Two Opportunities to Deliver on the Doha Development Pledge

As of June 2006, a final agreement has eluded the parties to the Doha Development Round trade negotiations. There was little finality to the December 2005 Hong Kong Ministerial conference negotiations, even though members agreed to eliminate agricultural export subsidies by 2013 and grant least developed countries (LDCs) free access to Organization for Economic Co-operation and Development (OECD) markets for at least 97 percent of agricultural and manufacturing tariff lines by 2008. Though observers hoped an agreement on negotiation modalities would be reached by the end of April 2006, a new tentative target date has been set for the end of July.

Antoine Bouët

Simon Mevel

David Orden

In this brief, we evaluate the effects of a possible Doha agreement based on proposals currently on the table from the United States, the European Union, and the Group of Twenty (G20). We first begin with a basic scenario that represents a compromise between the more and less ambitious aspects of these proposals.[1] As assessed in the MIRAGE general equilibrium model of the world economy, this basic scenario yields a global income gain of $54.7 billion, or about one-fourth of the global income gains that are estimated from full trade liberalization.[2] Gains are distributed among countries in a slightly progressive manner but are largely proportional to initial income shares, so the LDCs gain only a paltry $1.0 billion.

We next consider two specific development-oriented modifications to the basic scenario. These modified scenarios demonstrate that more can be done to benefit poor countries. In the first alternative scenario, free access of LDCs to wealthy-country OECD markets is increased from 97 percent to 100 percent, as proposed by the European Union. This raises world income by an additional $14.3 billion. Nearly half of these additional gains go to the LDCs, and the increase of their income rises dramatically, to $7.0 billion.

In the second scenario, the number of sensitive and special products exempted from the agricultural tariff formula in the basic scenario is reduced from 5 percent of tariff lines to 1 percent, as

proposed by the United States. This raises world income an additional $7.3 billion compared to the basic scenario. The additional gains are distributed widely among countries, and are beneficial among heterogeneous developing countries especially to those where agriculture is an important source of employment and export earnings. Though this scenario has the advantage of providing a multilateral, nonpreferential improvement to the basic scenario, gains are limited because the tariff cuts applied to nonsensitive agricultural products in the basic scenario are not very ambitious.

A Realistic Doha Scenario

To examine the potential consequences of a Doha agreement on developing countries, and the possible opportunities for strengthening its development accomplishments, we first design a basic scenario using numbers on the negotiating table (see Box 1). This trade reform was based on discussions with negotiators and other experts, and on our previous analysis of alternative levels of ambition of the Doha outcome.

For agricultural tariff reform, the basic scenario includes a compromise incorporating relatively ambitious threshold levels for tiered cuts (larger cuts for higher initial tariffs), as proposed by the G20, but with relatively unambitious reductions within each tier, as

---

[1] In the first brief in this Doha assessment series, we compared the net effects (in aggregate and among diverse developing countries) of an ambitious cooperative reform outcome versus one drawn from the least ambitious elements of proposals on the table. See *More or Less Ambition? Modeling the Development Impact of U.S.-EU Agricultural Proposals in the Doha Round,* December 2005. The ambitious outcome yielded average tariff reductions, increased world trade and global welfare gains more than double those from the unambitious outcome.

[2] The MIRAGE model was developed at the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) in Paris. A full description of the model is available at the CEPII web site (www.cepii.fr). A synopsis is provided in IFPRI's December 2005 assessment brief.

proposed by the EU. Tariff reductions are one-third less for middle-income countries (MICs), and caps are imposed on agricultural tariffs. The tariff reform is implemented at the level of disaggregation of the MacMap database (HS6 for products, with 148 reporting countries and 238 trade partners taken into account).[3] For specific tariffs, the formula negotiated in Geneva in 2005 for selecting reduction coefficients has been applied.[4]

Sensitive products (for developed countries) and special products (for MICs) are exempt from the agricultural tariff-reduction formula. These exemptions apply to 5 percent of agricultural tariff lines (33 lines) in the basic scenario. Only half of the tariff reduction under the tariff formula is applied to sensitive and special products, and they are not subject to tariff caps. However, to ensure minimal trade opening, the tariff-rate quotas (TRQs) for these products are expanded based on a formula proposed by the EU. Selection of sensitive and special products is based on a calculation using both tariff levels and quantities of imports in order to reflect the political economy of protective trade policy.[5] For example, sugar and rice are selected as sensitive products for the United States, the European Union, and Japan. The United States includes cheese and processed fruits and vegetables among its other products; Japan includes meats, dairy products and beans; and the European Union includes meats and cheeses, as well as bananas.

For manufactured goods, a Swiss formula is applied. The coefficient is 10 percent for developed countries. In recent discussions and forums, a 25 percent coefficient appeared plausible for MICs. Such a level does not significantly change protection in countries like Brazil and Argentina, but a 25 percent coefficient would decrease industrial protection in numerous countries such as India, Nigeria, and Morocco.

To determine products exempted by OECD countries from free access for LDCs under the Hong Kong 97 percent decision, we have used the same political economy approach as for sensitive and special products, but have applied it only to imports from LDCs. For the United States, 84 of 95 exempted products are in the wearing apparel categories, and sugar is also exempted. For Japan, rice is exempted, as are numerous fishery products, processed food, and wearing and footwear products. The European Union does not exempt products because of its Everything But Arms (EBA) initiative.

The Doha agreement will also include bindings on levels of domestic support and export subsidies. In our basic scenario, export subsidies are eliminated in 2013 as decided in Hong Kong in December 2005. However, applied levels of trade-distorting domestic support are not assumed to be reduced by the agreement

on subsidy limits. LDCs do not reduce their agricultural or manufacturing tariffs, and liberalization of services trade is not modeled.

Impact of the Basic Scenario on Protection and Market Access

Our model includes 39 countries or aggregated regions, of which 6 are developed countries/regions, 24 are MICs, and 9 are low-income (consisting of LDCs and two regions, Developing Asia and Rest of Sub-Saharan Africa, that include a mix of LDCs and MICs). Eighteen sectors are modeled, of which 10 are agricultural.[6]

Box 1 Overview of the Basic Scenario

Tariffs
- Tariff formula for agriculture: G20 thresholds with EU reduction coefficients
- Reduction coefficients: one-third less for MICs
- *Ad valorem* equivalent of specific tariffs: calculated on the basis of the 2005 World Trade Organization (WTO) formula
- Tariff caps in agriculture: developed countries, 150 percent; MICs, 300 percent
- Five percent of agricultural tariff lines exempted as sensitive and special products
- Sensitive and special products: 50 percent less tariff reduction and no caps, but tariff-rate quotas (TRQs) increased according to the European formula
- Swiss formula cuts for manufacturing tariffs: developed-country coefficient, 10 percent; MIC coefficient, 25 percent
- LDCs do not cut their own agricultural or manufacturing tariffs
- Liberalization in services not included
- Free access for LDCs to OECD markets in 2008, with 3 percent of tariff lines exempted
- Tariff reform implemented in 5 years for developed countries, 10 years for MICs

Domestic Support
- Applied domestic support levels are not cut

Export Subsidies
- Eliminated in 2013

---

[3] A full description of MacMap is available at the CEPII web site.

[4] This formula was negotiated to resolve differences in views regarding what prices would be utilized to assess the *ad valorem* (percentage) equivalent of the specific tariffs.

[5] The formula was proposed by S. Jean, D. Laborde, and W. Martin in *Trade Reform and the Doha Agenda* (K. Anderson and W. Martin, editors), World Bank, 2005.

[6] The modeling utilizes the Global Trade Analysis Project (GTAP) 6.1 database, which provides benchmark information for 2001. Before running the basic scenario, liberalization occurring from 2001 to 2006 was taken into account: end of the Uruguay Round, Chinese accession to the WTO, enlargement of the EU, implementation of the African Growth Opportunities Act (AGOA) and the EBA initiative. Full description of the GTAP is available at the GTAP (www.gtap.agecon.purdue.edu) web site. The specification of the MIRAGE model utilized in this analysis is similar to but differs in a few specifics from the one described generally in the earlier brief; additional details are available on request.

The impacts of the basic scenario on protection and market access are shown in Table 1. The two first columns indicate the average tariff applied by each country or region in 2005 and 2015, followed by the reduction of the tariff levels and the rates of reduction. The next four columns provide this information about the average tariff faced by each country/region's exports.

The basic trade reform does not modify the degree of protection for a number of developing countries for several reasons: for example, for Chile, due to the binding overhang phenomenon (tariffs bound well above the applied levels), or for countries receiving special and differentiated treatment (LDCs do not lower their tariffs), or because the country does not have any commitment (Vietnam is not a WTO member). The numerical reduction of tariffs is higher for MICs than for developed countries, but the reductions are proportionally higher for developed countries, except for India, Malaysia, Thailand, Turkey, and Nigeria. The Developing Asia and the Rest of Sub-Saharan Africa regions show reduced tariffs on imports because of the MICs within these regions.

Gains in market access, measured by the rate of reduction on average tariffs faced by exports, are particularly high for Malawi, are significant for Zimbabwe, Rest of Developing Asia, Bangladesh, Pakistan, Uruguay, Brazil, Turkey, Vietnam, Thailand, and Rest of Latin America, and are close to zero in the case of Nigeria, Mexico, Venezuela, and Rest of Middle East and North Africa. The gains are larger, but remain comparatively small for Malaysia, Peru, the Philippines, and the Rest of Sub-Saharan Africa. Overall, the reform as measured by rates of tariff reduction benefits MICs and low-income countries in terms of market access. MICs lower their own tariffs an average of 19.1 percent, but tariffs on their exports fall by 25.3 percent. The tariffs of low-income countries/regions fall by an average of 10.3 percent, while tariffs on their exports fall by 32.5 percent.

Table 2 illustrates tariff reductions from a sectoral perspective. World protection across the agricultural and manufacturing sectors declines from an average of 5.6 percent to 4.3 percent. The decrease is one-fourth of the decline (to zero protection) that would occur with full liberalization. But agricultural protection is cut by only 18.7 percent while industrial tariffs decline by 26.3 percent. The lesser rate of reduction of agricultural tariffs is due to the relatively unambitious agricultural tariff formula in the basic scenario and to exemptions allowed to the formula. The rates of tariff reduction for all agricultural products except live animals are less than the average rate of reduction for industry. Sugar and rice are initially the most protected products, but avoid a very large cut in protection.

Impact of the Basic Scenario on Real Income

The basic scenario produces a world income gain of $54.7 billion by 2020. This represents a 0.13 percent augmentation of real world income, which is about one-quarter of the gains estimated from full trade liberalization.[7] The distribution of gains is somewhat progressive but is largely proportional to initial shares of world income, as shown in the top rows of Table 3. Developed countries initially

account for 80.0 percent of world income and obtain 58.5 percent of the gains. The most progressive result is for MICs: they account for 18.7 percent of initial income but obtain 39.6 percent of the gain. Low-income countries obtain a paltry gain of just $1.03 billion.

Among LDCs, the trade reform proves very positive only for Malawi, but is slightly negative for the Rest of Sub-Saharan Africa, Mozambique, Madagascar, and Zambia (separate country results are not shown in the tables). Limited LDC gains are not surprising because LDCs do not reform their own trade policies, the basic scenario modeled is not very ambitious, and free access to the OECD markets is restricted. For MICs, the basic trade reform is systematically positive except for Venezuela, Mexico, and the Rest of the World (due to a deterioration of their terms of trade). Argentina and Brazil gain 0.17 percent and 0.13 percent of their real incomes, or $0.7 billion and $0.9 billion, respectively. Larger gains are attained by China (0.25 percent of income, $6.0 billion) and India (0.3 percent of income, $2.8 billion). Gains are also substantial for Indonesia, Malaysia, Thailand, and Turkey.

Free LDC Access:
From 97 Percent to 100 Percent

To consider a more development-oriented outcome, we evaluate an extension of the free access of LDCs to OECD markets, while retaining all other assumptions of the basic scenario. With full free access, LDCs are granted a substantial preference in OECD markets relative to the limited ambition of the multilateral tariff reductions, especially for agriculture. Conversely, without full free access, LDCs face some erosion of their existing preferences and greater competition as exporters due to the limited multilateral tariff cuts.

The effect on LDCs of extending their free access to OECD markets from 97 percent to 100 percent is quite dramatic, as shown in the middle rows of Table 3. World welfare gains increase by 26 percent compared to the basic scenario, from $54.7 billion to $69.0 billion in 2020. Of the additional income gains, nearly 50 percent goes to LDCs. Their total gain jumps to $7.0 billion, and all of the low-income countries/regions benefit, compared to only five in the basic scenario. The LDC gains come from improved terms of trade and expanded export volumes. The increased volume of exports is shown in Table 4. Three examples illustrate the benefits:

- For Bangladesh, real income increases by $1.2 billion more than in the basic scenario, a 1.6 percent increase instead of a low 0.2 percent. Textiles and apparel represent about 70 percent of initial Bangladesh exports. Textiles exports to the United States increase by 55.8 percent instead of 34.8 percent, while apparel exports increase by 31.6 percent instead of 15.4 percent.
- For Developing Asia, real income increases by $3.1 billion more than in the basic scenario, a 1.4 percent increase instead of 0.3 percent. Exports of rice to Developed Asia expand by a multiple of 674 (from a low initial base) with full free access instead of fourfold in the basic scenario.

---

[7] This is a level similar to the unambitious scenario modeled in our earlier analysis.

Table 1 Impact of the Basic Scenario on Applied Protection and Market Access

Country/Region	Tariffs Applied on Imports				Tariffs Faced by Exports			
	2005	2015	Reduction	Rate of Reduction	2005	2015	Reduction	Rate of Reduction
	(percent)		(percent)		(percent)		(percent)	
High-income countries								
Australia/New Zealand	4.7	2.8	−1.9	−40.2	10.2	7.8	−2.4	−23.7
Canada	3.4	2.3	−1.1	−31.6	4.1	2.8	−1.3	−31.6
Developed Asia	4.3	3.6	−0.7	−16.6	5.9	4.5	−1.5	−24.6
European Union	3.3	2.0	−1.2	−37.4	6.2	4.8	−1.4	−22.5
Rest of OECD	4.8	3.5	−1.3	−27.0	2.6	2.0	−0.6	−23.0
United States	2.3	1.4	−0.9	−40.4	5.7	4.5	−1.2	−21.8
	3.3	2.3	−1.0	−31.0	5.8	4.4	−1.4	−23.5
Middle-income countries								
Argentina	12.6	10.8	−1.8	−14.0	13.5	11.6	−1.9	−13.8
Brazil	11.8	9.9	−1.9	−15.9	11.1	8.7	−2.4	−21.5
Chile	6.9	6.9	0.0	0.0	5.3	4.3	−1.0	−19.1
China	14.1	13.9	−0.2	−1.2	5.7	3.6	−2.2	−37.8
India	33.5	18.3	−15.2	−45.3	7.4	5.5	−1.9	−25.3
Indonesia	5.7	4.8	−0.9	−15.5	5.8	4.4	−1.4	−24.3
Latin America	8.2	7.5	−0.7	−8.5	9.8	7.7	−2.1	−21.6
Malaysia	11.9	5.7	−6.2	−52.2	3.9	3.2	−0.7	−18.0
Mexico	11.0	8.8	−2.3	−20.7	2.4	1.9	−0.4	−18.3
Morocco	20.8	12.2	−8.6	−41.3	5.2	3.4	−1.8	−34.5
Nigeria	25.8	17.8	−8.0	−30.9	2.5	2.4	−0.1	−5.4
Pakistan	18.3	13.4	−4.9	−27.0	8.1	5.7	−2.4	−29.3
Peru	12.7	12.4	−0.4	−3.1	4.2	3.3	−0.9	−22.0
Philippines	4.8	4.4	−0.4	−7.7	2.9	2.1	−0.7	−24.9
Rest of Middle/East and North Africa	9.2	7.5	−1.7	−18.3	2.4	2.0	−0.4	−16.8
Rest of the world	9.7	9.3	−0.4	−4.4	4.8	3.8	−1.0	−20.1
South African Customs Union	8.3	6.0	−2.4	−28.3	6.5	4.9	−1.6	−24.9
Thailand	12.6	8.2	−4.4	−34.9	8.2	6.2	−2.0	−23.9
Tunisia	20.1	13.3	−6.9	−34.1	5.6	3.7	−1.9	−33.7
Turkey	6.0	5.2	−0.8	−14.0	7.1	4.9	−2.3	−31.9
Uruguay	10.7	9.0	−1.7	−15.5	16.0	13.6	−2.4	−15.2
Venezuela	11.2	9.9	−1.3	−11.4	2.6	2.3	−0.3	−10.0
Vietnam	14.4	14.4	0.0	0.0	7.1	4.8	−2.3	−32.5
Zimbabwe	15.8	11.7	−4.1	−26.1	14.2	11.1	−3.1	−21.9
	12.0	9.7	−2.3	−19.1	5.2	3.9	−1.3	−25.3
Low-income countries								
Bangladesh	16.9	16.9	0.0	0.0	5.0	2.4	−2.6	−52.8
Developing Asia	9.1	8.3	−0.9	−9.4	7.8	4.7	−3.0	−38.9
Madagascar	4.4	4.4	0.0	0.0	3.1	1.7	−1.4	−45.0
Malawi	11.4	11.4	0.0	0.0	19.8	11.4	−8.5	−42.7
Mozambique	9.9	9.9	0.0	0.0	5.4	3.5	−1.9	−35.0
Rest of Sub-Saharan Africa	14.5	12.3	−2.2	−15.3	4.3	3.4	−0.9	−21.1
Tanzania	14.2	14.2	0.0	0.0	8.3	6.3	−2.0	−24.5
Uganda	8.1	8.1	0.0	0.0	7.1	5.4	−1.7	−24.2
Zambia	11.8	11.8	0.0	0.0	4.9	3.0	−1.9	−38.5
	12.9	11.6	−1.3	−10.3	5.6	3.8	−1.8	−32.5

Source: MacMap-HS6 and authors' calculations.

Table 2 Impact of the Basic Scenario on Average World Tariffs by Sector

	2005 Tariff Rate	2015 Tariff Rate	Reduction 2005–2015	Rate of Reduction
	(percent)	(percent)	(percent)	(percent)
World	5.6	4.3	−1.4	−24.1
Agri-food	18.2	14.8	−3.4	−18.7
Animal products and wool	6.3	4.7	−1.6	−25.9
Cattle, sheep, goats, horses	17.3	10.1	−7.2	−41.8
Plant-based fibers	2.3	2.2	−0.1	−2.5
Sugar	52.4	42.6	−9.8	−18.7
Vegetables and fruits	14.8	12.3	−2.5	−17.0
Wheat	16.1	15.3	−0.8	−5.2
Other agricultural products	17.0	14.4	−2.7	−15.6
Raw milk and dairy products	35.7	28.9	−6.8	−19.2
Paddy and processed rice	68.5	56.3	−12.2	−17.8
Other food products	16.1	12.9	−3.2	−19.9
Primary products (including forestry and fishing)	1.4	1.2	−0.2	−16.3
Industry	4.9	3.6	−1.3	−26.3
Wearing apparel and leather products	10.6	5.5	−5.1	−47.9
Textiles	10.6	7.0	−3.6	−34.3
Chemical, mineral, and metal products	4.8	3.7	−1.1	−22.8
Vehicle equipment	4.2	3.3	−0.9	−21.6
Other manufactured products	3.3	2.5	−0.9	−26.3

Source: MacMap-HS6 and authors' calculations.

- For Malawi, real income increases by $0.1 billion more than in the basic scenario, a 6.7 percent increase instead of 2.7 percent. This is caused primarily by expanded exports of Other Agricultural Products toward OECD markets.

For Developed Asia, the impact of full free LDC access on domestic rice production in Japan, South Korea, and Taiwan is substantial. Production falls by 32.3 percent compared to a decline of just 3.9 percent if exemptions are allowed. For two other sensitive sectors, textiles and apparel in the United States, the impact is much smaller. U.S. production of apparel declines by 8.74 percent with full free access compared to 8.72 percent with exemptions. Similarly, for the textile industry, the decrease is 6.07 percent instead of 6.06 percent.

Fewer Sensitive and Special Products: From 5 Percent Exemption to 1 Percent

As an alternative to providing 100 percent OECD free market access to LDCs, we model a reduction of the number of sensitive and special products from 5 percent of agricultural tariff lines to 1 percent, while retaining the other assumptions of the basic scenario (including 97 percent free LDC access). This multilateral strengthening of the trade reform leads to a world income gain of $62.0 billion, an increase of $7.3 billion compared to the basic scenario. As shown in the bottom rows of Table 3, the additional income gains are broadly distributed, with the largest gains going to the developed countries because they have made additional reforms to their own policies. Australia/New Zealand benefits from terms-of-trade gains due to better access to foreign agricultural markets. Developed Asia and Rest of OECD experience increased allocation efficiency gains. Global gains are constrained by the retention of 1 percent of highly protected products as sensitive or special.[8]

Seven MICs also benefit from additional income gains: Thailand, Vietnam, Uruguay, Morocco, Tunisia, the South African Customs Union (SACU), and Zimbabwe. Restricting the number of special and sensitive products has a positive impact on the exports of these seven countries: rice in the case of Thailand, Vietnam, and Uruguay; vegetable and fruit for Morocco and

---

[8] Eliminating all exemptions for special and sensitive products results in a global income gain of $95.1 billion (a gain of $40.4 billion compared to the basic scenario), with $2.7 billion going to low-income countries. This reform goes beyond proposals currently under consideration in the Doha Round. The model results are available on request.

Tunisia; other food products for all of these countries except Morocco; milk for Uruguay; and wheat for the SACU.

Conclusion

The model results presented in this brief demonstrate that there are modest market access and global income gains from a plausible but not very ambitious Doha basic scenario. MICs benefit from a relatively greater rate of reduction of tariffs faced by their exports compared to tariff cuts on their imports. The MICs achieve income gains that are more than proportional to their initial share of world income. LDCs also benefit from reductions to the tariffs on their exports, but receive only $1.03 billion of income gain in the basic scenario.

Two development-oriented alternatives demonstrate that more can be accomplished in the Doha Round if there is the political will. First, granting LDCs 100 percent free access to OECD markets specifically targets the poorest countries, addresses both agricultural and manufacturing trade, and brings tariffs to zero for these countries and products. This reform dramatically increases LDC income gains as their terms of trade improve and exports expand. This reform has been proposed by the EU.

Second, limiting the number of sensitive and special products to 1 percent of agricultural tariff lines provides broad-based gains compared to the basic scenario. This reform has the advantage of being a multilateral step toward lower trade barriers. The gains from this reform are widespread but are limited because only agricultural products are affected, tariffs fall just to the relatively unambitious levels of the basic scenario, and a number of products remain highly protected under the remaining 1 percent exemptions. This reform has been proposed by the United States.

Developed countries could provide strategic leadership in bringing the Doha Round to closure by offering these two development-oriented and pro-trade measures.

Table 3 Distribution of Income Gains from Basic Scenario and Development-oriented Reforms

	Developed Countries	Middle-Income Countries	Low-Income Countries
Initial share in real world income (%)	80.0	18.7	1.2
Basic scenario			
Real income gain (billion US$)	31.98	21.66	1.03
Share of real income gain (%)	58.5	39.6	1.9
Free LDC access to OECD			
Real income gain (billion US$)	38.92	23.08	7.01
Share of real income gain (%)	56.4	33.4	10.2
Fewer sensitive/special products			
Real income gain (billion US$)	38.28	22.57	1.11
Share of real income gain (%)	61.8	36.4	1.8

Source: Authors' calculations.

Table 4 LDC Export Volume Increase (percent)

	Export Volume	
Country/Region	Basic Scenario	Free LDC Access to OECD
	(percent)	
Bangladesh	2.4	13.5
Developing Asia	5.6	16.0
Madagascar	−4.9	0.7
Malawi	3.2	15.0
Mozambique	−0.7	1.3
Rest of Sub-Saharan Africa	2.7	6.0
Tanzania	0.5	3.2
Uganda	0.4	1.0
Zambia	−0.3	1.8

Source: MacMap-HS6 and authors' calculations.

This brief was presented at a seminar of the German Marshall Fund of the United States, June 8, 2006, Washington, D.C. Antoine Bouët (a.bouet@cgiar.org) and David Orden (d.orden@cgiar.org) are senior research fellows, and Simon Mevel (s.mevel@cgiar.org) is a senior research assistant, at the International Food Policy Research Institute, Washington, D.C.