

More or Less Ambition in the Doha Round: Winners and Losers from Trade Liberalisation with a Development Perspective

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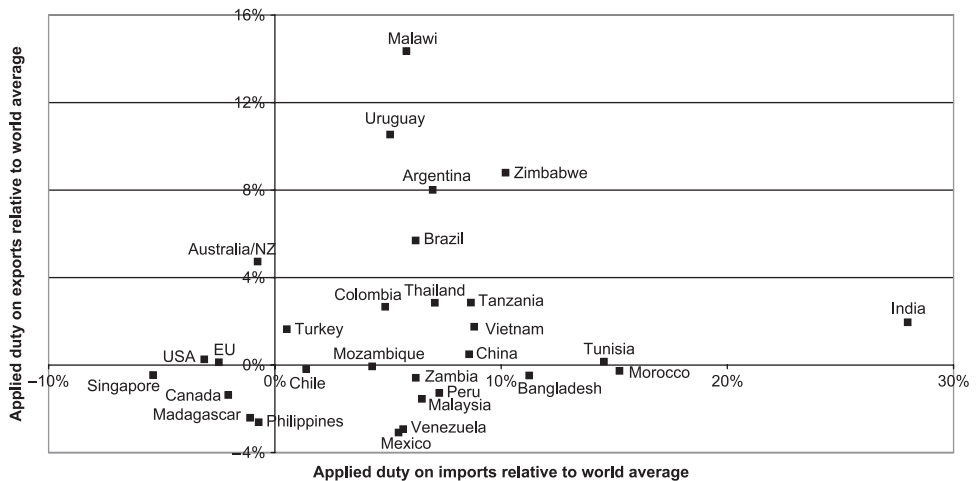
1. INTRODUCTION

WHAT is at stake in the standoff that has arisen in the Doha Round of trade talks? What impact would an agreement based on greater or lesser levels of ambition have on developing countries, whose economies are relatively dependent on agriculture? Three years after the World Trade Organisation (WTO) talks broke down in Cancún, reform of the heavily protected and subsidised agricultural sectors of the United States, Europe and elsewhere among developed and developing countries remains a major impediment to progress. The December 2005 Hong Kong Ministerial and the negotiations that took place in Geneva until suspended in July 2006 showed little finality to the negotiations.

Trade liberalisation is a potential stimulus for development and the Doha Round was launched with the objective of drawing developing countries more fully into the global trade system. Whether a final Doha Round trade agreement will eventually produce something substantially positive for developing countries remains open to question. Trade liberalisation will act especially positively on development and poverty when developing countries have a comparative advantage in agriculture and are penalised by restricted market access. But developing countries are heterogeneous in terms of their own trade policies, the trade barriers they face, and their net agricultural trade positions.

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FIGURE 1
Protection Applied and Faced Across Agriculture and Manufacturing



Among the developing countries, some face high tariffs on their exports (for example, Argentina, Brazil, Malawi, Uruguay and Zimbabwe) while others have an above-average access to world markets (Madagascar, Philippines, Venezuela and Malaysia), as shown in Figure 1. Many developing countries impose relatively high tariffs on their imports, while only a few impose tariffs below the world average (Madagascar and Philippines). Both large net food importers and substantial food exporters exist among middle-income countries (MICs) and least developed countries (LDCs). The net trade positions are crucial because trade liberalisation is expected to increase world agricultural prices.

The potential consequences of a Doha agreement have been assessed in a number of recent studies, among them Anderson et al. (2005a and 2005b), Anderson and Martin (2005), Fontagne et al. (2005), Francois et al. (2005) and Bchir et al. (2005). Conclusions diverge, not only on the world real income effect (from 0.04 per cent in Anderson et al., 2005a, to 0.51 per cent in Fontagne et al., 2005), but also on its distribution. This reflects different methodological choices, model parametrisation, and designs of trade reform. The focus of these studies has varied, so they have emphasised different elements of the trade negotiation. For example, while Anderson et al. (2005a) highlight the sensitivity of the potential impact to specific clauses of a trade agreement, Bouët et al. (2005) point out the contrasting benefits and losses for developing countries.

A new feature of the Doha negotiation is that developing countries are actively taking part: the G20 is a largely offensive coalition in terms of liberalisation; the G33 and G90 are more defensive. Their proposals matter but a key issue remains

the stance of the United States (US) and the European Union (EU). By late 2005, these two major trading partners had put on the table proposals which have been widely scrutinised and criticised. These two proposals, or modifications to them, remain central to any potential negotiated outcome.

In this article, we take the US and EU proposals as points of reference for what a final outcome of the negotiations might contain. Using the MIRAGE computable general equilibrium model of the global economy we compare different scenarios for the Doha negotiations, taking real numbers from the two proposals, which include substantial detail on agriculture. We compare these two Doha scenarios with full trade liberalisation.¹

The results for both Doha scenarios demonstrate the high stakes that remain in this negotiation given the positions articulated by the countries involved. An ambitious reform outcome, designed with the most liberalising elements contained in the US and EU proposals, delivers noticeably more benefits than an unambitious outcome, based on the least ambitious components of their negotiating proposals. We scrutinise the development impact of these scenarios and highlight the reasons why trade liberalisation may benefit some developing countries, while having ambiguous effects on others. Eroded preferences and higher world agricultural prices for net food importing countries are critical elements for some developing countries. For this reason, the precise design of the trade reforms is a key issue if the purpose of the Round is development and poverty alleviation.

Section 2 presents the MIRAGE model and analysis of the impact of full trade liberalisation on world real income, world prices and the distribution of gains among countries. Section 3 describes our ambitious and unambitious Doha scenarios. The relative degree of reform of these two scenarios is assessed, first with respect to their impact on world protection, real income and trade volume, and second by the construction of a world Mercantilist Trade Restrictiveness Index. Section 4 focuses on the impact of these two scenarios on developing countries. Section 5 concludes.

2. THE MIRAGE MODEL WITH FULL TRADE LIBERALISATION

a. The MIRAGE Model

The MIRAGE (Modelling International Relationships in Applied General Equilibrium) model is a multi-sector, multi-region CGEM devoted to trade policy

¹ The MIRAGE model was developed at the *Centre d'Etudes Prospectives et d'Informations Internationales* (CEPII) in Paris. Full description of the model is available at the CEPII website (www.cepii.fr) and in Bchir et al. (2002).

analysis. The model has a sequential dynamic recursive set-up. Macroeconomic data, in particular social accounting matrices, come from the GTAP6 database (see Dimaranan, 2006).² Tariff averages have been re-calculated using the MacMap methodology (see Bouët et al., 2005a and 2005b). Under MacMap, tariff formulae are implemented at the HS6 level before aggregating to the model level and the interplay between bound, MFN applied and preferential duties is fully taken into account.

On the supply side the production function in each sector is a nesting of five primary factors (capital, skilled and unskilled labour, land and natural resources) and intermediate consumption. Factor endowments (except land) are fully employed. Capital supply is modified each year by depreciation and investment. Fixed levels of natural resources and growth rates of labour supply are set exogenously. Land supply is endogenous; utilisation depends on the real rate of remuneration. Installed capital and natural resources are sector-specific. New capital is allocated amongst sectors according to an investment function that depends on the rate of return and the sector stock of capital. Skilled labour is the only factor perfectly mobile. Unskilled labour is imperfectly mobile between agricultural sectors and non-agricultural sectors according to a CET function. Land is also imperfectly mobile among the agricultural sectors.³

The demand side is modelled in each region through a representative agent whose propensity to save is constant and whose preferences across sectors are represented by a LES-CES function. Products coming from the 'North' (developed/rich countries) and from the 'South' (developing/poor countries) are assumed to belong to different quality ranges (higher in the North).

The geographic decomposition in our analysis disaggregates the world into 41 countries/zones and 18 sectors in order to capture the heterogeneity among developing countries. Table 1 indicates the geographic regions which include 33 developing countries or aggregated zones. The sector decomposition emphasises the sectors where distortions are high and numerous. Out of the 18 sectors considered, 10 are agricultural and textiles and wearing apparel and leather products are separated from other manufacturing, as shown in Table 2. The last column in Table 2 indicates the agricultural/non-agricultural categorisation that is at the basis of the imperfect mobility of unskilled labour.

In the model equilibrium, perfect competition is assumed in all sectors. With our level of disaggregation, it would have been costly in terms of computational

² The GTAP6 database provides statistical information for 2001. A pre-experiment was carried out to account for liberalising occurring from 2001 to 2005, including the end of the Uruguay Round, Chinese accession to the WTO, enlargement of the EU, and implementation of the African Growth and Opportunities Act (AGOA) and the EBA initiative.

³ In MIRAGE, the CET labour substitution elasticity is set at 2. Elasticities of land supply are at the same level as in the LINKAGE model. We thank Dominique Van der Mensbrugge who kindly provided the land supply parameters.

TABLE 1
Geographic Decomposition

<i>No.</i>	<i>Abbrev.</i>	<i>Region</i>	<i>North/South</i>
1	AUNZ	Australia/New Zealand	North
2	Cana	Canada	North
3	DvdA	Developed Asia	North
4	EU25	European Union	North
5	Mexi	Mexico	North
6	Roec	Rest of OECD	North
7	Turk	Turkey	North
8	USAm	USA	North
9	Arge	Argentina	South
10	Braz	Brazil	South
11	Cari	Caribbean economies	South
12	Chil	Chile	South
13	Chin	China	South
14	Colo	Colombia	South
15	DvgA	Developing Asia	South
16	Indi	India	South
17	Indo	Indonesia	South
18	Mala	Malaysia	South
19	Moro	Morocco	South
20	Peru	Peru	South
21	Phil	Philippines	South
22	SACU	South African Customs Union	South
23	Sing	Singapore	South
24	Thai	Thailand	South
25	Tuni	Tunisia	South
26	Urug	Uruguay	South
27	Vene	Venezuela	South
28	Viet	Vietnam	South
29	Zimb	Zimbabwe	South
30	Bang	Bangladesh	South
31	Mada	Madagascar	South
32	Malw	Malawi	South
33	Moza	Mozambique	South
34	Tanz	Tanzania	South
35	Ugan	Uganda	South
36	Zamb	Zambia	South
37	RAme	Rest of America	South
38	RMen	Rest of Middle East and North Africa	South
39	RSAm	Rest of South America	South
40	RSSA	Rest of Sub-Saharan Africa	South
41	RofW	Rest of the World	South

time to implement imperfect competition in manufacturing, although the MIRAGE model allows this possibility. The model macroeconomic closure is obtained by assuming that the sum of the balance of goods and services for each country/zone is constant and equal to its initial value.

TABLE 2
Sector Decomposition

No.	Abbrev.	Sector	Type of Competition	Agr./ Non-agr.
1	AniP	Animal products and wool	Perfect	Agricultural
2	Meat	Cattle, sheep, goats, horses	Perfect	Agricultural
3	Milk	Raw milk and dairy products	Perfect	Agricultural
4	Plfb	Plant-based fibres	Perfect	Agricultural
5	Rice	Paddy and processed rice	Perfect	Agricultural
6	Sugr	Sugar cane, sugar beet	Perfect	Agricultural
7	VgFr	Vegetables and fruits	Perfect	Agricultural
8	Whet	Wheat	Perfect	Agricultural
9	OtFP	Other food products	Perfect	Agricultural
10	Otag	Other agricultural products	Perfect	Agricultural
11	Mich	Chemical, mineral and metal products	Perfect	Non-agricultural
12	Text	Textiles	Perfect	Non-agricultural
13	Veeq	Vehicles equipment	Perfect	Non-agricultural
14	Weap	Wearing apparel and leather products	Perfect	Non-agricultural
15	Omnf	Other manufactured products	Perfect	Non-agricultural
16	Oprm	Other primary products (including forestry and fishing)	Perfect	Non-agricultural
17	OtSr	Other services	Perfect	Non-agricultural
18	TrT	Transportation and trade	Perfect	Non-agricultural

b. The Potential Impact of Full Trade Liberalisation

To evaluate the effects of full trade liberalisation, reform is implemented over five years from 2006 for developed countries and over 10 years for developing countries. Results are assessed by comparing the simulation outcomes for 2019 to a baseline without any trade reform. Technology is assumed constant in these comparisons; trade reform does not induce productivity gains as assumed in some models.

With full liberalisation, world protection, which initially averages 5.4 per cent across agriculture and manufacturing as measured by a weighted aggregate statistic, is eliminated. Full trade liberalisation implies an increase of world trade volume by 12 per cent and world real income by \$158 billion (in constant 2001 dollar value; a gain of +0.5 per cent of expected 2019 world real income in the baseline).

Table 3 indicates the distribution of this income gain among the OECD, MICs and LDCs. Full liberalisation is slightly progressive based on a comparison of initial income levels and income gains between developed and developing countries. For developing countries as a whole, the share of welfare gains (21.2 per cent) is greater than their share of initial world income (18.5 per cent). But the aggregate gain is small (and regressive) for the LDCs – only 0.1 per cent of the

TABLE 3
Impact of Full Trade Liberalisation on World Real Income

	<i>OECD</i>	<i>MIC</i>	<i>LDC</i>
Real income gain (\$ bn)	124.2	33.4	0.1
Share in world real income gain	78.7%	21.2%	0.1%
Share in initial world real income	80.6%	18.5%	0.9%
Real income gain (in %)	0.49%	0.58%	0.05%

Source: Authors' calculations.

global income gains accrue to the LDCs compared with their initial share of world income of 0.9 per cent.

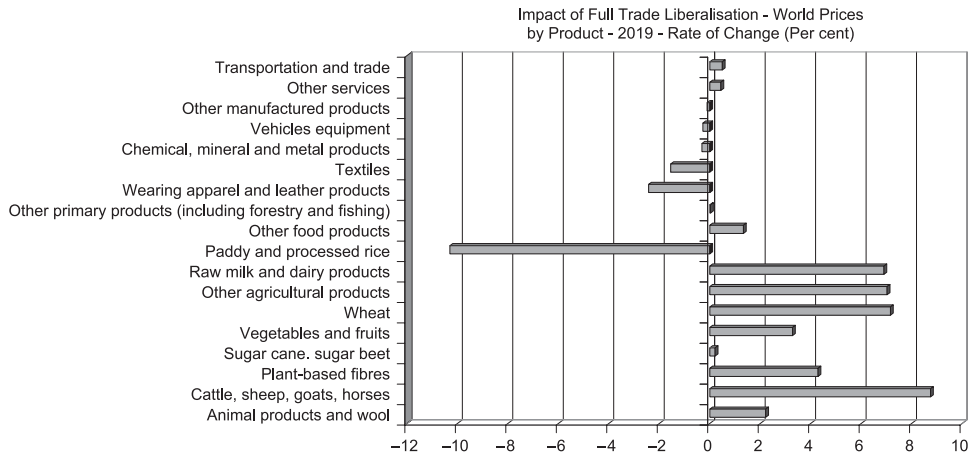
The gain in real income in our simulation is smaller than the gain of \$287 billion estimated by 2015 using the LINKAGE model by Anderson et al. (2005a and 2005b).⁴ To assess the sources of this difference, three sensitivity analyses were undertaken:

- The MIRAGE model utilises GTAP Armington elasticities. Van der Mensbrugghe (2006) calculates that they are on average 35 per cent lower than those utilised in the LINKAGE model, while Harrison et al. (1997) utilises even higher elasticities. If the GTAP Armington trade elasticities are multiplied by 1.5, the world real income gain is \$212 billion in 2015 (a gain of +0.71 per cent from the baseline) and \$244 billion in 2019 (+0.72 per cent) in our full liberalisation scenario.
- With perfect mobility of unskilled labour across sectors, the world real income gain is only slightly changed to \$136 billion in 2015 (+0.45 per cent) and \$160 billion in 2019 (+0.51 per cent).
- The LINKAGE model incorporates GDP growth expectations from the World Development Indicators. Our simulations are not scaled up to match these GDP growth projections. Doing so amplifies the value of world real income in the baseline. The world real income gain is \$178 billion in 2015 (+0.45 per cent) and \$225 billion in 2019 (+0.52 per cent).

The difference in real income gains from full liberalisation between our estimate of \$158 billion in 2019 and the assessments carried out by Anderson et al. (2005a and 2005b) comes mainly from the adoption of low trade elasticities. Including GDP growth expectations in the baseline also increases the size of world real income and consequently the size of the gain expressed in dollar value.

⁴ In 2015, the gain in world real income is \$135 billion, +0.45 per cent as compared to the baseline, in our simulation.

FIGURE 2
Impact of Full Liberalisation on Agricultural World Prices



Source: Authors' calculations.

In our simulation, full trade liberalisation implies an expected significant increase in agricultural world prices. Price effects are largest for meat (cattle, sheep, goats, horses), wheat, raw milk and dairy products, and other agricultural products, as shown in Figure 2. The indicative average price changes shown in this figure have to be somewhat carefully interpreted. In the MIRAGE model there is not a single world price for a commodity but separate export prices for each product, for each exporting country and for each destination. The results shown in Figure 2 are weighted average of numerous price evolutions. When the dispersion of a price distribution is high, an average does not synthesise consistently the separate impacts.⁵ This is especially the case for rice. Initially, rice is subject to highly dispersed tariffs: 0 per cent in Australia/New Zealand, Canada, Malaysia, SACU, Singapore and Madagascar, but 117 per cent in the EU, 133 per cent in Morocco and 538 per cent in Developed Asia, on average. In Figure 2, the average world price of rice decreases with full trade liberalisation. Because of the high dispersion of protectionism of this commodity in the world, with full liberalisation export prices of rice exhibit large individual increases in countries exporting to previously highly-protected markets and decreases in traditionally

⁵ This point is confirmed by calculating the average price changes under alternative methods (Laspeyres or Fisher index instead of Paasche index) or with different weights (consumption of the importing country). The alternative measures give contrasting pictures of the evolution of world prices, sometimes with increases in the average world price of rice. Calculation of dispersion indicators of the evolution of world prices by products and exporting countries shows that dispersion is especially high in this sector.

protectionist countries for which reductions in domestic prices are linked with a significant cut in export prices. Country-specific results are not shown, but the average prices of rice exports from Thailand and the US, for example, are raised by 30 per cent, and from Mexico by 20 per cent, Malawi by 15 per cent, Malaysia by 12 per cent and Australia/New Zealand by 10 per cent. Conversely, average export prices decrease by -41 per cent for Developed Asia, which is initially a major rice exporter after Thailand, and by -12 per cent for Developing Asia. Similar dispersed results underlie the small increase of the world average sugar price shown in Figure 2.

Table 4 highlights the diverse country impacts of full trade liberalisation, presenting the total gains, the allocation efficiency gains and the terms of trade gains. The two last columns do not necessarily add up exactly to the real income gain because they are not the only sources of welfare variations. Real income variations also come from changes in land utilisation, from variation in the stock of capital, elimination of tariff-quota rents and other sources.⁶ But in most cases the allocation and terms of trade gains are the two main sources of changes to real incomes.

Allocation efficiency gains are usually positive; terms of trade effects can be positive or negative. This explains why some countries/zones may lose from full trade liberalisation (Bangladesh, China, Madagascar, Mexico, Morocco, Mozambique, Peru, Philippines, Venezuela, Zambia and the zone Rest of the World). Others benefit from large increases in real income (Malawi, Malaysia, Turkey, Thailand and Rest of America). Allocation efficiency gains are largest when initial protection is high (India and Morocco), initial protection has a high dispersion across sectors (Rest of OECD and Developed Asia), or in the case of initially very open economies (Malaysia) because the allocation efficiency effect is amplified when initial imports are relatively large for a given decrease in tariff. Taken overall, the size of the benefits is greater than the losses.

Terms of trade effects are positive for countries gaining access to previously protected markets (for example, Australia/New Zealand for animal products, milk and dairy products, and other food products sectors toward Rest of OECD, Developed Asia, the EU, Canada and Turkey; Malawi in the other agricultural products sector, which account for 65 per cent of its initial exports; Malaysia in rice toward Developed Asia and wheat toward India). On the contrary, full trade liberalisation can imply a deterioration of terms of trade either in the case of erosion of preferential accesses to certain export markets, which implies more competition and reduced export prices, or in the case of net food importing countries facing rising world agricultural prices. Bangladesh and Tunisia are

⁶ The welfare gains from increased income from reform feeding into augmented savings and capital stock differs from the standard Haberger triangles but they would not have been realised without trade reform.

TABLE 4
Impact of Full Trade Liberalisation on Countries' Real Income

	<i>Region</i>	<i>Real Income (in per cent)</i>	<i>Allocation Efficiency Gains (in per cent)</i>	<i>Terms of Trade Gains (in per cent)</i>
High-income countries	Australia/New Zealand	1.5	0.1	1.2
	Canada	0.1	0.3	0.0
	Developed Asia	1.1	1.4	0.1
	European Union	0.5	0.3	0.1
	Mexico	-0.2	0.7	-0.6
	Rest of OECD	3.0	8.4	-0.7
	Turkey	5.2	1.0	2.2
	USA	0.1	0.0	0.1
Middle-income countries	Argentina	1.2	0.2	0.5
	Brazil	0.8	0.3	0.3
	Caribbean economies	0.7	0.6	-0.1
	Chile	0.7	0.2	0.0
	China	-0.1	1.0	-0.8
	Colombia	0.2	0.2	-0.1
	Developing Asia	0.8	0.8	0.1
	India	0.3	1.9	-1.4
	Indonesia	1.5	0.2	0.3
	Malaysia	8.0	9.3	1.7
	Morocco	-0.1	2.5	-3.2

	Peru	-0.3	0.3	-0.6
	Philippines	-0.1	0.4	-1.1
	Rest of America	4.8	7.7	-0.3
	Rest of Middle East and North Africa	0.1	0.4	-0.3
	Rest of South America	3.1	0.7	1.4
	Rest of the World	-0.1	0.4	-0.5
	South African Customs Union	1.1	0.6	0.3
	Singapore	2.3	0.0	2.0
	Thailand	4.9	2.0	0.8
	Tunisia	1.6	3.6	-3.0
	Uruguay	1.8	0.4	0.3
	Venezuela	-0.5	0.2	-0.5
	Vietnam	3.3	2.7	-1.2
	Zimbabwe	3.1	1.3	1.6
Low-income countries	Bangladesh	-0.5	1.3	-1.7
	Madagascar	-0.3	0.0	-0.4
	Malawi	11.2	1.4	7.3
	Mozambique	-0.2	0.4	-0.7
	Rest of Sub-Saharan Africa	0.1	1.4	-1.3
	Tanzania	0.7	0.6	-0.3
	Uganda	0.5	0.1	0.3
	Zambia	-0.6	0.6	-1.0

Source: Authors' calculations.

affected by a substantial deterioration of terms of trade both owing to erosion of preferences (Europe is by far their primary export destination) and higher agricultural prices.⁷ Erosion of preferences also hurts Madagascar, Mexico, Morocco, Mozambique, Tanzania, Zambia, Rest of OECD, Rest of MENA and Rest of Sub-Saharan Africa. As net food importing countries, China, Philippines and Venezuela are hurt by raising world agricultural prices.

The case of China is interesting as initially China is a net exporter of vehicle equipment, textile and apparel and chemical products while it is a net importer of wheat, rice and plant-based fibres. Full trade liberalisation entails a large increase of its exports, but also of its imports as its initial rate of protection is much higher than the average duty faced on its exports. China's domestic activity is significantly stimulated (by about five per cent) but its terms of trade deteriorate as agricultural world prices increase. In the textile and apparel sectors, Chinese export prices decrease due to competitive effects: trade liberalisation has a larger effect on production and exports of textiles and apparel of Malaysia, Vietnam, India, Philippines and other Developing Asia countries than on Chinese production. Overall, full trade liberalisation entails a significant reorganisation of the world production and trade of textiles and apparel. China increases its market share but is not by far the first beneficiary. Textile and apparel sectors in OECD countries and LDCs (except Bangladesh) are negatively affected. In terms of total welfare for China, with full liberalisation terms of trade deterioration is compensated by allocative efficiency gains and welfare gains are close to zero.

The deterioration in terms of trade implied by full liberalisation in the cases of India, Peru and Vietnam (initially net food exporters) and improvement in the case of Singapore (net food importer) are less intuitive. These cases demonstrate that aggregated indicators can be misleading. The initial net food balance of a country is not an unambiguous indicator of how national terms of trade will be affected by trade liberalisation. Distortions are unevenly distributed across products and import and export structure of trading partners are very different. While Peru, for example, is globally a net food exporter, its exports are highly concentrated in chemical, mineral and metal products (37 per cent of total exports in 2005) and other food products (16 per cent). The latter commodity experiences one of the smallest increases in world prices amongst the agro-food products. Furthermore, the price of the former is negatively affected by full trade liberalisation. As a result, Peru is affected by a deterioration of its terms of trade after full liberalisation.

A few countries also benefit especially from liberalisation-related resource utilisation gains. For example, agricultural activity increases in Argentina, Malawi and Australia/New Zealand, raising the real remuneration of land, especially as

⁷ The methodology adopted here implicitly supposes that preferences are fully utilised. This may underestimate the importance of trade barriers in some cases, for example, in the case of Bangladesh's exports of apparel to the European Union on which rules of origin are known to be strict.

it is not a very mobile primary factor. This accordingly increases land utilisation and amplifies national real income gains from trade reform.

3. AMBITIOUS VERSUS UNAMBITIOUS DOHA REFORM SCENARIOS

In the Doha Round negotiations, criticism has been directed at developed countries for protecting and subsidising agriculture, which stifles trade opportunities. Yet, the US and EU follow somewhat different regimes. The US has relatively low tariffs, but its domestic agricultural support was increased in the most recent (2002) farm bill. The US provides relatively less preferential access than does the EU for selected developing-country trade partners. The EU, in contrast, has higher agricultural (but similarly low industrial) tariffs and has recently realigned its relatively high levels of agricultural support toward policy instruments that are less trade distorting than in the past. In these US–EU policy differences lie the seeds of different approaches to the trade negotiations.

a. Similarities and Differences in the US and EU Proposals of 2005

The US and EU proposals of late 2005 have some broad commonalities, such as progressive tariff and domestic support cuts and the elimination of export subsidies. But the specifics of the proposals diverge on matters such as rates of reduction of tariffs and domestic agricultural support and the number of agricultural sensitive or special products (for developed and developing countries, respectively) that will be subject to lesser disciplines. In terms of an ambitious agenda for agricultural trade liberalisation, strong points of the US proposal include sharper reductions in bound tariff rates and a lower cap on maximum allowable tariffs, few sensitive or special products, and moderately tough bindings on domestic support that encourage decoupling of subsidies from production. Strong points of the EU proposal in terms of trade liberalisation lie in the call for free access of LDCs to OECD markets, a specific initiative for cotton to help West Africa, and a push for lower industrial tariffs worldwide.

b. What Difference Could a Doha Outcome Make?

What difference could a Doha Round outcome make to global trade and welfare and to developing countries in particular? To examine this question, we define a relatively ambitious cooperative reform scenario with strong trade liberalisation components from the US and EU proposals using numbers on the negotiating table at the December 2005 Hong Kong ministerial meeting, and contrast this with a less ambitious outcome drawn from the lower-end elements (see Box 1).

BOX 1
Overview of Two Scenarios

AMBITIOUS SCENARIO

Tariffs:

- US tariff formula for agriculture
- Tariff caps in agriculture (developed countries, 100 per cent; developing countries, 150 per cent)
- US sensitive/special products clause (one per cent)
- Swiss formula cuts for manufacturing tariffs (developed-country coefficient, eight per cent; MIC coefficient, 20 per cent; LDC coefficient, 30 per cent)
- EU proposal of free OECD access for LDCs

Domestic support levels cut by 20 per cent

Export subsidies eliminated

UNAMBITIOUS SCENARIO

Tariffs:

- EU tariff formula for agriculture
- No agricultural tariff caps
- EU-sensitive/special products clause (eight per cent)
- Swiss formula cuts for manufacturing tariffs (developed-country coefficient, 10 per cent; MIC coefficient, 30 per cent)
- LDCs do not reduce their import duties
- Additional free OECD access for LDCs, but exceptions for Japan and South Korea (rice) and the US (sugar, textiles and apparel)

Domestic support levels unchanged

Export subsidies are eliminated

On market access, our ambitious proposal includes most elements of the US formula.⁸ It adds the EU proposal for free access by LDCs to OECD markets, imposes tariff caps in agriculture and defines an exception regime for sensitive/

⁸ The US proposal prior to the December 2005 Hong Kong meeting called for cuts of 85–90 per cent in agricultural tariffs above 60 per cent for developed countries and lesser cuts in three bands of lower initial tariffs. The EU called for less ambitious cuts of 60 per cent in agricultural tariffs above 90 per cent for developed countries and similarly less ambitious cuts for lower initial tariff bands. The US proposal involves a quadratic transformation of original tariffs under which final tariffs go down as original tariffs go up over a substantial range. The ambitious scenario keeps this apparent ‘inconsistency’. The tariff-cutting formula for developing countries is applied to LDCs as well as MICs, a point not addressed explicitly in the US proposal.

TABLE 5
Global Results of Alternative Liberalisation Scenarios

	<i>World Protection (Per cent)</i>	<i>Real Income Gain (Per cent)</i>	<i>World Trade Expansion (Per cent)</i>
Full trade liberalisation	-5.4	\$158.0 bn	12.0
Ambitious scenario	-1.9 (35)	\$76.7 bn (49)	2.8 (23)
Unambitious scenario	-1.2 (22)	\$38.3 bn (24)	1.6 (13)

Source: MacMaps-HS6 and authors' calculations.

special products of only one per cent of agricultural tariff lines per country.⁹ Applied trade-distorting domestic agricultural support is cut by 20 per cent and relatively strong manufacturing tariff reductions are imposed on developed and developing countries (including LDCs) under a three-tier Swiss formula.

In contrast to the ambitious scenario, our unambitious scenario adopts the EU formula for less deep tiered tariff cuts for agriculture, does not impose any cap on agricultural tariffs, exempts LDCs from agricultural tariff cuts, and adds fewer liberalising elements on sensitive/special products (exceptions for eight per cent of tariff lines), the tariff-reduction Swiss formula for industry (higher tariff targets for developed countries and MICs and no cuts by LDCs) and free OECD access for LDCs (some exceptions are retained). No cuts are assumed in applied domestic agricultural support of developed countries.

c. Global Results for the Ambitious versus Unambitious Doha Scenarios

As shown in Table 5, the unambitious scenario leads to global real income gains of only \$38.3 billion, just 24 per cent of the gain from full liberalisation. World protection measured by the weighted aggregate statistic declines by 1.2 per cent. This is 22 per cent of the decline (to zero protection) with full liberalisation. World trade expands 1.6 per cent, which is only 13 per cent of the expansion induced by full trade liberalisation.

A substantially greater movement is observed under the ambitious scenario. Global welfare increases by \$76.7 billion, 49 per cent of the gain from full liberalisation. World protection falls by 1.9 per cent (35 per cent of the effect of

⁹ Sensitive/Special Products are here defined as the lines supporting the highest bound tariffs, expressed in *ad valorem* terms. Our later research (Bouët et al., 2006) utilises a more sophisticated definition on the basis of a political economy model, like Jean et al. (2005).

full liberalisation). World trade is increased by 2.8 per cent, which is 23 per cent of the expansion with free trade.

For both the trade expansion and gains of real income, the unambitious scenario yields outcomes about half as large as the ambitious scenario (13 per cent/23 per cent for trade expansion and 24 per cent/49 per cent for real income compared with the free trade outcomes, respectively). These ratios provide an estimate of what is *still* at stake in a conclusion to the Doha negotiations. A key factor differentiating the ambitious from unambitious scenario is the degree of increased market access in agriculture. Under the ambitious scenario, agricultural protection decreases by 8.7 per cent from an initial global average of 17.8 per cent. Under the unambitious scenario, agricultural protection falls by only three per cent.

d. An Evaluation by an MTRI

Another way of assessing the degree of ambition of these two scenarios is the construction of a Mercantilist Trade Restrictiveness Index (MTRI): it is a uniform tariff applied to all imports of a country that provides the same level of import volumes as the existing distortions (see Anderson and Neary, 1999). The focus on import volumes is consistent with the character of trade negotiations under the WTO. To determine the MTRI, we substitute into a static version of the MIRAGE model a uniform tariff on all imports of all countries from all partners in the world for existing tariffs, domestic support and export subsidies at the model level of aggregation. We then search for the level of this uniform tariff that generates the same world imported volume as (i) the existing distortions in 2005, (ii) the unambitious scenario and (iii) the ambitious scenario.

Table 6 gives the results of this calculation. The 2005 situation is equivalent in terms of world imports to a uniform four per cent tariff. This is smaller than the weighted average tariff, but it also includes the impact of export subsidies on trade. The initial MTRI might also mean that the MacMap method of aggregation overestimates the distortive impact of high tariffs in agriculture.

TABLE 6
MTRI from Alternative Liberalisation Scenarios

	<i>MTRI (Per cent)</i>
Current situation	4.00
Unambitious scenario	3.20 (-20)
Ambitious scenario	2.60 (-35)

Source: Authors' calculations.

Under the unambitious scenario the MTRI is 3.2 per cent, which is a 20 per cent decline in world protection. Under the ambitious scenario the MTRI is 2.6 per cent; this represents a 35 per cent drop in protection. The MTRI revises downwards the degree of initial distortion but the relative MTRI results for the two Doha scenarios are similar to the earlier estimates of reductions in average world protection (22 per cent reduction under the unambitious scenario and 35 per cent under the ambitious scenario). This consistent distortion aggregation measure somewhat reduces the relative stakes in the outcome of the negotiations, because the new range is only 20 per cent/35 per cent instead of the 24 per cent/49 per cent previously calculated in terms of world real income. A possible explanation is that a tariff increase on a low tariff good has a large adverse impact on market access and trade because a low-tariff good implies, other things being equal, high trade value.¹⁰ This result also verifies recent literature on the MTRI (see Anderson and Neary, 2004) which demonstrates that higher tariff variance means higher welfare gains, but smaller trade gains.

4. POTENTIAL IMPACT OF A DOHA AGREEMENT ON DEVELOPING COUNTRIES

The ambitious and unambitious scenarios are quite different in terms of liberalisation effects at the world level. It remains to describe whether they imply contrasting fortunes for developing countries.

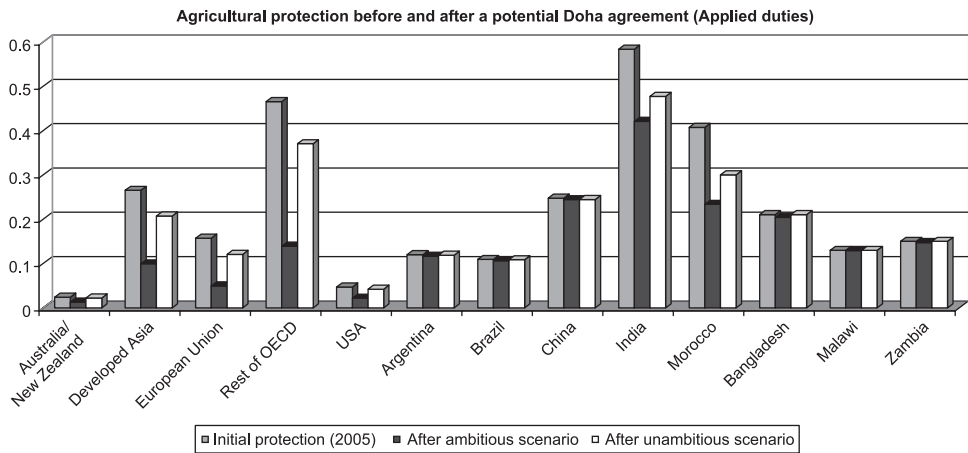
a. Impact on Market Access

The impact of the two scenarios on agricultural market access as measured by applied tariff levels of selected countries is illustrated in Figure 3. The ambitious scenario implies a much larger liberalisation in rich countries where protection is initially high and unevenly distributed. The average agricultural protection is reduced more by the ambitious compared with the unambitious scenario in the EU, Developed Asia and the Rest of OECD. This confirms that the imposition of a cap on agricultural tariffs and limited exemptions from tariff liberalisation under sensitive/special product clauses have large consequences on market access, as discussed by Anderson and Martin (2005).

The binding overhang phenomenon is so large in developing countries that even the ambitious scenario has a mitigated impact in agricultural protection except in India and Morocco, as also discussed by Jean et al. (2005). Under the unambitious scenario protection in LDCs is unchanged; and likewise even the ambitious scenario implies little applied tariff reduction by LDCs.

¹⁰ Thanks to the anonymous referee who suggested this explanation.

FIGURE 3
Agricultural Protection Before and After Reform Scenarios



Source: MacMaps-HS6 and authors' calculations.

b. Impact on Real Incomes

The heterogeneity among developing countries is illustrated by divergence in the real-income effects of the two Doha scenarios (see Table 7). The degree of ambition makes quite a difference for developing countries. Under the unambitious scenario, Zambia, Madagascar, Venezuela, Mexico, the Rest of Sub-Saharan Africa and the Rest of the World are losers, while under the ambitious scenario only Venezuela and Zambia lose from global trade reform. Furthermore, under the ambitious scenario benefits are larger for all developing countries, except Zambia.

In terms of individual MICs that might benefit from trade liberalisation, the unambitious scenario delivers very little real income gain for two reasons. First, these countries gain little from improved terms of trade despite the reduced protection among wealthy countries. Second, they gain little from allocation efficiency largely because they make so few changes to their own policies. The same results occur for the LDCs that might gain from trade liberalisation – terms of trade gains and allocation efficiency gains are very small under the unambitious scenario. Only Malawi and Malaysia obtain large benefits under both scenarios, the former from large terms of trade gains and the latter because of its high trade/GDP ratio.

Under the ambitious scenario, developing countries gain more from trade reform. Among the MICs, allocation efficiency gains are larger under the ambitious scenario than under the unambitious scenario, but they remain less than in the case of full liberalisation. In case of positive terms of trade effects, gains are larger under the ambitious scenario owing to increased market access.

TABLE 7
Effects of Alternative Liberalising Scenarios on Real Income

	<i>Region</i>	<i>Real</i>	<i>Allocation</i>	<i>Terms</i>	<i>Real</i>	<i>Allocation</i>	<i>Terms of</i>
		<i>Income</i>	<i>Efficiency</i>	<i>of Trade</i>	<i>Income (in</i>	<i>Efficiency</i>	<i>Trade</i>
		<i>(in per cent)</i>	<i>Gains (in</i>	<i>Gains (in</i>	<i>per cent)</i>	<i>Gains (in</i>	<i>Gains (in</i>
			<i>per cent)</i>	<i>per cent)</i>		<i>per cent)</i>	<i>per cent)</i>
		<i>Ambitious Scenario</i>			<i>Unambitious Scenario</i>		
High-income countries	Australia/New Zealand	0.7	0.1	0.5	0.4	0.1	0.2
	Canada	0.1	0.1	0.0	0.0	0.0	0.0
	Developed Asia	0.3	0.6	-0.1	0.1	0.1	0.0
	European Union	0.2	0.2	0.0	0.1	0.0	0.0
	Mexico	0.1	0.3	-0.2	0.0	0.2	-0.1
	Rest of OECD	2.9	7.0	-0.6	2.4	6.3	-0.4
	Turkey	4.0	0.3	1.8	3.8	0.2	1.8
	USA	0.0	0.0	0.0	0.0	0.0	0.0
Middle-income countries	Argentina	0.3	0.1	0.1	0.2	0.0	0.1
	Brazil	0.3	0.1	0.1	0.1	0.1	0.0
	Caribbean economies	0.4	0.2	0.2	0.2	0.1	0.1
	Chile	0.2	0.0	0.1	0.1	0.0	0.0
	China	0.4	0.0	0.2	0.4	0.0	0.2
	Colombia	0.2	0.1	0.1	0.0	0.0	0.0
	Developing Asia	0.5	0.3	0.1	0.3	0.1	0.1
	India	0.4	0.8	-0.5	0.3	0.7	-0.4
	Indonesia	0.5	0.1	0.1	0.5	0.0	0.2
	Malaysia	3.4	4.7	-0.6	2.9	3.9	-0.6
	Morocco	0.5	1.5	-1.2	0.4	1.1	-0.9
	Peru	0.0	0.0	0.0	0.1	0.0	0.0
	Philippines	0.1	0.1	-0.1	0.1	0.0	0.0
	Rest of America	0.8	0.1	0.9	0.2	0.0	0.1
	Rest of Middle East and North Africa	0.1	0.2	-0.1	0.0	0.1	-0.1
	Rest of South America	0.9	0.2	0.3	0.0	0.1	-0.2

TABLE 7 *Continued*

<i>Region</i>	<i>Real</i>	<i>Allocation</i>	<i>Terms</i>	<i>Real</i>	<i>Allocation</i>	<i>Terms of</i>
	<i>Income</i> (in per cent)	<i>Efficiency</i> <i>Gains (in</i> <i>per cent)</i>	<i>of Trade</i> <i>Gains (in</i> <i>per cent)</i>	<i>Income (in</i> <i>per cent)</i>	<i>Efficiency</i> <i>Gains (in</i> <i>per cent)</i>	<i>Trade</i> <i>Gains (in</i> <i>per cent)</i>
	<i>Ambitious Scenario</i>			<i>Unambitious Scenario</i>		
Rest of the World	0.0	0.1	0.0	-0.1	0.0	-0.1
South African Customs Union	0.4	0.3	0.1	0.2	0.2	0.0
Singapore	0.3	0.0	0.3	0.1	0.0	0.1
Thailand	1.4	1.0	-0.1	0.7	0.8	-0.3
Tunisia	1.8	1.8	-0.8	0.8	1.0	-0.6
Uruguay	0.7	0.1	0.2	0.2	0.1	0.0
Venezuela	-0.3	0.1	-0.3	-0.3	0.0	-0.2
Vietnam	0.7	0.0	0.4	0.5	0.0	0.3
Zimbabwe	0.7	0.6	0.1	0.3	0.4	-0.1
Low-income countries						
Bangladesh	2.3	0.9	1.0	0.3	0.0	0.2
Madagascar	2.6	0.0	2.0	-0.1	0.0	-0.1
Malawi	5.1	0.8	3.3	5.1	0.0	3.3
Mozambique	1.4	0.1	0.9	0.1	0.0	0.0
Rest of Sub-Saharan Africa	1.2	0.8	0.2	0.0	0.3	-0.3
Tanzania	0.2	0.1	0.0	0.2	0.0	0.1
Uganda	0.2	0.0	0.2	0.2	0.0	0.2
Zambia	-0.2	0.1	-0.1	-0.1	0.0	0.1

Source: Authors' calculations.

In the case of LDCs a few cases are remarkable. Bangladesh is a full beneficiary of the ambitious scenario. Its preferences from the EU are eroded but the ambitious scenario gives it free access to the US in the textile and apparel markets. Because of this full coverage of free access by LDCs to OECD markets, Bangladesh's exports of textiles to the US increase by 58 per cent in the ambitious scenario instead of 32 per cent in the unambitious scenario and apparel by 46 per cent instead of 13 per cent.¹¹ Under the ambitious scenario prices of textile and apparel exports from Bangladesh to the EU and US markets are from 9–12 per cent higher than under full trade liberalisation, as it benefits from preferential LDC access. It also gains from allocative efficiency under the ambitious scenario, so this trade reform is unambiguously more beneficial than the unambitious outcome. The same mechanisms, with different size, play out for Madagascar and Rest of Sub-Saharan Africa.

On the contrary full trade liberalisation implies larger increases in agricultural world prices and complete erosion of preferences compared with the ambitious Doha scenario. As a result, terms of trade losses implied by full liberalisation (shown in Table 4) are substantial among LDCs for Bangladesh (–1.7 per cent) and the Rest of Sub-Saharan Africa (–1.3 per cent) and decline also for Mozambique (–0.7 per cent) and Madagascar (–0.4 per cent).

c. Impact on Productive Factors

On poverty also the degree of ambition of the Doha trade reform might make a difference. Table 8 compares the effects on remuneration of productive factors under the two scenarios. To the extent that the unskilled real wage is indicative of poverty effects, the ambitious scenario delivers more poverty reduction. Unskilled workers are better off under the ambitious outcome compared to the unambitious outcome in all countries/zones except Malaysia, Venezuela and Zambia. The differences in gains to unskilled real wages are particularly noticeable for Bangladesh, Madagascar, Mozambique, Rest of Sub-Saharan Africa, Rest of America, Rest of South America, Thailand and Uruguay. There are also larger gains to agricultural real wages under the ambitious scenario in all but a few countries.

A comparison with real wage results obtained in the two Doha scenarios to full trade liberalisation is also instructive.¹² Unskilled labour benefits much more from full liberalisation than from partial liberalisation in Argentina, Brazil, Chile, Indonesia, SACU, Thailand, Zimbabwe, Vietnam, Uruguay and Malawi. These benefits come mainly from large gains for agricultural unskilled labour.

¹¹ These results highlight the negative consequence for LDCs of the exclusion of three per cent of tariff lines from the free-access agreement reached in Hong Kong. See Bouët et al. (2005) for quantitative analysis of this provision in isolation.

¹² The free trade results are not shown in Table 8 but are available from the authors on request.

TABLE 8
Effects of Alternative Liberalising Scenarios on Remunerations

<i>Region</i>		<i>Unskilled Real Wages</i>	<i>Unskilled Real Wages in Agriculture</i>	<i>Unskilled Real Wages in Non- agricultural Sectors</i>	<i>Real Return to Capital</i>	<i>Real Return to Land</i>	<i>Real Return to Natural Resources</i>	<i>Skilled Real Wages</i>
<i>Ambitious scenario</i>								
High-income countries	Australia/New Zealand	1.3	5.0	1.0	0.2	2.0	-2.0	0.8
	Canada	0.0	1.2	0.0	0.2	-4.7	0.5	0.0
	Developed Asia	0.3	-7.2	0.4	0.5	-16.9	1.3	0.6
	European Union	0.2	-1.0	0.3	-0.3	-10.4	1.7	0.5
	Mexico	-0.1	-1.0	0.0	0.0	-2.8	0.1	0.3
	Rest of OECD	2.8	-4.2	2.9	1.7	-15.3	5.3	3.5
	Turkey	4.0	2.1	4.4	3.4	-3.1	-6.2	7.3
	USA	0.0	1.7	0.0	0.1	-1.8	0.2	-0.1
Middle-income countries	Argentina	0.7	2.5	0.6	0.2	2.2	-2.5	0.6
	Brazil	0.4	2.2	0.3	0.2	2.4	-1.9	0.3
	Caribbean economies	1.0	3.3	0.7	0.3	3.4	-3.7	0.2
	Chile	0.5	1.4	0.3	-0.1	1.2	-0.9	0.3
	China	0.7	1.2	0.5	-0.3	1.4	-1.3	0.7
	Colombia	0.5	2.9	0.2	-0.4	3.3	-2.1	-0.2
	Developing Asia	0.6	0.3	0.7	0.1	0.0	-0.3	0.7
	India	0.5	0.5	0.5	-1.3	0.6	-11.6	1.7

	Indonesia	0.6	0.7	0.6	-0.1	0.4	-0.2	0.4
	Malaysia	-1.5	-2.1	-1.5	-4.5	-4.0	-16.3	-1.0
	Morocco	0.7	0.7	0.7	-0.3	0.5	-5.4	0.5
	Peru	0.1	0.4	0.0	0.0	0.1	-0.7	-0.1
	Philippines	0.5	0.5	0.5	-0.1	0.2	-0.5	0.2
	Rest of America	2.6	7.6	1.4	0.0	8.1	-5.2	0.2
	Rest of Middle East and North Africa	0.0	0.1	-0.1	0.0	0.2	1.3	-0.2
	Rest of South America	1.6	4.1	1.0	-0.8	3.8	-6.4	0.2
	Rest of the World	0.2	0.5	0.1	0.0	0.8	-0.3	-0.1
	South African Customs Union	0.3	1.5	0.2	0.2	1.4	2.9	0.2
	Singapore	0.4	7.2	0.3	0.2	-1.0	-0.3	0.2
	Thailand	1.5	2.5	1.2	-0.3	2.5	-5.8	1.1
	Tunisia	1.2	-0.5	1.6	1.5	-3.0	-1.7	2.1
	Uruguay	1.3	2.6	1.0	0.0	1.7	-3.0	1.1
	Venezuela	-0.1	0.5	-0.2	-0.3	0.9	-1.8	-0.3
	Vietnam	1.5	2.1	1.3	0.0	2.4	1.0	1.3
	Zimbabwe	0.8	1.6	0.5	0.4	1.2	0.1	0.4
Low-income countries	Bangladesh	1.9	6.8	0.9	1.1	11.3	-3.3	0.7
	Madagascar	7.3	12.4	2.4	-4.3	7.4	-4.7	-1.4
	Malawi	4.6	3.8	5.1	6.2	-1.9	-11.7	5.0
	Mozambique	3.5	8.6	0.9	-1.0	7.5	-4.0	-3.3
	Rest of Sub-Saharan Africa	3.7	7.0	1.8	-1.7	5.5	-2.7	0.5
	Tanzania	0.3	0.4	0.2	-0.3	-0.1	-0.4	0.3
	Uganda	0.5	0.5	0.3	-0.3	-0.2	-0.5	0.3
	Zambia	0.3	0.6	0.2	-0.6	0.2	0.6	0.0

TABLE 8 *Continued*

<i>Region</i>		<i>Unskilled Real Wages</i>	<i>Unskilled Real Wages in Agriculture</i>	<i>Unskilled Real Wages in Non- agricultural Sectors</i>	<i>Real Return to Capital</i>	<i>Real Return to Land</i>	<i>Real Return to Natural Resources</i>	<i>Skilled Real Wages</i>
<i>Unambitious scenario</i>								
High-income countries	Australia/New Zealand	0.5	1.8	0.4	0.2	0.7	1.4	0.3
	Canada	-0.1	1.2	-0.1	0.1	0.8	0.0	-0.1
	Developed Asia	0.1	-1.0	0.2	0.2	-2.7	0.0	0.2
	European Union	0.0	-0.9	0.1	0.0	-1.0	1.0	0.2
	Mexico	-0.1	-0.4	0.0	0.0	-0.2	-0.5	0.1
	Rest of OECD	2.6	1.4	2.6	1.4	-0.5	3.7	2.9
	Turkey	3.8	2.2	4.1	3.2	-2.3	-6.5	6.8
	USA	0.0	0.7	0.0	0.1	0.9	0.0	0.0
Middle-income countries	Argentina	0.4	1.0	0.3	0.1	0.6	-1.4	0.4
	Brazil	0.1	0.8	0.1	0.0	0.8	-0.4	0.1
	Caribbean economies	0.3	0.5	0.3	0.3	0.2	-2.1	0.2
	Chile	0.2	0.7	0.2	-0.1	0.6	-0.5	0.2
	China	0.6	0.8	0.5	-0.2	0.9	-1.2	0.6
	Colombia	0.1	0.3	0.0	-0.2	0.2	-0.2	0.0
	Developing Asia	0.4	0.4	0.4	0.0	0.2	-0.6	0.4
	India	0.4	0.5	0.4	-1.0	0.8	-8.9	1.2
	Indonesia	0.5	0.4	0.5	0.0	0.0	0.0	0.4

	Malaysia	-1.0	-2.1	-1.0	-3.6	-4.4	-13.6	-0.4
	Morocco	0.5	0.7	0.5	-0.3	0.7	-3.4	0.4
	Peru	0.0	0.1	0.0	0.1	0.0	-0.9	0.0
	Philippines	0.3	0.3	0.4	0.0	0.0	-0.4	0.2
	Rest of America	0.3	0.8	0.2	-0.1	0.6	-0.9	0.2
	Rest of Middle East and North Africa	0.0	0.3	-0.1	0.0	0.5	0.8	-0.2
	Rest of South America	0.2	1.0	0.0	-0.5	1.0	-1.7	-0.3
	Rest of the World	0.0	0.3	0.0	-0.1	0.5	-0.4	-0.2
	South African Customs Union	0.1	0.6	0.1	0.1	0.5	2.5	0.1
	Singapore	0.2	1.6	0.2	0.1	0.0	1.1	0.0
	Thailand	0.4	-0.3	0.5	0.0	-1.6	-4.2	0.5
	Tunisia	0.3	-0.8	0.6	0.6	-2.2	0.1	1.0
	Uruguay	0.3	0.6	0.3	-0.1	0.3	-0.9	0.4
	Venezuela	0.0	0.3	-0.1	-0.3	0.5	-2.5	-0.2
	Vietnam	1.0	1.0	1.0	0.1	0.7	0.7	1.0
	Zimbabwe	0.3	0.8	0.2	0.0	0.9	1.5	0.4
Low-income countries	Bangladesh	0.4	0.5	0.4	0.1	0.2	0.2	0.5
	Madagascar	0.1	0.4	-0.2	-0.3	0.5	0.5	-0.6
	Malawi	4.1	2.8	4.9	6.7	-2.6	-11.2	5.1
	Mozambique	0.4	1.2	0.1	-0.2	1.0	-0.1	-1.0
	Rest of Sub-Saharan Africa	0.0	0.2	-0.1	-0.3	0.0	0.1	-0.2
	Tanzania	0.3	0.4	0.3	-0.1	-0.1	0.1	0.4
	Uganda	0.4	0.4	0.2	-0.2	-0.1	-0.5	0.3
	Zambia	0.4	0.6	0.2	-0.5	0.3	0.4	0.1

Source: Authors' calculations.

On the contrary unskilled labour draws more benefits from partial liberalisation than from full liberalisation in China, India, Morocco, Philippines, Tunisia, Bangladesh, Madagascar, Sub-Saharan Africa and Zambia. The ambitious scenario gives, for example, larger gains for agricultural unskilled labour in these countries than full liberalisation.

The first set of countries benefit initially from a large agricultural trade surplus while countries from the second group have a deficit or a small surplus. Under the two Doha scenarios special and differentiated treatment is applied and allows for reduced liberalisation in agriculture by developing countries: the unambitious scenario even exempts LDCs from any liberalisation in agriculture or manufacturing. As a consequence, import competition increases less and productive factors attached to import-competing sectors faces less downward pressure on remuneration than under full trade liberalisation. In the case of free trade, import competition is increased but this is more than fully offset in the first set of countries by exports-driven activity in agricultural sectors: productive factors attached to these sectors benefit from full trade reform. In the second set of countries full trade liberalisation increases import competition in agricultural sectors, while exports are especially increasing in industrial sectors, so unskilled real wages in agriculture rise more (or fall less) with the partial reforms.

Of course the previous mechanisms do not consider maximisation of national real income and accompanying redistributive policies. Higher national incomes achieved by full liberalisation, or under the ambitious versus unambitious Doha scenario, allows options for poverty reduction beyond those associated directly with remuneration of those production factors owned by poor households.

5. CONCLUDING REMARKS

We have presented an analysis of a potential ambitious versus an unambitious Doha Round outcome. Our simulations are based on negotiating proposals by the US and EU from the run-up to the Hong Kong ministerial meeting in December 2005 around which agreement was not reached when the negotiations were suspended in July 2006. We compared the outcomes from our two Doha scenarios with the estimated effects of full global trade liberalisation.

The results for the Doha scenarios demonstrate the high stakes that remain over completion of this negotiation given the positions articulated by the countries involved. A successful round could deliver real gains both globally and for developing countries. However, the magnitude of those gains depends on the shape of the agreement. A cooperative reform outcome based on the most ambitious components of the December 2005 negotiating proposals of the US and EU delivers noticeably greater benefits than an unambitious outcome based on the lower-end elements of their proposals. The details matter in the differing proposals,

such as the tariff and domestic support reduction formulae, tariff caps and number of sensitive and special products. If the Doha Round can be resuscitated, negotiating commitment and diligence will be needed to avoid a shallow outcome given the technical character of these details.

Developing countries are heterogeneous in terms of their own policies, the trade barriers they face and their net agricultural trade. Overall, developing countries gain most – and might achieve the best deal in the negotiations – when they join in the reform process for a global trade agreement. Attention is needed in the case of some of the LDCs and other poor countries that may face declining terms of trade because of higher world agricultural prices or eroding preferences. In addition, many developing countries can achieve the full benefits of trade only with substantial attention to broad development needs that will enhance their competitiveness. This too needs to be part of a successful Doha Round outcome.

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