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Eight years of Doha trade talks : where do we stand

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Abstract

In 2001, the World Trade Organization launched a highly ambitious program of multilateral liberalization. Eight years later, concluding the negotiations is uncertain, though an opportunity still exists. Since 2001, many proposals on market access have been brought to the negotiating table by the European Union, the United States, and the G-20. Because it is politically and economically acceptable to many parties, the final December 2008 package could be the basis of an agreement. An evaluation of these various proposals shows how trade negotiations have been following countries' strategic interests. In eight years, the ambition of the formula to reduce agricultural market access tariffs has increased, but flexibilities added to accommodate domestic political constraints have offset delivered market access. The December 2008 package would reduce these average tariffs by 25 percent, a reduction very close to the one implied by the Harbinson and Girard proposals of 2003. This has to be compared with the 73 percent reduction in world agricultural protection of the very ambitious 2005 U.S. proposal. The 2005 G-20 and EU proposals were intermediate outcomes. The December 2008 package implies a reduction of agricultural protection by 6 percentage points in high-income countries and 0.5 percentage points in middle-income countries. If the U.S. proposal had been applied, these figures would have been 12.4 and 4.7, respectively. Different scenarios imply losses for developing countries, reflecting eroded preferences and rising terms of trade for imported commodities, including food products. We study how this trade reform can be more development-friendly.

KEYWORDS: trade negotiations, computable general equilibrium modeling, developing countries

JEL Classification: F11, F13, F15

1. INTRODUCTION

We commit ourselves to comprehensive negotiations aimed at: substantial improvements in market access; reductions of, with a view to phasing out, all forms of export subsidies; and substantial reductions in trade-distorting domestic support. We agree that special and differential treatment for developing countries shall be an integral part of all elements of the negotiations....

—Declaration from the World Trade Organization Ministerial Conference in Doha, Qatar, November 14, 2001

When this declaration was adopted eight years ago, there seemed to be a great deal of enthusiasm about this highly ambitious program. Today the mood has changed, and while concluding the negotiations may still be an achievable goal, it is clouded with uncertainty. The Doha Round of World Trade Organization (WTO) trade negotiations was launched in a special political context: after the events of September 11, 2001, the international community felt a need for multilateral cooperation. Policymakers saw a world of free trade as the right answer to poverty, which feeds terrorism. At the time, U.S. president George W. Bush said, “By expanding trade, we spread hope and opportunity to the corners of the world, and we strike a blow against the terrorists who feed on anger and resentment.” Benjamin Mkapa, then president of Tanzania, said, “It is futile, if not foolhardy, to think there is no link between poverty and terrorism.”

The establishment of a development round in Doha (known as the Doha Development Agenda, or DDA) seemed to be the right political response following the failure of international cooperation during the 1999 Seattle WTO Ministerial Conference, where developing countries felt their priorities were not being taken into account by multilateral trade negotiations. However, the eight years of negotiations that have followed the establishment of the DDA have seen both failures and successes. Although the Cancun Ministerial Conference in September 2003 was characterized by North–South disagreements that split the negotiators and resulted in developing countries’ rejecting a proposal co-drafted by the European Union and the United States, the Hong Kong Ministerial Conference in December 2005 brought some progress,¹ such as the phasing out of export subsidies and the duty-free, quota-free market access regime provided by the Organization for Economic

¹ The Hong Kong Ministerial Conference built upon the July 2004 package, which stimulated the negotiations after the Cancun failure.

Cooperation and Development (OECD) to developing countries. But during a “mini–ministerial meeting” organized in Geneva in July 2008, the negotiations failed, in part due to a dispute between the United States and India on safeguard mechanisms in agriculture. Despite this failure, WTO director general Pascal Lamy said, “Looking at what is on the table now, members believe that the Doha Round is still worth fighting for.”

From the outset, the negotiations have been complicated. Cutting a deal among 143 countries (153 today) is a rather difficult task, since the world trading system is based on the combination of multilateral regimes with numerous regional agreements and preferential schemes, the latter being eroded by any WTO deal. In addition, trade distortions are concentrated in the agricultural sector and for a long time, a handful of high-income countries has resisted international pressure to liberalize this sector, which would benefit net food-exporting countries.²

But beyond this, world trade and the world economy have changed profoundly since 2001. WTO members such as Brazil, India, and the recently integrated China have emerged as major trading and economic powers. Their share in world merchandise exports jumped from 4.1 percent in 1993 to 7.7 percent in 2003 and to 11.5 percent in 2008, according to the WTO website. They are members of the G-20 coalition, together with South Africa, which has become a major player in the WTO negotiations. Thus, the negotiations are no longer the reserved domain of the European Union and the United States. In addition, the recent financial and economic crisis has affected economic growth worldwide and especially in developing countries, which have been facing declining demand for their exports, decreasing financial flows, and reduced remittances. The crisis has also raised the fear of renewed protectionism and has highlighted the need to have a secure and stable trading environment.

Also, the long-term volatility of world agricultural prices has increased since 2001, so that the international community is now much more concerned with potential imbalances of world agricultural markets. Finally, environmental issues are receiving higher priority. In particular, food supply and demand issues resulting from climate change can make international trade a necessity.

All these issues have raised expectations for international cooperation. However, the WTO is concerned with international trade; it does not have a mandate regarding development or the

² As shown by Boumellassa, Laborde, and Mitaritonna (2009), developed countries are not more protectionist in agriculture than other countries in absolute level. However, they have maintained protection nearly exclusively in agriculture. The high level of protection of this sector explains why new commitment to agricultural liberalization by both developed and developing countries is still a highly sensitive issue.

environment. It operates on several key principles, which have remained unchanged despite the changing trade and economic environment:

- **Global agreement:** WTO negotiations are based on a take-it-or-leave-it principle, whereby members must agree to the entire agreement, rather than parts of it;
- **Unanimity:** the agreement must be accepted by all WTO members, which means it must be flexible;
- **Harmonization of trade distortions:** the bigger the trade distortions, the more they have to be cut—especially tariffs and domestic subsidies; this principle is applied via a tiered formula in agriculture and a Swiss formula in industry;³ and
- **Special and differential treatment:** the WTO fully recognizes the economic heterogeneity of its members; it requires no commitment from developing countries and less commitment from middle-income countries. For these countries, this means smaller cuts to tariffs and subsidies and longer implementation periods.

Since 2001, many proposals have been brought to the negotiating table. In 2003, two proposals—the Harbinson and Girard proposals—were submitted to WTO members. The Harbinson proposal focused on agriculture and included a tiered formula that was supposed to reflect a potential consensus. The Girard proposal, on the other hand, focused on industry and included a “modified Swiss formula,” under which tariffs were harmonized with a corrective parameter depending on the initial average (this formula was particularly favored by India, which had especially high tariffs at that time).

Just before the Hong Kong Ministerial Conference in December 2005, the main negotiating parties submitted their own proposals, which had different versions of the tiered formula in agriculture concerning import tariffs and domestic subsidies, and of the Swiss formula in industry with special and differential treatment. The United States made the most aggressive proposal. The G-20⁴ proposal included an ambitious liberalization program for developed

³ The tiered formula means that tariffs are cut through a reduction coefficient that depends on their level in a certain interval: tariffs from x percent to y percent will be reduced by z percent. The Swiss formula means that tariff t_0 will be reduced to t_1 with

$$t_1 = \frac{at_0}{a+t_0},$$

where $a > 0$. This formula implies that the higher the tariff, the bigger the cut. The reduction is more pronounced when a is small, since the formula ensures that $t_1 < a$. Let us note that the Uruguay Round used different principles in some areas, for instance, average cuts for agriculture and target cuts in manufacturing sectors.

⁴ The G-20 comprises twenty emerging and developing countries. It is led by Brazil and India and also includes China and South Africa. It generally plays an active role in favor of agricultural liberalization.

countries and a more limited one for developing countries. The European Union (EU) proposal included a more protectionist approach for developed countries while preserving the main objectives of the Harbinson proposal.

In eight years of negotiation, the various positions have evolved and converged, as represented by the December 2008 chairs' proposals. Market-access modalities have reached a high level of sophistication. The general philosophy is simple, with progressive tariff-cut formulas for both agricultural and nonagricultural goods. Much flexibility has been introduced, however, with different degrees of special and differential treatment and special provisions for tariff escalation, tropical products, and long-standing preferences. Under the chairs' proposals, OECD countries provide a duty-free, quota-free market access initiative for developing countries, with a three-percent exemption clause in terms of products. Export subsidies are to be phased out by 2013 for developed countries. Regarding domestic support, this package includes a harmonizing cut on overall trade-distorting support as well as sectoral disciplines.

This paper examines how positions have evolved from the beginning of the negotiations until December 2008 and converged to a package that could be agreed upon soon. It is especially important to compare the December 2008 package with various proposals that were put on the table originally either by diplomats Harbinson and Girard or by the EU, the G-20, and the United States. Such a comparison shows in what direction the negotiations have gone and especially whether they have evolved toward a specific proposal that was put forward years ago. It will also evaluate the initial degree of ambition of these stakeholders. We will focus on the impact both at the world level and on the developing countries, since development was the initial goal of negotiators.

The remainder of the paper is as follows: Section 2 presents the methodologies employed in this study. Section 3 evaluates the consequences of various scenarios in terms of protection applied and faced and in terms of trade and welfare. Section 4 evaluates the consequences of a potential deal on developing countries. Section 5 concludes.

2. A METHODOLOGY FOR EVALUATING THE SCENARIOS

These assessments are based on the use of the computable general equilibrium (CGE) MIRAGE model of the world economy and the MAcMap-HS6 database on market access. This section provides a quick overview of these analytical instruments together with the design of the scenarios that will be studied in the following sections.

2.1 Modeling Tools: The MIRAGE Model and the MAcMap-HS6 Database

The MIRAGE model is a multinational, multi-sector CGE model (see Bchir et al. 2002; Decreux and Valin 2007). In this section, the MIRAGE model is used under its dynamic version, with a perfect competition hypothesis and without modeling direct foreign investment. We use perfect competition instead of imperfect competition because calibration of the latter framework necessitates supplementary data that are difficult to gather for many regions (number of firms, markup, and magnitude of scale economies). Based on standard and robust assumptions, the model may underestimate the positive effects of trade reform, particularly when such reform drives new investments, technology improvements, or important trade or production diversification. Baseline and simulations are run until 2025. The model we use differs from the standard version of MIRAGE in two ways:

1. Specific tariffs are modeled explicitly, not using their *ad valorem* equivalent. Therefore, even with constant specific tariffs, the evolution of export prices (production costs, transportation costs, and real exchange rate variations) leads to endogenous changes in protection level.
2. The overall trade-distorting support (OTDS) is explicitly modeled as a value constraint, not as an *ad valorem* equivalent, to take into account the dynamic role of the constraint (see Appendix B in Bouet and Laborde 2009a). However, no monetary inflation is included. All values are expressed in 2004 U.S. dollars.

The first source of data is GTAP 7 (see Narayanan and Walmsley 2008 for full documentation), which provides world macroeconomic accounts and trade flows for the year 2004. The market access data comes from the MAcMap-HS6 version 2.1 database (Boumelassa, Laborde, and Mitaritonna 2009), which measures protection in 2004 and covers nearly all regional agreements and trade preferences existing to that date. This database includes information on multilateral and bilateral applied tariffs and bound tariffs and at the 6-digit. These tools have been widely used in numerous global or regional trade agreement assessments. Specific modifications have been done for this study:

1. The tariff dataset has been updated so that the baseline reflects important trade policy changes. Since MAcMap-HS6 was last updated in 2004, we needed to update the database to reflect relevant trade policy changes occurring since then, including expanded duty-free access to Japan for developing countries.
2. The phasing out of the implementation period for rice, sugar, and bananas under the European Union's "everything but arms" (EBA) initiative is taken into account.
3. EU enlargement to Romania and Bulgaria is also taken into account.

4. WTO accession of recent members (such as Vietnam and Ukraine) is included.
5. Dispute settlement consequences, such as EU tariffs on poultry, are accounted for.

The GTAP 7 trade matrix is designed to discriminate between "real" trade and "virtual" trade. This distinction is particularly important for developing countries since their limited economic size makes the results for these countries sensitive to potential mistakes, in particular in the case of potential exports that are blocked by prohibitive tariffs in importing countries. As a consequence, the trade matrix of the GTAP 7 database allows for the possibility of trade creation by using constructed trade values instead of zeroes. For example, it includes virtual merchandise trade flows related to travel expenditures: rather than being treated as an export of services, the expenses of, for instance, a Japanese tourist in Cambodia are treated as a dutiable export of the consumed goods from Cambodia to Japan.

But these "virtual" trade flows can be problematic in our assessment when they create nonnegligible exports from a developing country to an OECD country after removal of a high tariff on a specific commodity. For instance, the GTAP 7 database displays an export of processed rice worth about \$100,000 by Senegal to Japan facing a 340 percent tariff. Based on the model parameters (Armington elasticities for imperfect substitutes), the elimination of the duty can lead to a fifteenfold increase in Senegalese exports of rice to Japan.

Unfortunately, this flow is purely artificial and there is no way of knowing whether trade liberalization would really boost Senegalese exports or by how much. Due to the magnitude of the shock, this problem will lead to a significant bias in our results. To address this problem, we split the GTAP 7 trade matrix into two categories: real trade flows, based on the trade data inputs to the GTAP 7 database by Mark Gehlhar⁵, and virtual ones. We allow tariffs and their elimination to affect only the former category.

In addition, we have assessed the quality of the input–output tables for key products in the developing countries under study in order to avoid significant mistakes due to data quality problems. For instance, the GTAP 7 database shows that 15 percent of the production cost of processed rice in Senegal is due to imported wheat and 0 percent is due to the local paddy rice. This mistake in the construction of the input–output table may also lead to serious limitations in the CGE assessment since it implies that Senegal can export rice without producing it, simply by importing wheat. We fix such issues by reallocating the intermediate consumption to the appropriate sector in the input–output table.

⁵ See the description of the database at https://www.gtap.agecon.purdue.edu/databases/trade_data.asp.

Geographic decomposition is a key element of the methodological design of the study. On the basis of the GTAP 7 database, we selected 29 countries or regions that have specific trade objectives or hold specific positions in the negotiations. Table 1 presents the geographic decomposition. The countries that prominently influence the negotiations are Brazil, China, the European Union, India, the United States, and to a lesser extent, the Australia, New Zealand region; Japan; South Africa; and Argentina. Middle-income countries are represented by Thailand, Pakistan, Sri Lanka, Turkey, and Nigeria. Asian developing countries are represented by the Cambodia, Bangladesh region in Asia; selected Sub-Saharan African developing countries (Senegal, Madagascar, Malawi, Mozambique, Tanzania, Uganda, and Zambia); the “Rest of Sub-Saharan Africa” zone; and the “Rest of Southern Africa” zone. Mexico and Canada are middle- or high-income countries that can be hurt by erosion of preferences in their access to the United States.

<INSERT TABLE 1 HERE>

The sector decomposition focuses on agriculture and identifies 34 sectors, 15 of which are agricultural (see Table 2). The reason for this distinction is that agriculture is the sector where distortions are concentrated. Protectionism is especially high in sectors like rice, sugar, animals and animal products, meat and meat products, dairy products, and beverages and tobacco products. Textiles, wearing apparel, and leather products used to be highly taxed and, along with agriculture, are sectors in which developing countries have substantial economic interests.

<INSERT TABLE 2 HERE>

2.2 Scenarios

In order to develop a better understanding of how the negotiations have evolved and to assess whether they have converged toward a particular position, it is important to evaluate five negotiating proposals: (1) a combination of the Harbinson proposal in agriculture and the Girard proposal in industry, both submitted in 2003 (called the Harbinson and Girard scenario); (2) the G-20 proposal submitted in 2005 at the Hong Kong Ministerial (called the G-20 scenario); (3) the proposal submitted by the European Union in 2005 at the Hong Kong Ministerial (called the EU scenario); (4) the U.S. proposal at the time of the 2005 Hong Kong Ministerial (called the U.S. scenario); and finally (5) the December 2008 package (called the 2008 scenario).

Tariff reductions are applied at the six-digit level of the Harmonized System on a country-by-country basis using the MAcMap-HS6 version 2 database. We explicitly take into account differences between bound, applied most favored nation (MFN), and preferential tariffs. *Ad*

valorem equivalents of specific tariffs are computed based on the WTO guidelines for the implementation of tariff cut formulas. All sensitive and special products are selected using the political economy criterion of Jean, Laborde, and Martin (2008).

The first scenario (Harbinson and Girard) is based on 2003 proposals from the WTO chairs: the Harbinson proposal for agricultural market access (TN/AG/W/1) and the Girard proposal (TN/MA/W/35) for nonagricultural market access. The agricultural market access tariff reduction includes a tiered formula with three bands for developed countries and four for developing countries. Inside each band, flexibility is allowed. For each tariff line, negotiators can choose the cut rate under two constraints: a minimal cut rate specific to each band and the simple average cut over all products for each band. We use the Jean, Laborde, and Martin (2008) criterion to define the optimal behavior of each country inside each band. We also assume 10 percent special products for developing countries, for which the cut rate is limited to 5 percent. The nonagricultural market access proposal (which supposedly reflects the Girard proposal) is based on a Swiss-like formula where the “Swiss coefficient” is equal to the simple average base rate times a scale coefficient (equal to 1 for developed countries and 1.5 for developing countries). For unbound lines, the base rate is equal to the MFN rate times 2, with a minimum of 5 percent. Countries that have a binding coverage below 35 percent do not reduce their tariffs.

The second scenario is the G-20 proposal. For agricultural market access, we rely on the G-20 proposal on market access of October 2005. This includes a tiered formula (four bands for both developed and developing countries) with differentiated thresholds and coefficients, and a capping for highest tariffs (100 percent for developed countries, 150 percent for developing countries). We allow for 4 percent sensitive products for developed countries (6 percent for developing countries) with a 30 percent deviation from the formula cut (45 percent deviation for developing countries). We also include 5 percent special products for developing countries with no cut. The nonagricultural market access component is based on the 2005 Argentina, Brazil, and India communication (TN/MA/W/54). It is similar to the Girard formula but includes a differentiated formula for bound and unbound lines. We assume the same scale coefficients as in the Harbinson and Girard scenario as well as the binding markup to compute the base rate on unbound lines. In addition, we consider 5 percent of tariff lines (maximum 5 percent of imports) with no cut.

The third scenario represents the European Union's contribution of October 2005.

Agricultural market access is described by a tiered formula (four bands) similar to that of the G-20s proposal but with a lower reduction target for developed countries. In addition, the

lower band (0–30 percent) allows flexibility by defining a simple average cut target and lower and upper bound tariff reductions. Here also we use the Jean, Laborde, and Martin (2008) criterion to define each country's optimal behavior inside the first band. Eight percent sensitive products (50 percent deviation from the formula) are authorized for developed countries (one-third additional sensitive products are allowed for developing countries). For nonagricultural market access, we use a Swiss formula with coefficient 10 for developed countries and 15 for developing countries. The base rate of unbound tariff lines is equal to the applied MFN rate plus 10 percent. A clause of 5 percent sensitive products (maximum 5 percent of imports) with no cut is implemented. A 100 percent duty-free, quota-free initiative is granted by developed countries to developing countries.

The fourth scenario is the U.S. proposal. It includes stronger tariff reduction in agriculture with the same formula approach as the G-20 proposal (Scenario 2) and smaller tariff caps (for example, 75 percent for developed countries). Only 1 percent sensitive products are authorized for developed countries (1.33 percent for developing countries). We apply the same discipline in nonagricultural market access as in the EU proposal (Scenario 3).

Scenarios 2–4 are based on pre-Hong Kong 2005 Ministerial proposals, with elements from the July 2004 package incorporated when needed.

The fifth scenario (the 2008 scenario) is based on December 2008 modalities. An extensive discussion of this scenario is available in Laborde, Martin, and van der Mensbrugghe (2009). The agricultural market access pillar (TN/AG/W/4/Rev.4) includes a tiered formula with four bands and differentiated coefficients for developed and developing countries. We take into account provisions for sensitive and special products as well as the additional cuts that deliver special access for tropical products and reduce tariff escalation. For the nonagricultural market access pillar (TN/MA/W/103/Rev.3), we apply a Swiss formula with coefficient 8 for developed countries and a menu of options including sensitive products combined with a Swiss formula using coefficients ranging from 20 to 25. We consider the special cases of the recently acceded members, the small and vulnerable economies, and the countries with low binding coverage as defined by the document TN/MA/W/103/Rev.3. A 97 percent duty-free, quota-free initiative is included for OECD countries as well as for Brazil and India to some extent.

In all cases, developing countries as well as countries with low binding coverage are free from any tariff reduction in nonagricultural market access. We also always implement the consequences of the EU–Turkey customs union for nonagricultural market access for countries with low binding coverage. All export subsidies are removed in all scenarios.

We use a tiered formula to reduce overall trade-distorting support (OTDS) (Scenario 5) or the total aggregate measurement of support (Scenarios 1–4). To sum up: in Scenario 1, all countries belong to the same band and the reduction rate is 50 percent. For other scenarios, the EU is in the last band and the reduction rate applied to its support is 80 percent under the G-20 proposal and 2008 modalities, 70 percent under the EU proposal, and 83 percent under the U.S. proposal. For the U.S. (second band), the cut rate is 70 percent under the G-20 proposal and 2008 modalities, and 60 percent under the EU and U.S. proposals.

Domestic support reductions are applied in a dynamic way as already described in Bouet and Laborde (2009a) with an additional assumption of a 2 percent annual rate of augmentation.

We introduce the OTDS capping in the dynamic model. Under the standard approach, domestic support is computed from base year level and converted in an *ad valorem* equivalent.⁶ This approach is unrealistic because of the WTO constraint on overall support and because taking into account the growth of production value in the agricultural sector will lead to a reduction in subsidy rate to meet the new WTO commitments. Focusing on agricultural production and exports, we see the following: (1) U.S. agricultural production is directly affected by domestic support reduction (-1.5 percent in agricultural and agri-business production instead of +0.1 percent). (2) EU agricultural production is nearly unaffected by subsidy reduction thanks to the recent common agricultural policy (CAP) reform and the large share of green box payments in the overall EU domestic support. (3) On the other hand, the OTDS limits applied to U.S. farmers will benefit EU producers and exporters. Overall, EU production is reduced less when the Doha Development Agenda tariff reduction is combined with the OTDS treatment than when it is not combined with the OTDS treatment (-1.17 percent versus -1.27 percent). (4) The situation of Brazil is magnified compared to that of the EU. In this case, Brazilian production increases more with the OTDS treatment (+4.03 percent to +3.78 percent).

3. A QUANTITATIVE ASSESSMENT OF THE EVOLUTION OF THE NEGOTIATION MODALITIES ON PROTECTION, TRADE, AND WELFARE

This section evaluates these scenarios first in terms of impact on protection applied and faced by each group of countries, and second in terms of trade and real income. The next section will focus on the potential impact of these trade reforms on developing countries.

3.1 The Impact on Applied Protection

⁶ Since the current U.S. domestic support is below new OTDS limits, it does not lead to reduction of current policies.

Table 3 shows the impact of these different proposals on protection. The latest modalities scenario (column labeled “2008”) would reduce world protection by 26 percent, from 4.5 percent to 3.3 percent. In comparison, the U.S. proposal (column labeled “U.S.”) would have cut this world average by 50 percent while the EU proposal would have resulted in a reduction of only 37 percent.

<INSERT TABLE 3 HERE>

Given numerous flexibilities, world agricultural protection would decrease by 25 percent (that is, by less than industrial protection) if the December 2008 package were to be implemented, whereas it would decrease by 73 percent under the U.S. proposal. Concerning agricultural market access, the latest modalities scenario would cut applied protection by a little more than one-third for high-income countries (from 17.6 percent to 11.6 percent) and by less than 3 percent for middle-income countries (from 18.7 percent to 18.2 percent). This should boost developing-country exports to developed countries.

Table 4 illustrates to what extent foreign market access would be improved under each scenario. The latest modalities (2008) scenario would improve market access for high-income countries by 25 percent, for middle-income countries by 29 percent, and for developing countries by 37 percent. In agriculture, the gains would be equivalent for the three groups of countries: around 25 percent.

<INSERT TABLE 4 HERE>

Therefore, under the Doha Development Agenda, developing countries would improve their access to foreign markets but would also suffer an erosion of preferences, especially in agriculture; the protection faced by their agricultural exports would decline by 2.3 percentage points, compared with a 4.5 percentage point decline for high-income countries and 4.3 percentage points for middle-income countries.

Table 5 indicates the potential impact of the various scenarios on the volume of exports and real income by groups of countries. We also evaluate the potential impact of a full liberalization—complete removal of all import duties, export subsidies, and domestic support—as a point of reference *and finally we evaluate the unevenness of gains across countries by reporting standard errors (in US\$) of these real income gains.*

<INSERT TABLE 5 NEAR HERE>

World real income would improve by a mere 0.09 percent—about \$70 billion as annual gain in 2025—under the 2008 scenario and by 0.24 percent under the U.S. scenario. Overall global exports would increase by 2 percent under the 2008 scenario. This reflects the modest but positive ambition of the current market access modalities. Interestingly, the welfare outcome

would be close to the 2003 starting point. Although the 2008 tiered formula in agriculture is more aggressive than that of the Harbinson proposal, its additional flexibilities would more than compensate for the stringent coefficients (agriculture exports would increase by 5.4 percent compared to 5.6 percent in the Harbinson and Girard case). This illustrates the dilemma of the negotiations: trying to reach a high degree of ambition with a challenging formula but still undermining it with flexibilities to make it politically acceptable.

Our modeling assumptions are conservative and do not take into account some nontariff barriers, liberalization in services, and some dynamic aspects of trade liberalization; nevertheless, these gains are at least positive for the majority of countries and equal about 20 percent of the gains from total trade liberalization. In addition, they lay the foundation for future liberalization by reducing the existing binding overhang. A much more politically challenging approach based on the U.S. proposal would lead to gains equaling half of what would result from full trade liberalization.

These results illustrate how far trade negotiations have evolved even while constrained by defensive interests. For example, in terms of applied protection, the December 2008 package would decrease agricultural protection in high-income countries by about as much as the Harbinson and Girard proposal would and even less than the EU proposal would. In this same domain, the U.S. proposal would result in a much more ambitious liberalization of world agriculture. Regarding nonagricultural market access, a Doha agreement defined by the 2008 modalities would result in the liberalization of the economies of middle-income countries by about as much as was expected under the Harbinson and Girard and the G-20 proposals, while the EU proposal would liberalize these sectors much more. Again, defensive interests are respected in the 2008 proposal. This selection of the smaller common denominator is translated into trade changes: the highest increase is avoided in nonagricultural exports (EU and U.S. proposals, about 3.6 percent) and in agricultural trade (U.S. and G-20 proposals, between 11 and 19 percent), and smaller increases are achieved (2.1 percent for manufacturing goods and 5.4 percent for agriculture and the agrifood sector).

More importantly, some scenarios imply losses for developing countries, reflecting eroded preferences as a result of a multilateral agreement and rising terms of trade for imported commodities, including food products. While these losses are significant in the case of the Harbinson and Girard, G-20, and U.S. proposals, they are almost nonexistent under the EU proposal and quite small under the 2008 proposal. It is important to remember that the last two scenarios include a duty-free, quota-free initiative given by OECD countries to developing countries while the other scenarios do not.

Finally, by reducing the losses of the weakest economies but also limiting the gains of the main winners, the long negotiation process has reduced the unevenness of the gains (see the simple standard deviation in the last row of Table 5).⁷

4. DEVELOPING COUNTRIES: WHAT IS ON THE TABLE?

A successful development round will not be achieved if the interests of the most vulnerable members of the multilateral trading system—the developing countries—are neglected. Since they have the Doha Round for free—they will not deliver new liberalization on their markets—WTO-driven domestic reform will not lead economic gains contrarily to other countries. Therefore the gains should come from other sources. This section discusses what is on the table for the developing countries and how the final negotiations may lead to an outcome friendlier to developing countries.

4.1 Meager Gains for Developing Countries

Obviously, potential gains for developing countries are zero and could even be negative under our conservative modeling assumptions. Table 6 presents the potential impact of these five potential trade reforms on developing countries' exports in 2025. Table 7 illustrates how developing countries' real incomes are affected under these scenarios, also in 2025.

<INSERT TABLE 6 NEAR HERE>

<INSERT TABLE 7 NEAR HERE>

In terms of the potential impact of these trade reforms on exports, unlike some middle-income countries, such as Sri Lanka and Thailand, that can substantially benefit from new access to foreign markets, developing countries, such as those in Africa, do not increase their exports substantially. In fact, their exports may even be negatively affected: in 2025 the exports of Cambodia and Bangladesh will be 3.5 percent lower if the 2008 modalities are implemented. And it could be worse, since all other scenarios imply a decrease in exports for developing countries by 2025. Obviously, the inclusion of a duty-free, quota-free clause for developing countries in their exports to OECD countries (also implemented in the EU scenario) can be a compensation for their eroded preferences. Table 7 gives the results on real income for the same group of countries and confirms that the potential gains for developing countries are meager, if not negative.

As a result, more is needed to address developing countries' concerns. Even if we consider that this modeling exercise underestimates the impact of the Doha agreement on developing countries, potential gains are small.

⁷ These results are in line with our previous analysis (Bouet and Laborde 2009b).

Duty-free, quota-free market access given by OECD countries to developing countries could boost the benefits from trade liberalization for the poorest WTO members. But this access has to be redesigned with no product exemption and needs to include a larger number of granting countries, in particular dynamic emerging economies: Brazil, China, and India. It is also worthwhile to consider that small and vulnerable countries may receive this new preference as a compensation for traditional preferences eroded by the potential agreement.

In a recent paper, Bouet and Laborde (2010) examined the potential benefits and costs of providing duty-free, quota-free market access to the developing countries and the effects of extending eligibility to other small and poor countries. This analysis confirmed the result from previous research (Berisha et al. 2008) that 97 percent market access provides very few benefits for developing countries. But the evidence does not support two of the chief concerns about expanded preferential access for those countries. First, Sub-Saharan Africa overall stands to gain, not lose, if OECD countries, including the United States, provide 100 percent duty-free, quota-free market access for all developing countries; and other developing countries, such as Pakistan, do not suffer from preference erosion. Second, preference-giving countries do not suffer market disruption from removing exclusions for sensitive products, such as sugar and dairy. Consequently, the reform seems politically acceptable. The adjustments are greater, however, if duty-free, quota-free market access is extended to a broader group of small and poor countries.

Aid for trade is also a major component of the agreement. Some observers describe this initiative as financial compensation for countries that are expected to suffer losses under the agreement (see Bouet and Laborde 2009b). How negative outcomes for developing countries could be addressed a bit further by aid for trade is a key topic and could be the subject of a specific evaluation (Stiglitz and Charlton 2006) because it represents further assistance for developing countries "to increase their capacity to take advantage of more open markets" (CITATION) by investing in trade-related infrastructure such as transportation and telecommunication, which have been proven to benefit export performance.

Bouet, Mishra, and Roy (2008) used a gravity equation to investigate whether Africa trades less than it should as expected from gross domestic products, geographic distance, and other factors proven to affect trade significantly. Their results indicate that, globally speaking, Africa is an underexporter. They also found, however, that accounting for transport and communication infrastructure reduced the undertrading effect for Africa, and in some specifications of their model the undertrading effect vanished altogether. Results from a semiparametric model provided evidence of nonlinear impacts from infrastructure and of

complementarities across transport and communication infrastructure, implying that impact is likely greater if the infrastructure is developed jointly rather than in isolation.

In other words, the Doha agreement, based on the most recent modalities package (2008), has an ambivalent impact on developing countries and does not offer enough to the poorest countries. It needs to offer more in terms of market access and reduced trade costs. But international cooperation also needs to be extended to other challenging areas for developing countries.

4.2 Food Crisis Could Threaten the Gains from Trade Liberalization for Developing Countries

Since the end of the food crisis, the role that international trade can play in food security has generated a great deal of debate. Food security implies availability of food products on domestic markets at an affordable price for local consumers. This concept strongly differs from the notion of self-sufficiency. Trade has always been used to compensate for a mismatch between supply and demand among countries. It helps increase local supply in food-exporting countries, reduce the domestic price for importing countries, and reduce volatility, especially in the case of asymmetric supply shocks.

Multilateral agricultural liberalization leads to an increase in world agricultural prices due to increased demand driven by tariff reductions, and due to supply reductions in some countries (resulting from a constraint on subsidies). It has contrasting effects on developing countries. Agricultural exporters benefit directly from this trend. For net food importers, the terms-of-trade cost may be significant, and if no unilateral tariff reduction is implemented, domestic prices may go up, increasing the cost of food products for households. At the same time, due to less-distorted markets, increased disciplines, and the long-term nature of this upward agricultural price trend, farmers in developing countries may have more opportunities to invest, and they may gain in productivity. Agricultural production may expand, and in this case local consumers benefit from a larger, more affordable source of food.

However, greater international cooperation is needed to eliminate national policies that can substantially increase world agricultural prices. For example, the role of biofuel policies in the food crisis has been discussed; it obviously implies more demand for agricultural commodities and has been driven by questionable subsidies and tax rebate policies.

Another example is export taxes and export restrictions that are not regulated by the WTO. They are attractive instruments for policymakers, especially in the case of rising international agricultural prices, because they imply a reduction in domestic agricultural prices, which benefits local consumers, and an increase in the international prices of goods that the country

exports, as well as new public revenues. But they are typically beggar-thy-neighbor policies that contribute to further increases of world agricultural prices.

Bouet and Laborde (2010) analyze of the use of export taxes and illustrate why they have been so popular during the recent food crisis. Using a global computable general equilibrium model to mimic the mechanisms that have appeared during the recent food price surge, they illustrate the costs of lack of cooperation and lack of binding process to regulate export restrictions in time of crisis. They conclude by stressing the need for international regulation, in particular since small net food-importing countries (especially developing countries) may be substantially hurt by these beggar-thy-neighbor policies that amplify the already negative impact of the food crisis.

Therefore, the WTO has to tackle these issues by bringing under its regulatory umbrella policies that deeply hurt international trade and small net food-importing countries.

Otherwise, importing countries will resort to protectionist tools (such as special products and special safeguard mechanisms) to avoid depending on foreign, and sometimes unreliable, suppliers for achieving food security targets.

4.3 Economic Crisis Could Threaten the Gains from Trade Liberalization for Developing Countries

The recent economic crisis has clearly illustrated how much developing countries depend on the economic growth of high-income countries. With falling economic activity, high-income countries' imports have dropped drastically, translating into lower exports and lower economic activity for developing countries. This result is highly dependent on the current shape of trade flows and the fact that developing economies still face high barriers on developing markets that impede trade among themselves (known as *South–South trade*).

<INSERT TABLE 8 NEAR HERE>

Table 8 provides the geographical structure of developing countries' exports: OECD is the first destination of developing countries' exports, but it is not abnormally high if we compare these figures to the share of OECD as destination in world exports (second column). What is striking is the increasing share of BRIC (Brazil, Russia, India, and China) in developing countries' exports, in particular since 1998: it soared from 8.4 percent in 1998 to 27.8 percent in 2007. OECD and BRIC together have increased their share as destination for developing countries' exports from 77.7 percent in 1995 to 85.1 percent in 2007. All of this means that South–South trade has become less and less important.

The Doha Development Agenda (DDA) will partially address this issue. Using our computable general equilibrium (CGE) model, we simulate a 7 percent reduction in the gross

domestic product of OECD countries during the period 2023–2025 with and without a DDA. Without the WTO deal, middle-income countries will suffer a reduction in their real income of 0.2 percent, whereas with the DDA, this loss is cut in half. On the other hand, the loss increases slightly from 0.4 to 0.5 percent for developing countries. This is because the duty-free, quota-free initiative granted by OECD countries only to developing countries will reinforce the dependence of developing countries on OECD markets. Therefore, it is very important that the initiative include as many emerging economies as possible to help diversify the exports of developing countries.

However, South–South trade improvements will be limited in the Doha Agreement due to generous flexibilities for developing countries and will not lead to a significant reorientation of developing countries' exports. The right complement could be to reduce flexibilities that affect South–South trade, expand regional agreements among developing countries, and increase investment in trade-related infrastructure adapted to this type of trade.

4.4 Renewed Protectionism Could Threaten the Gains from Trade Liberalization for Developing Countries

The economic crisis has multiplied fears of renewed protectionism. A very positive impact of the DDA is that it would reinforce binding commitments, reduce existing bound duties, and consolidate the unilateral preferences granted to developing countries into the multilateral framework. By so doing, it would fulfill its international role for the public good by making the trade environment more secure and decreasing the costs associated with potential trade wars.

In a recent study, Bouet and Laborde (2009a) examined this idea by comparing the application of bound duties based at their current levels, as they have been negotiated by the Uruguay Round, to the same policy based on the level of bound duties implied by the most recent DDA modalities (2008 scenario). If the DDA is not implemented, current protection would double when countries resort to bound levels, whereas protection would increase by only 41 percent if the DDA were to be implemented. This difference is worth up to \$809 billion in terms of trade volume and \$184 billion in terms of real income (in 2025). Strikingly, these conclusions are especially true for poor countries. In terms of real income, if one considers that the real value of the DDA is measured by the preventive role it plays, from a global value of \$184 billion, \$128 billion (about two-thirds) represents the benefits to developing countries.

5. CONCLUSION

In conclusion, although the Doha Development Agenda may be considered as an agreement that is constrained too much by defensive, protectionist interests, it still achieves significant liberalization. Indeed, by cutting applied tariffs by more than one-fourth on average among the 153 WTO members, it may deliver more relative gains in market access than did previous rounds of negotiation. This is particularly true for agricultural liberalization, where the binding process and the simultaneous dirty tariffification have limited the applied tariff reductions during the previous round: Ingco (1996) demonstrated that while there was significant and important reform during the Uruguay Round—in particular the conversion of nontariff barriers into tariffs and the binding of tariffs—liberalization of trade has probably been limited. In addition, some of the gains that the Doha Development Agenda could provide are indirect through the reduction in binding overhang.

Therefore, concluding the Doha Round quickly will help WTO members grasp the gains within reach. As noted by Hoekman, Martin, and Mattoo (2009), there are other gains at stake, such as environmental benefits driven by disciplining the use of subsidies that encourage overfishing and by decreasing import duties on environmentally friendly technologies, benefits from trade facilitation or from aid for trade, and so on.

We have shown that eight years of negotiations have managed to get a more even outcome, respecting countries' strategic interests, but have not permitted ambition to go further than that of the 2003 proposals. Nevertheless, the gains the 2008 proposal would provide to developing countries are not substantial and in fact may be nil or negative. These benefits could be improved with a new effort on the part of both high-income and emerging countries in terms of improved market access, other transaction costs, or both. Such an effort would make the Doha Round a real development round.

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Table 1. Geographical disaggregation and correspondence with GTAP 7 regions

#	Country or region	Code	GTAP 7 correspondence
1	Australia, New Zealand	anz	AUS, NZL
2	Rest of Oceania and of Southeast and East Asia— <i>nec</i>	xea	IDN, LAO, MMR, MYS, PHL, VNM, XEA, XOC, XSE
3	China	chn	CHN, SGP
4	Hong Kong	hyc	HKG
5	Japan	jpn	JPN
6	Korea, Taiwan	hya	KOR, TWN
7	Cambodia, Bangladesh	lda	BGD, KHM
8	Thailand	tha	THA
9	India	ind	IND
10	Pakistan	pak	PAK
11	Sri Lanka	lka	LKA
12	Rest of South Asia— <i>nec</i>	xsa	XSA
13	Canada	can	CAN
14	United States	usa	USA
15	Mexico	mex	MEX
16	Argentina	arg	ARG
17	Rest of Latin America— <i>nec</i>	rlc	BOL, CHL, COL, CRI, ECU, GTM, NIC, PAN, PER, PRY, URY, VEN, XCA, XCB, XSM
18	Brazil	bra	BRA
19	European Union	e27	AUT, BEL, BGR, CYP, CZE, DEU, DNK, ESP, EST, FIN, FRA, GBR, GRC, HUN, IRL, ITA, LTU, LUX, LVA, MLT, NLD, POL, PRT, ROU, SVK, SVN, SWE
20	Rest of Europe— <i>nec</i>	xer	CHE, NOR, XEF, XER
21	Rest of Central and Eastern Europe and of Former Soviet Union— <i>nec</i>	xec	ALB, ARM, AZE, BLR, GEO, HRV, KAZ, KGZ, UKR, XEE, XSU
22	Russia	rus	RUS
23	Middle East and North Africa	mna	EGY, IRN, MAR, TUN, XNF, XWS
24	Turkey	tur	TUR
25	Nigeria	nga	NGA
26	Selected Sub-Saharan African DCs	sld	MDG, MOZ, MWI, SEN, TZA, UGA, ZMB
27	Rest of Sub-Saharan Africa— <i>nec</i>	xss	ETH, XCF, XEC, XWF
28	Rest of Southern Africa— <i>nec</i>	xsd	BWA, MUS, XAC, XSC, ZWE
29	South Africa	zaf	ZAF

Source: Notes: “Not elsewhere classified” denoted by *nec*; “developing country” denoted by *DC*.

Table 2. Sectoral disaggregation and correspondence with GTAP 7 sectors

#	Sector	Abbrev.	GTAP 7 correspondence
1	Rice	ric	pdr, pcr
2	Wheat	wht	wht
3	Cereal grains—nec	gro	gro
4	Vegetables, fruit, nuts	v_f	v_f
5	Oilseeds	osd	osd
6	Sugar	sug	c_b, sgr
7	Plant-based fibers	pfb	pfb
8	Crops—nec	ocr	ocr
9	Animals and animal products	lvs	ctl, oap, lvs, rmk, wol
10	Forestry	onr	frs
11	Fishing	fish	fsh
12	Coal, oil, gas, petroleum, and coal products	fll	coa, oil, gas
13	Minerals—nec	onr	omn
14	Meat and meat products	pmt	cmt, omt
15	Vegetable oils and fats	vol	vol
16	Dairy products	mil	mil
17	Food products—nec	ofd	ofd
18	Beverages and tobacco products	ofd	b_t
19	Textiles	tex	tex
20	Wearing apparel	wap	wap
21	Leather products	lea	lea
22	Wood products	mat	lum
23	Paper products and publishing	mat	ppp
24	Chemical, rubber, and plastic products	crp	crp
25	Mineral products—nec	mat	nmn
26	Ferrous metals, metal—nec, and metal products	metals	i_s, nfm, fmp
27	Motor vehicles and parts	mvh	mvh
28	Transport and electronic equipment—nec, machinery and equipment — nec	cgd	otn, ele, ome
29	Manufactures—nec	omf	omf
30	Electricity, gas manufacture and distribution, water	svc	ely, gdt, wtr
31	Construction	cns	cns
32	Trade, financial, business, and recreation services—nec, insurance, other services	privser	trd, cmn, ofi, isr, obs, ros
33	Transport—nec, sea and air transport	trans	otp, wtp, atp
34	Public administration, defense, health, education, dwellings	svc	osg, dwe

Source:

Note: “Not elsewhere classified” denoted by *nec*.

Table 3. Impact of five liberalization proposals on protection applied

		Baseline	Harbinson and Girard	G-20	EU	U.S.	2008
All goods	All countries	4.5	3.2	2.8	2.9	2.3	3.3
	High-income countries	3.3	1.8	1.5	2.0	1.5	2.1
	Middle-income countries	8.6	7.5	7.2	5.7	4.8	7.5
	Developing countries	12.2	12.2	12.2	12.2	12.2	12.2
AMA	All countries	17.8	13.4	11.0	12.3	7.6	13.4
	High-income countries	17.6	11.9	8.7	10.9	5.2	11.6
	Middle-income countries	18.7	17.7	17.5	16.5	14.0	18.2
	Developing countries	13.6	13.6	13.6	13.6	13.6	13.6
NAMA	All countries	3.6	2.4	2.2	2.2	2.2	2.6
	High-income countries	2.3	1.1	1.0	1.4	1.4	1.4
	Middle-income countries	7.7	6.6	6.3	4.8	4.8	6.6
	Developing countries	12.0	12.0	12.0	12.0	12.0	12.0

Source: Authors' calculations based on MAcMap-HS6 v2.1.

Table 4. Impact of five liberalization proposals on protection faced by exports

		Baseline	Harbinson and Girard	G-20	EU	U.S.	2008
All goods	All countries	4.5	3.2	2.8	2.9	2.5	3.3
	High-income countries	4.7	3.3	3.0	2.9	2.6	3.5
	Middle-income countries	4.2	2.8	2.5	2.7	2.4	3.0
	Developing countries	3.0	1.9	1.4	1.3	1.3	1.9
AMA	All countries	17.8	13.4	11.0	12.3	7.6	13.4
	High-income countries	17.6	13.2	10.9	12.1	7.4	13.1
	Middle-income countries	18.4	13.9	11.3	13.0	7.9	14.1
	Developing countries	9.3	8.3	7.0	6.6	6.4	7.0
NAMA	All countries	3.6	2.4	2.2	2.2	2.2	2.6
	High-income countries	3.8	2.7	2.4	2.3	2.3	2.9
	Middle-income countries	3.1	1.9	1.8	1.9	1.9	2.1
	Developing countries	2.2	1.2	0.8	0.7	0.7	1.3

Source: Authors' calculations based on MAcMap-HS6 v2.1.

Table 5. Impact of six liberalization proposals on trade and real welfare by 2025

		Full liberalization	Harbinson and Girard	G- 20	EU	U.S.	2008
World exports of goods and services	<i>\$Billions</i>	1,934	400	502	527	621	326
	<i>Variation (%)</i>	11.6	2.4	3	3.2	3.7	2
World exports of agriculture and agrifood products	<i>\$Billions</i>	409	47	92	60	152	45
	<i>Variation (%)</i>	49	5.6	11	7.2	18.1	5.4
World exports of manufacturing goods	<i>\$Billions</i>	1,517	350	405	465	466	276
	<i>Variation (%)</i>	11.6	2.7	3.1	3.6	3.6	2.1
Real income	<i>\$Billions</i>	384	66	134	126	190	69
	<i>Variation (%)</i>	0.49	0.08	0.17	0.16	0.24	0.09
	<i>High-income countries (%)</i>	0.51	0.08	0.17	0.19	0.25	0.09
	<i>Middle- income countries (%)</i>	0.43	0.1	0.17	0.09	0.22	0.09
	<i>Developing countries (%)</i>	-0.67	-0.32	0.29	0.01	-0.27	-0.1
	Standard deviation of the real income gains	0.98	0.29	0.45	0.35	0.51	0.22

Source: Authors' calculations—MIRAGE model simulations.

Note: Dollar amounts are in U.S. dollars.

Table 6. Impact of six liberalization proposals on developing countries' exports by 2025

Exports in value (% change)	Harbinson and Girard	G-20	EU	U.S.	2008
India	0.7	1.9	6.6	9.8	1.7
Cambodia, Bangladesh	-4.9	-4.2	-1.6	-2.2	-3.5
Mexico	-0.1	-0.1	1.8	2.1	0.8
Middle East and North Africa	0.3	0.8	1.0	1.3	0.6
Nigeria	-0.1	-0.2	-0.7	-0.4	-0.1
Pakistan	2.4	3.0	10.7	11.5	1.1
Rest of Oceania and of Southeast and East Asia— <i>nec</i>	2.5	2.8	4.9	5.3	1.4
Rest of Central and Eastern Europe and of Former Soviet Union— <i>nec</i>	0.3	0.5	0.3	0.7	0.1
Rest of Latin America— <i>nec</i>	0.6	1.3	2.1	3.3	0.9
Rest of Southern Africa	0.1	2.2	0.5	2.9	0.3
Rest of South Asia— <i>nec</i>	1.0	0.7	1.3	-0.5	-0.5
Rest of Sub-Saharan Africa	-0.5	-0.2	-0.3	-0.2	0.0
Selected Sub-Saharan African developing countries	-0.9	-1.2	-0.1	-2.0	0.2
South Africa	2.2	3.2	4.2	4.5	1.2
Sri Lanka	5.7	5.8	5.2	5.8	4.8
Thailand	4.4	5.2	8.5	9.1	4.5
Turkey	0.3	0.4	0.8	1.2	0.5

Source: Authors' calculations—MIRAGE model simulations.

Note: “Not elsewhere classified” denoted by *nec*.

Table 7. Impact of five liberalization proposals on developing countries' real welfare by 2025

Real income (% change)	Harbinson and Girard	G- 20	EU	U.S.	2008
India	0.1	0.2	0.2	0.5	0.1
Cambodia, Bangladesh	-0.5	-0.4	-0.1	-0.2	-0.3
Mexico	0.0	-0.1	0.0	0.0	-0.1
Middle East and North Africa	0.1	0.2	0.0	0.1	0.1
Nigeria	-0.1	-0.2	-0.5	-0.4	-0.1
Pakistan	0.2	0.5	0.7	0.7	0.2
Rest of Oceania and of Southeast and East Asia— <i>nec</i>	0.3	0.4	0.4	0.6	0.2
Rest of Central and Eastern Europe and of Former Soviet Union— <i>nec</i>	0.1	0.2	0.1	0.3	0.1
Rest of Latin America— <i>nec</i>	0.2	0.3	0.1	0.4	0.2
Rest of Southern Africa	0.2	1.2	0.5	1.6	0.2
Rest of South Asia— <i>nec</i>	-0.2	-0.3	0.0	-0.2	0.0
Rest of Sub-Saharan Africa	-0.1	0.0	-0.1	0.0	0.1
Selected Sub-Saharan African developing countries	-0.1	-0.1	0.2	-0.3	0.2
South Africa	0.1	0.1	0.0	0.1	0.1
Sri Lanka	0.5	0.5	0.6	0.7	0.4
Thailand	1.1	1.8	1.2	1.9	0.9
Turkey	-0.1	-0.1	0.1	0.1	0.0

Source: Authors' calculations—MIRAGE model simulations.

Note: “Not elsewhere classified” denoted by *nec*.

Table 8. Share of OECD and BRIC in developing countries' exports

Year	Share of OECD in DCs' exports	Share of OECD in world exports	Share of BRIC in DCs' exports
1989	75.1	81.91	7.8
1990	76.1	81.89	7.5
1991	78.4	78.69	6.0
1992	72.8	75.85	8.6
1993	73.4	72.24	9.2
1994	76.9	72.66	6.4
1995	69.2	71.92	8.5
1996	67.9	71.41	9.6
1997	67.8	71.01	10.8
1998	68.8	73.00	8.4
1999	69.2	74.20	10.9
2000	66.2	73.02	14.7
2001	65.0	72.36	14.4
2002	66.2	71.81	12.2
2003	62.1	71.15	17.5
2004	58.3	69.64	21.4
2005	56.8	68.71	24.2
2006	55.9	68.02	27.0
2007	57.3	70.78	27.8

Source: BACI and authors' calculation.

Note: "Brazil, Russia, India, and China" denoted by *BRIC*; "developing country" denoted by *DC*.