or State Trading Enterprises (2.1 percent) have this critical feature.

Despite the importance of out-of-quota tariffs in determining imports under TRQ regimes, a simulation exercise reported by de Gorter and Kliauga suggests that quota expansion cannot be totally dismissed as a form of market access expansion. Using an elasticity of demand similar to that used in the general equilibrium model of Chapter 12, the authors found that a 50 percent increase in TRQ quota levels would generate a 14.5 percent increase in the volume of imports of these goods, while a 35 percent reduction in applied out-of-quota tariffs would result in a 52 percent increase in their import volume. Given the complexity and non-transparency of the quota allocation regimes, and the fact that in-quota tariffs are not currently subject to WTO disciplines, there are grounds for concern about how effectively an agreement to expand quotas would be translated into actual import expansion.

Preference erosion for developing countries

Bouet, Fontagné and Jean examine the implications of tariff preferences in Chapter 6. Their study builds on the major data-collection effort undertaken at CEPII and ITC. They note the large and rapidly-growing extent of deviations from the fundamental principle of nondiscrimination contained in Article I of the GATT—primarily as a result of preferential trade agreements, but also through expansion of non-reciprocal preferential arrangements such as Everything But Arms for the Least Developed Countries.

They examine the implications of tariff cuts for erosion of preferences. This analysis confirms the widely-reported finding that the impact of liberalization on preference margins is large for only a handful of countries, including The Gambia, Saint Lucia, Malawi and Burkina Faso. They find that the extent of preference erosion is barely affected by whether the tariff cut is undertaken using a tiered formula or a proportional cut.

Simulation analysis concludes that the inclusion of preferences does change the estimated impact of liberalization to a significant extent. With preferences included, the welfare impact on Sub-Saharan African countries outside SADC is slightly negative, at -0.02 percent, while it would have appeared to be 0.00 had preferences been excluded. While this decline in welfare is unfortunate, it seems too small to have any realistic policy significance. The chapter concludes that the current methodology for including tariff preferences overstates their impact because it ignores the costs associated with preference utilization—especially the costs of proving compliance and of meeting rules

of origin—although it is concluded that utilization of agricultural preferences remains high.

Agricultural export subsidies

As Messerlin and Hoekman (2004) make clear in Chapter 7, farm export subsidies are inconsistent with GATT rules and for that reason alone deserve to be eliminated. The empirical analysis shows that they are in any case now only a small part of agricultural support programs – even when implicit subsidies in the form of food aid and export credits are included. Their elimination would harm a few food-importing and aid-dependent developing countries, but the poor in those countries can be assisted in far more efficient ways than via these measures. A not overly optimistic scenario for the Doha round involve a phasing out of most explicit and implicit forms of farm export subsidies over the next decade or so.

This chapter shows that the information in WTO export subsidy notifications is extremely dated and incomplete, presented on a product basis that varies between countries, and frequently inconsistent with national-level data. Clearly, improving the quality of these data is needed if export subsidies are to be adequately monitored. This information, and national-level data, shows that there is substantial variation in export subsidy rates between countries, with the EU by far the dominant user of export subsidies. There is also a great deal of variation between commodities, with some commodities such as dairy products, subject to export subsidy rates of over 100 percent in the EU, while other products, such as wine, receive extremely limited . There are substantial variations in export subsidy rates over time, highlighting the frequent use of

these measures to support domestic prices that are insulted from movements in world prices.

Hoekman and Messerlin also examine estimates of export support provided through other measures subject to negotiation, such as export credits and support to state trading enterprises. While the data are weak, they conclude that these measures currently appear to be smaller than explicit export subsidies.

Agricultural domestic support disciplines

Hart and Beghin discuss the structure of the domestic support limits and measurement. They point out that the Market Price Support (MPS) element of the Aggregate Measure of Support (AMS) is only loosely related to distorting support, being measured as the difference between an administered domestic price and an historically-fixed external reference price. They also show that the importance of this form of support varies considerably between countries, contributing only 40 percent of domestic support in the United States in recent years, as against 70 percent in Japan and the EU.

The MPS also double-counts protection provided by administered prices, since such protection must be supported by a tariff or export subsidy if it is to be sustainable. Worse, from the viewpoint of enforcing disciplines, the MPS is subject to abuse. Policies can be cosmetically reformed to eliminate the current MPS without substantively changing protection policies, or reducing the limits on AMS. A country can eliminate the formal, administered price without changing the support policies used to distort it away from world prices. For countries where a large fraction of support is provided through

MPS, this provides a great deal of "overhang" enabling limits to be cut without requiring reductions in actual support.

Reducing AMS bindings

In Chapter 9, Jensen and Zobbe ask what reductions are likely to be required, given the current rules on domestic support and current commitments. They collect data from country notifications, and use them to assess the implications of reform. They find that the ability to abolish notified domestic support by moving away from administered domestic support prices creates an enormous amount of "space" for cuts in domestic support in those countries where MPS makes up a large share of total support. When this is allowed for, even a 75 percent cut in industrial countries with substantial (over 20 percent) domestic support requires reductions in only four industrial countries.

Jensen and Zobbe also investigate the impacts of policy reforms already implemented or announced in the EU and the United States. Once the EU reforms, in particular, are taken into account, no further reform is required (although this is not fully brought out by the authors at this point). In the United States, announced and proposed reforms would not go so close to meeting the target and some reduction in domestic support would be required to meet this target.

The cotton initiative

Dan Sumner points out that the Cotton Initiative in the Doha Agenda was placed at the center of the negotiations by four small African nations. The remarkable prominence given this issue reflects a number of issues including the increased role of

developing countries in the WTO, the importance of cotton exports to a number of small

African countries, and the unimportance of preferential market access for this

commodity, which is supported primarily through domestic support measures. The

initiative proposes gradual elimination of cotton subsidies, and transition compensation

for the damage they do. Reform of the trade-related aspects of US cotton policies, in

particular, is likely to be necessary, either as part of the cotton initiative, or in response to

the successful Brazilian dispute settlement challenge to these policies. The compensation

elements of the cotton initiative could provide worthwhile benefits to the affected

countries.

Holograms and ghosts in reforming farm policies

In Chapter 11, Orden and Diaz-Bonilla explore some innovative approaches that

might be used by governments to advance the cause of reform in the face of the powerful

domestic interests likely to oppose it. In the industrial countries, they note that a major

theme of recent reform has been the replacement of distorting support with cash-out

measures that aim to reduce distortions to production and consumption decisions. They

contrast this with a buy-out approach that eliminates support in return for upfront support

measures, and examine the generally-favorable experience with these measures with US

peanut and tobacco programs. They point out that WTO commitments could provide a

commitment mechanism ensuring that abolition of these distortions is truly permanent.

In developing countries, the authors examine the changes in approaches to policy

reform in the period since World War II, beginning with the initial, strong emphasis on

industrialization, and frequently involving taxation of agriculture. They note that this

pattern changed substantially, with a move towards technological innovation and outward orientation in the 1970s; an emphasis on structural adjustment in the 1980s; and an increased emphasis on targeted poverty alleviation in the 1990s. In the WTO, they note that there is now considerable diversity in the positions of developing countries, with some taking on an offensive position on agricultural reform, while others take a defensive stance. They conclude that the best approach for development involves a neutral trade and macroeconomic framework, backed by significant non-distortionary interventions and investments needed to overcome market failures and attack poverty problems.

Some prospective overall Doha packages: estimating their consequences

In the final chapter, Anderson, Martin and van der Mensbrugghe bring together the evidence from earlier chapters into a synthesis designed to assess the potential impacts of a Doha Agenda agreement on trade, welfare, income distribution and poverty. The analysis uses the World Bank's Linkage model to assess the impacts of cuts in tariffs, in agricultural domestic support, in agricultural export subsidies, and services, as well as potential gains from the trade facilitation elements of the Doha Agenda. The study finds that gains from reform can be huge, and that agricultural reforms contribute over 60 percent of the total benefits of global trade reforms. Different scenarios investigate the impacts of different possible modalities, including the effects of incorporating so-called Sensitive and Special products, the use of a proportional cut approach, and incorporation of a tariff cap.

Those authors find that developing countries would gain disproportionately from global trade reform, and would also enjoy some poverty alleviation – but that the benefits

would be as much from South-South trade reform as from benefits from reform in industrial countries. In terms of farm policy, a key finding is that large cuts in both agricultural tariffs and domestic support commitments are required to reduce the binding overhang and contribute to expansion of market access and trade. The authors also find that adding non-agricultural market access is vital to ensuring that a balanced package is obtained. The benefits of even a very aggressive tariff-cutting formula for agriculture would be greatly diminished by an agreement to allow a specific percentage of tariff lines to be given lenient treatment on the grounds of their Sensitive or Special product status though.

What also emerges from that modeling analysis is that developing countries would not *have* to reform very much under Doha, because of the large gaps between their tariff bindings and applied rates. That is even truer if they exercise their right (as laid out in the July Framework Agreement) to undertake lesser tariff cuts than developed countries. In that case, they would gain little in terms of improved efficiency of national resource use. Yet, as Panagariya (2004) and others have warned, for a non-trivial number of low-income countries their terms of trade could deteriorate. For some that is because they would lose tariff preferences on their exports. For others it is because they are net food importers and so would face higher prices for their imports of temperate foods. To realize more of their potential gains from trade, developing and least developed countries would need to more-fully engage in the Doha reform process, and perhaps also commit to additional unilateral trade (and complementary domestic) reforms as well as invest more in trade facilitation. High-income countries could encourage them to do so by being

willing to open up their own markets more to developing country exports, and by providing more targeted aid.

To that end, a new proposal has been put forward to reward developing country commitments to greater trade reform with an expansion of trade-facilitating aid, to be provided by a major expansion of the current Integrated Framework which is operated by a consortium of international agencies for least developed countries (Hoekman 2005a,b). This may well provide an attractive path for developing countries seeking to trade their way out of poverty, not least because linking aid to greater trade reform would help offset the tendency for an expanded aid flow to cause a real exchange rate appreciation (see Commission for Africa 2005, pp. 296-97). As well, it is potentially a far more efficient way for developed countries to assist people in low-income countries than the current systems of tariff preferences.

In conclusion, the July Framework Agreement does not guarantee major gains from the Doha Development Agenda. On the one hand, even if an agreement is ultimately reached, it may be very modest. How modest depends on, among other things, the nature of the agricultural tariff-cutting formula, the size of the cuts, the extent to which exceptions for Sensitive and Special Products are allowed, whether a tariff cap is introduced, and the extent to which Special and Differential Treatment is invoked by developing countries in terms of their market access commitments. But what is equally clear, on the other hand, is that major gains are possible if only the political will to reform protectionist policies – especially in agriculture – can be mustered.

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Figure 1.1: The declining share of agriculture and food in world and developing[a] countries' merchandise exports, 1970 to 2003

(percent)
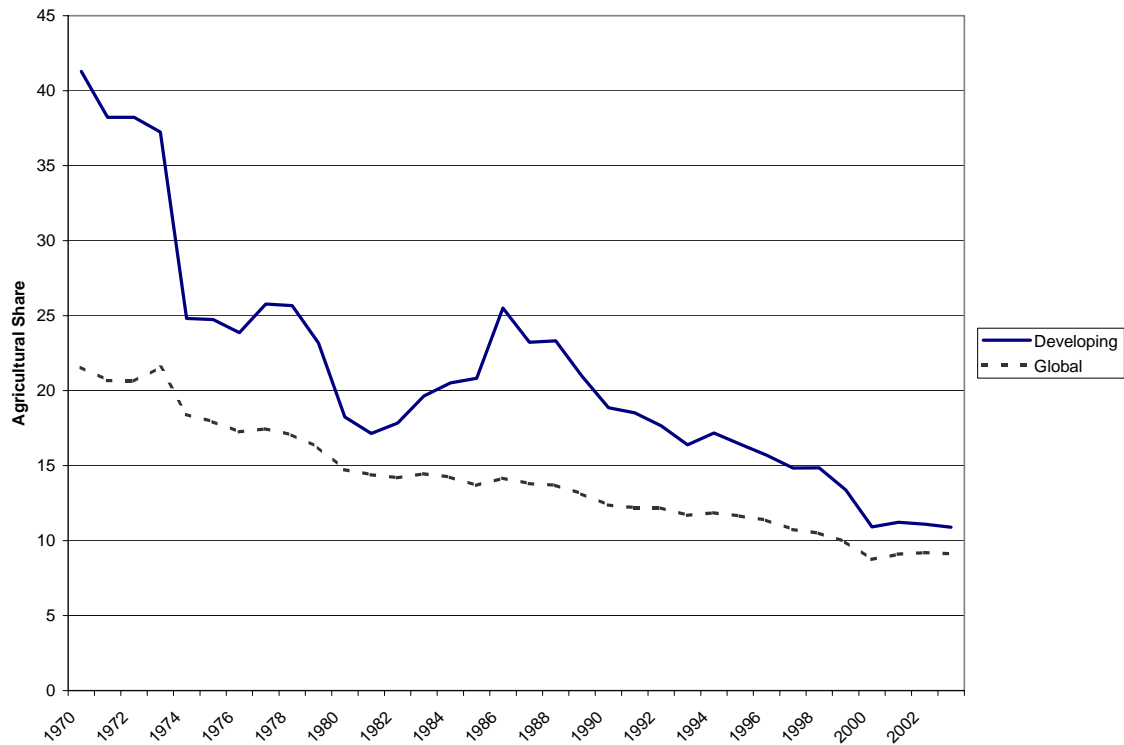
[a] Developing countries here do not include East Asia's newly-industrialized economies of Hong Kong, Korea, Singapore and Taiwan.

Source: COMTRADE data in the WITS database (see www.wits.worldbank.org).

Figure 1.2: Agricultural producer support in high-income countries, by value, percent and type of support, 1986 to 2003

($ billion and percentage of total farm receipts from support policy measures)
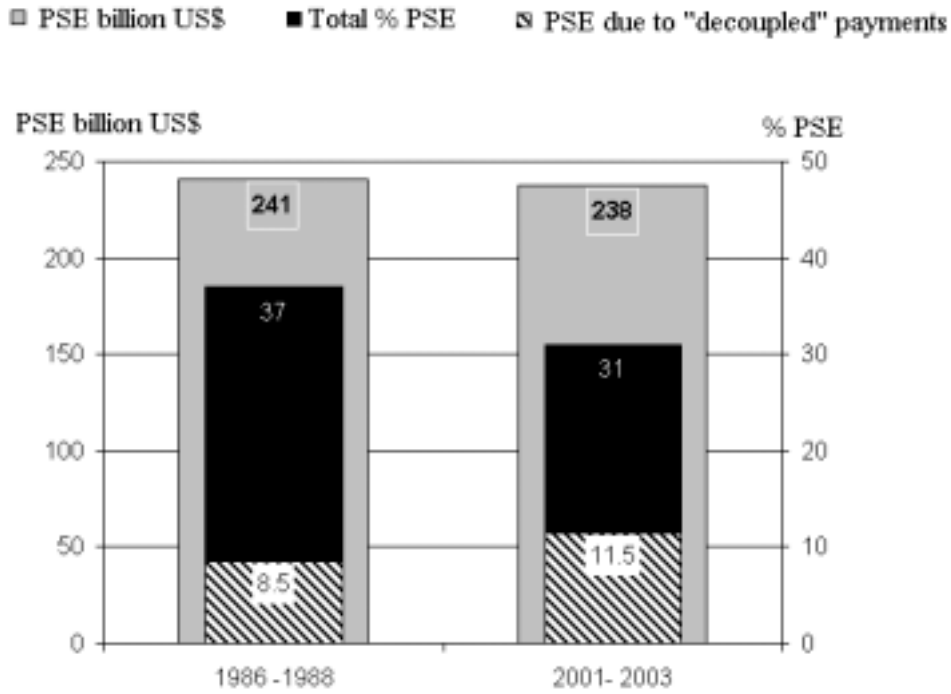
Source: PSE estimates from the OECD's database (see www.oecd.org)

Figure 1.3: Agricultural producer support in high-income countries, by country, 1986 to 2003

(percentage of total farm receipts from support policy measures)
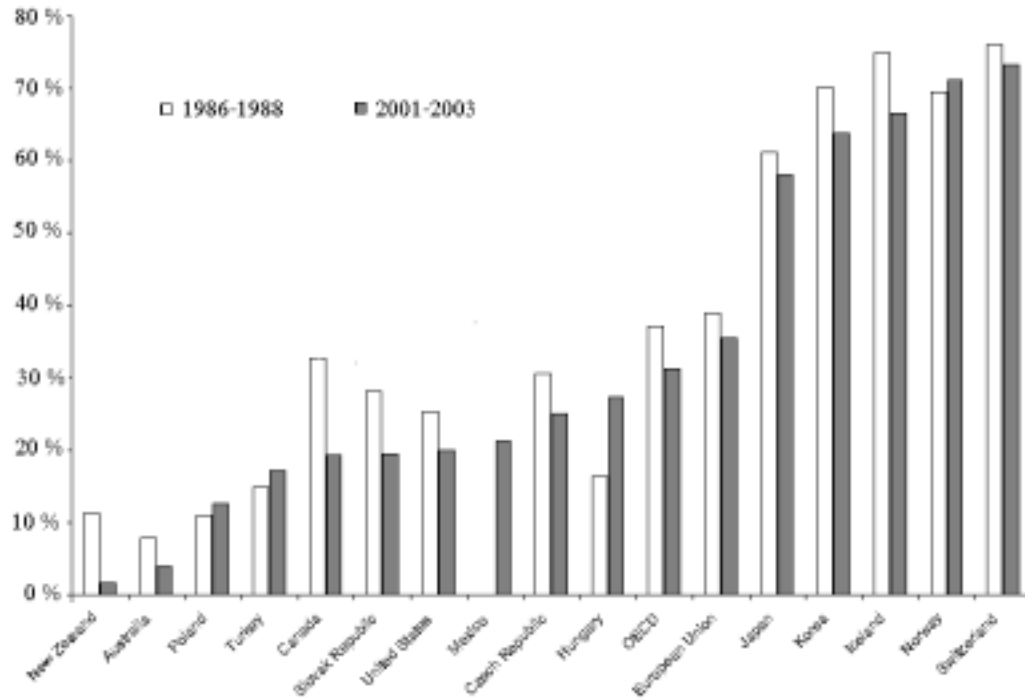
[1] Czech Republic, Hungary, Poland and the Slovac Republic data are for 1991-93 in the first period.
[2] Austria, Finland and Sweden are included in the OECD average for both periods but also in the EU average for the latter period.

Source: PSE estimates from the OECD's database (see www.oecd.org)

Table 1.1: Average applied import tariffs, by sector and region, 2001

(percent, *ad valorem* equivalent)

	Importing Region: Developed countries[b]	Developing countries[a]	WORLD
Exporting region:			
Agriculture and food			
Developed countries[b]	18	18	18
Developing countries[a]	14	18	16
Textiles and wearing apparel			
Developed countries[b]	8	15	12
Developing countries[a]	7	20	9
Other manufactures			
Developed countries[b]	2	9	4
Developing countries[a]	1	7	3
All merchandise			
Developed countries[b]	3	10	5
Developing countries[a]	3	10	5

[a] These import-weighted averages incorporate tariff preferences provided to developing countries, unlike earlier versions of the GTAP database.

[b] Developed countries include the newly industrialized East Asian customs territories of Hong Kong, Korea, Singapore and Taiwan as well as the transition economies of Central and Eastern Europe and the former Soviet Union.

Source: Anderson, Martin and van der Mensbrugghe (2005, Tables A12.3)

Table 1.2: Agricultural weighted average import tariffs, by region, 2001

(percent, *ad valorem* equivalent, weights based on imports)

	Bound tariff	MFN applied tariff	Actual applied tariff[a]
Developed countries	27	22	14
Developing countries	48	27	21
of which: LDCs	*78*	*14*	*13*
WORLD	37	24	17

[a] Includes preferences and in-quota TRQ rates where relevant, as well as the ad valorem equivalent of specific tariffs. Developed countries include the transition economies of Eastern Europe and the former Soviet Union. The 'developing countries' definition used here is that adopted by the WTO and so includes East Asia's four newly industrialized economies, which is why the 21 percent shown in column 3 is above the 18 and 19 percent shown in the final column of Table 1.1.

Source: Jean, Laborde and Martin (2005).

Table 1.3 : Effects on economic welfare of full trade liberalization from different groups of countries and products, 2015

(percent)

(a) Distribution of effects on **global** *welfare*

From full lib'n of:	Agriculture and food	Textiles and clothing	Other manufactures	ALL GOODS
Percentage due to:				
Developed[a] country policies	46	6	3	55
Developing countries' policies	16	8	21	45
ALL COUNTRIES' POLICIES	**62**	**14**	**24**	**100**

(b) Distribution of effects on **developing countries'** *welfare*

From full lib'n of:	Agriculture and food	Textiles and clothing	Other manufactures	ALL GOODS
Percentage due to:				
Developed[a] country policies	30	17	3	50
Developing countries' policies	33	10	7	50
ALL COUNTRIES' POLICIES	**63**	**27**	**10**	**100**

[a] Developed countries include the transition economies of Eastern Europe and the former Soviet Union.

Source: Anderson, Martin and van der Mensbrugghe (2005, Table 12.4).

Table 1.4: Distribution of global welfare impacts of fully removing agricultural tariffs and subsidies, 2001

(percent)

Agricultural liberalization component:	Beneficiary region:		
	High-income[a] countries	Developing countries	World
High-income[a] countries' liberalization of:			
Import market access	66	27	93
Export subsidies	5	-3	2
Domestic support	4	1	5
All measures	*75*	*25*	*100*

[a] Developed countries include the newly industrialized East Asian customs territories of Hong Kong, Korea, Singapore and Taiwan as well as the transition economies of Central and Eastern Europe and the former Soviet Union.

Source: Summarized from Hertel and Keeney (2005, Table 2.7)

Table 1.5: Welfare effect of possible Doha reform scenarios, 2015

(percent difference from baseline, and Equivalent Variation in income in 2001 $billion)

	Agricultural subsidy cuts[a] plus:					
	Tiered agricultural tariff cuts[b]	Propn'l agricultural tariff cuts[b]	Scenario 2 plus 2% SSP	Scenario 3 plus 200% cap	Scenario 1 plus 50% NAMA cut for HICs[c]	Scenario 1 plus 50% NAMA cut for HICs+DCs[d]
	Scenario 1	*Scenario 2*	*Scenario 3*	*Scenario 4*	*Scenario 5*	*Scenario 6*
High-income[e] countries	0.20	0.18	0.05	0.13	0.25	0.30
Middle-income countries	0.10	0.10	0.00	0.01	0.15	0.21
o*f which:* ***China***	*-0.02*	*-0.01*	*-0.05*	*-0.04*	*0.07*	*0.06*
Low-income countries	0.05	0.04	0.01	0.00	0.18	0.30
TOTAL WORLD	**0.18**	**0.16**	**0.04**	**0.10**	**0.23**	**0.28**
(and in $billion)	*74.5*	*66.3*	*17.9*	*44.3*	*96.1*	*119.3*

[a] Elimination of agricultural export subsidies and cuts in actual domestic support as of 2001 of 28 percent in the US, 18 percent in the EU, and 16 percent in Norway.

[b] In Scenarios 1 and 2 the applied global average tariff on agricultural products is cut by one-third, with larger cuts in developed countries, smaller in developing countries, and zero in least developed countries. In Scenario 1 there are three tiers for developed countries and four for developing countries, following Harbinson (WTO 2003) but 10 percentage points higher.

[c] Non-agricultural market access (NAMA) is expanded by a 50 percent tariff cut for developed countries, 33 percent for developing countries, and zero in least developed countries.

[d] Developing and least developed countries cut all agricultural and non-agricultural tariffs as much as developed countries.

[e] High-income countries (HICs) include the newly industrialized East Asian customs territories of Hong Kong, Korea, Singapore and Taiwan as well as Europe's transition economies that joined the EU in April 2004.

Source: Anderson, Martin and van der Mensbrugghe (2005a, Tables 12.9 and 12.10)

Table 1.6: Effects on bilateral merchandise trade flows of adding non-agricultural tariff cuts to agricultural reform under Doha, 2015

(2001 $billion (and percent) increase over the baseline in 2015)

	Propn'l agric reform only[a]		Agric plus non-agric reform[b]	
Exports to:	High-income[c] countries	Developing countries	High-income[c] countries	Developing countries
Exports from :				
High-income[c] countries	20	11	80	55
Developing countries	18	5	62	16
TOTAL WORLD	**38**	**16**	**142**	**71**

[a] Scenario 4 in Table 1.5

[b] Scenario 7 in Table 1.5

[c]Developed countries include the newly industrialized East Asian customs territories of Hong Kong, Korea, Singapore and Taiwan as well as the transition economies of Central and Eastern Europe and the former Soviet Union.

Source: Anderson, Martin and van der Mensbrugghe (2005, Table 12.14)

Table 1.7: Effects of a comprehensive Doha reform on agricultural output and employment growth, by region, 2005 to 2015

(annual average growth rate, percent)

	Output		Employment	
	Baseline	Scenario 7[b]	Baseline	Scenario 7[b]
Australia and New Zealand	3.5	4.3	0.4	1.0
Canada	3.5	4.0	0.2	0.6
United States	2.2	1.9	-0.8	-1.4
EU 25 plus EFTA	1.0	-0.3	-1.8	-2.8
Japan	0.5	-1.4	-2.7	-4.1
Korea and Taiwan	2.2	1.5	-1.3	-2.1
Argentina	2.9	3.5	0.9	1.5
Bangladesh	4.2	4.2	1.1	1.2
Brazil	3.3	4.4	1.1	2.2
China	4.3	4.3	0.8	0.8
India	4.3	4.4	1.0	1.0
Indonesia	3.0	3.0	-0.7	-0.6
Thailand	-0.1	0.4	-4.6	-4.3
Vietnam	5.8	5.9	3.9	4.0
Russia	1.5	1.4	-2.3	-2.4
Mexico	3.9	4.0	2.0	2.3
South Africa	2.5	2.6	0.0	0.1
Turkey	3.0	3.0	-0.5	-0.5
Rest of South Asia	4.8	4.9	2.0	2.1
Rest of East Asia	3.7	3.8	0.2	0.3
Rest of LAC	4.4	5.3	1.9	2.6
Rest of ECA	3.3	3.3	0.0	0.0
Middle East & N. Africa	4.0	4.0	1.5	1.5
Selected SSA countries	5.3	5.4	3.0	3.0
Rest of Sub-Saharan Africa	4.6	4.8	2.2	2.3
Rest of the World	5.0	5.5	2.4	2.7

[a] Developed countries include the newly industrialized East Asian customs territories of Hong Kong, Korea, Singapore and Taiwan as well as the transition economies of Central and Eastern Europe and the former Soviet Union.

[b] See Table 1.5

Source: Anderson, Martin and van der Mensbrugghe (2005, Tables 12.12 and 12.13)

Table 1.8: Changes in poverty (those earning <$1/day) in alternative Doha scenarios compared with full liberalization, 2015

	Base line	Full liberalization	Doha alternatives		
			Doha Scenario 1	Doha Scenario 5	Doha Scenario 6
2015 Headcount	**2015 level**	**Decrease from baseline in millions**	**Decrease from baseline in millions**		
East Asia & Pacific	19	2.2	0.1	0.3	0.5
Latin America & Carib.	43	2.1	0.3	0.4	0.5
South Asia	216	5.6	0.2	1.4	3.0
Sub-Saharan Africa	340	21.1	-0.1	0.5	2.2
All developing countries	**622**	**31.9**	**0.5**	**2.5**	**6.3**

Source: Anderson, Martin and van der Mensbrugghe (2005, Table 12.14)