How Much Will Trade Liberalization Help the Poor?
Comparing Global Trade Models

Antoine Bouët

The world community and international institutions have made development and poverty alleviation a high priority. The Millennium Development Goals, fixed by the United Nations for 2015, call for halving the number of people living on less than a dollar a day. With this goal in mind, the international community is calling current global trade negotiations, conducted by the World Trade Organization (WTO), the Doha Development Agenda.

Trade liberalization is expected to act positively on development and poverty reduction. The recent empirical literature identifies several key linkages through which trade liberalization affects development: the price and availability of goods, factor prices, government transfers, incentives for investment and innovation, terms of trade, and short-run risk (Winters, McCulloch, and McKay 2004).

The traditional argument in favor of a positive relationship between liberalization and poverty reduction focuses on the first two linkages. A large proportion of poor people work in the agricultural sector, where trade distortions are particularly high. Liberalization could lead to higher world agricultural prices and raise activity and remuneration in this sector in developing countries. The same beneficial outcome could occur in the textile and apparel sectors, where protection remains high and developing countries have a comparative advantage.

But openness can also have negative effects. First, government transfers can shrink as liberalization cuts the government's receipts of trade-related taxes. Second, terms of trade can deteriorate as liberalization affects world prices. Third, liberalization can impose adjustment costs and raise short-run risk owing to competition from imports and reallocation of productive factors.

As a consequence, it is uncertain how much trade liberalization would reduce poverty, and many studies have attempted to assess the size of these benefits. The main empirical tool for this work is the multicountry computable general equilibrium (CGE) model—a sophisticated and complex tool of analysis that often appears as a "black box" from which results are difficult to understand.
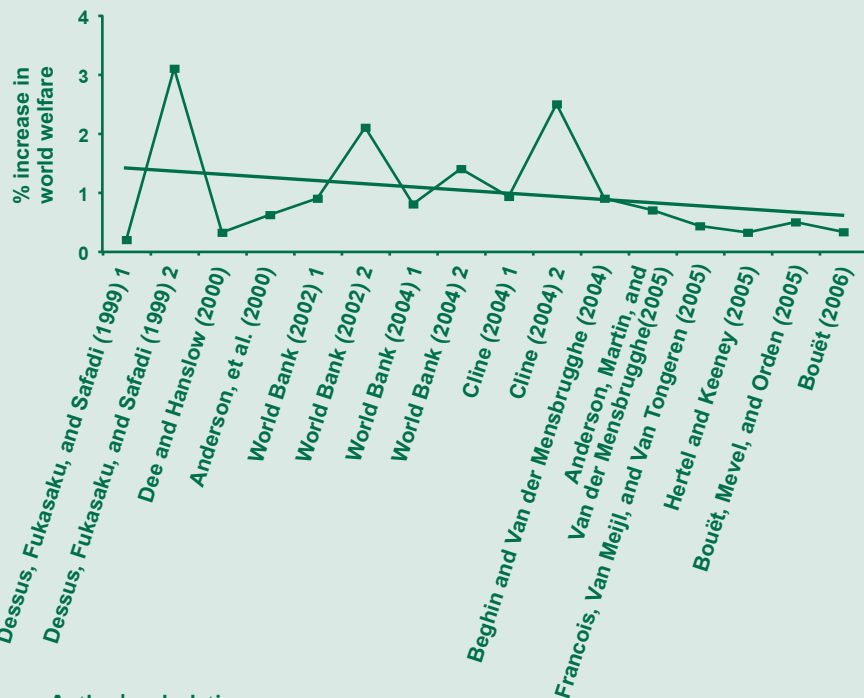
Divergent Assessments

Without being exhaustive, I compiled a survey of 16 assessments, using CGE models, of the global consequences of full trade liberalization from 1999 to 2005. These studies clearly highlight a major divergence. From full trade liberalization, the implied increase in world welfare ranges from 0.3 percent (Hertel and Keeney 2005) to 3.1 percent (Dessus, Fukasaku, and Safadi 1999), results that differ by a factor of more than 10! Estimates of the number of people lifted out of poverty also range widely, from 72 million (Anderson, Martin, and Van der Mensbrugghe 2005) to 440 million (Cline 2004), differing by a factor of 6.

A simulation of full trade liberalization has also been run at IFPRI using the MIRAGE model (a full description of this model is available at www.cepii.fr). It concludes that full trade liberalization would increase world real income by 0.33 percent after 10 years of implementation. This trade reform would be development-friendly: it would lead to a higher rate of growth in middle-income countries (0.4 percent) and in least-developed countries (0.8 percent) than in rich countries (0.3 percent). It would also contribute to poverty alleviation because gains would go to unskilled labor in many developing regions, especially in Latin America and part of Sub-Saharan Africa. Finally, full trade liberal-

ization would reduce world income inequality; the Gini coefficient of world income distribution (taking into account population distribution) would be slightly reduced.

Figure 1—Trade pessimism? Assessments of the impact of full trade liberalization on world welfare
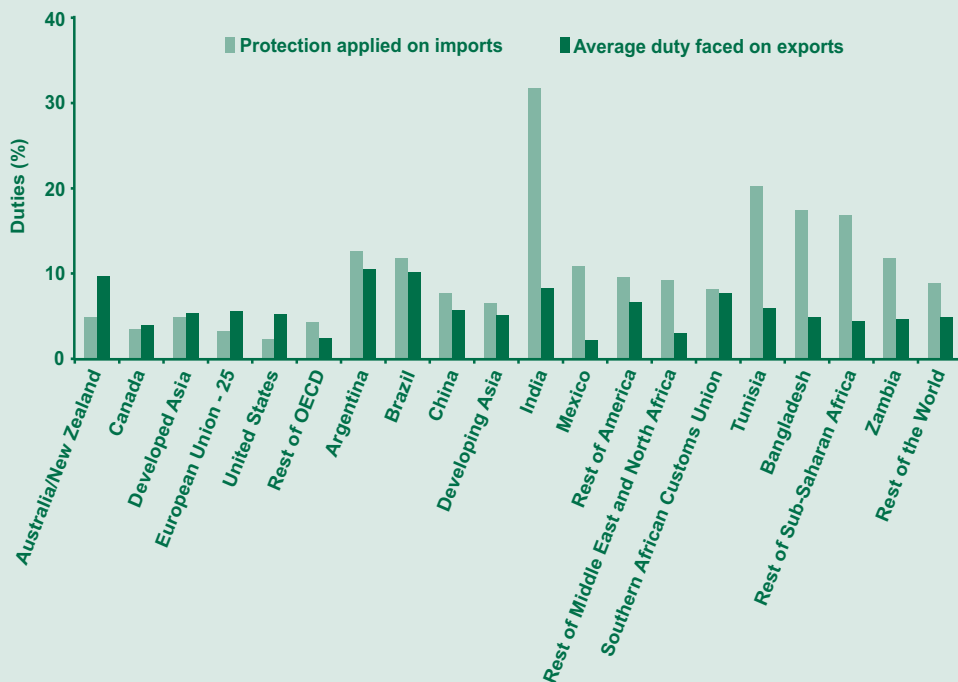
Source: Author's calculation.
Note: Where a study made more than one assessment, each assessment appears separately in the figure, and a "1" or "2" follows the study author and date.

Figure 2—Protection applied and faced by zone, 2005

■ Protection applied on imports   ■ Average duty faced on exports

Source: MacMap and author's calculation.

Nevertheless, some developing countries might be hurt by this world reform. Trade liberalization implies allocation efficiency gains, which are positive in all cases. But liberalization may reduce some countries' terms of trade because soaring world prices of agricultural commodities would hurt net food importers (such as Bangladesh, China, Mexico, and countries in the Middle East and North Africa) or because preferential access to certain markets could be eroded (such as in Bangladesh, Mexico, Tunisia, and countries in Sub-Saharan Africa outside the Southern African Customs Union).

Figure 1 arranges estimations of world benefits from full trade liberalization, as reviewed in this survey, in chronological order by date of study. It shows that studies are finding the expected world welfare gain becoming smaller and smaller (or more precisely, the trend, calculated according to a linear regression, exhibits a decreasing slope). The average estimate of the increase in world welfare falls from 1.7 percent in 1999 to 1.5 percent in 2002, 1.3 percent in 2004, and 0.5 percent in 2005. Is there stronger and stronger trade pessimism among trade economists? If so, is this conclusion justified?

Of course, these results are not totally comparable. Models can be static or dynamic. Dynamic models take into account the increase in supplies of productive factors, and some simulations even include technical progress and related changes in factor productivity. Comparing studies by rate of change (%) in real income is more appropriate than by monetary amount ($). It is even more accurate to compare results derived from the same model: for instance, Hertel and Keeney (2005) can be compared with Anderson et al. (2000), or Anderson, Martin, and Van der Mensbrugghe (2005) can be compared with the World Bank's *Global Economic Prospects* in 2002 and 2004. But the main conclusion is the same: results are divergent, and the general trend is toward greater trade pessimism.

The Origins of Trade Pessimism

Trade pessimism comes first from data on market access. The research community now acknowledges that simulations of full trade liberalization need to completely account for preferential schemes and

regional agreements. These agreements have changed the global picture of trade protection, making average world protection lower than previously thought. When preferences and regional agreements are not accounted for, agriculture has an average world protection rate of 26.8 percent. When these trade regimes are taken into account, it is only 19.1 percent.
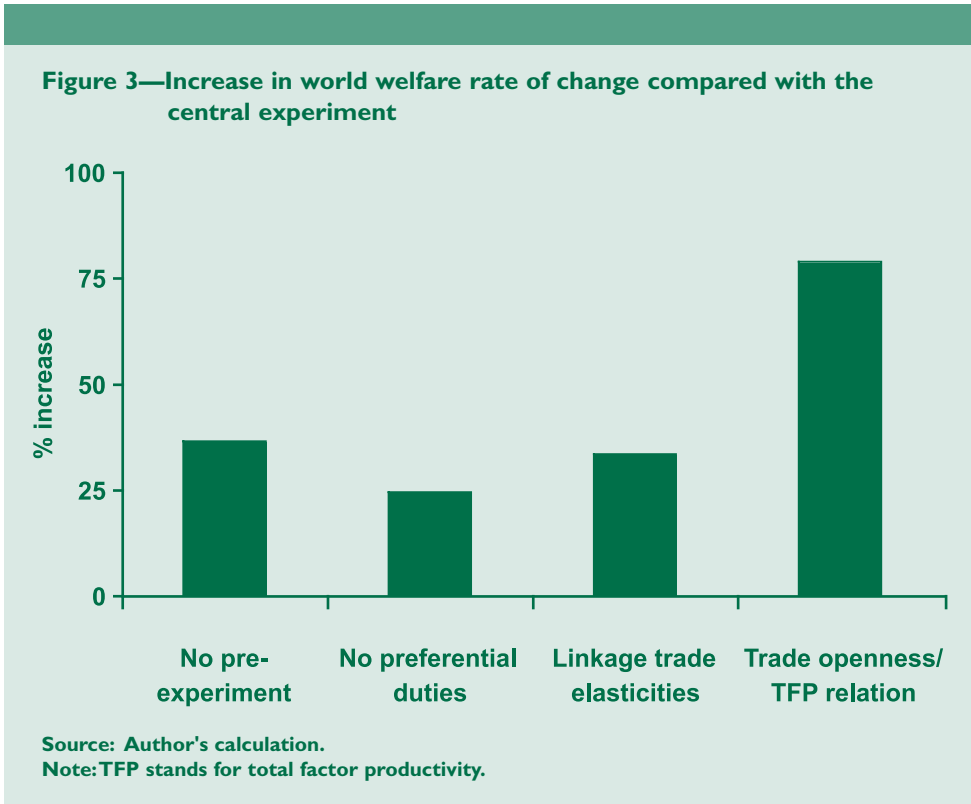
Second, trade policies from industrial countries appear less anti-development than previously believed. In fact, they are not regressive, as once thought, but slightly progressive, in the sense that the poorest countries are facing lower average duties on their exports than richer countries. On average, world protection is 5.6 percent. It is 5.7 percent for developed countries' exports and only 4.9 percent for least-developed countries' exports.

Figure 2 shows the average duty applied on imports and the average duty faced on exports for selected regions of the modeling exercise. Developing zones, like India, Bangladesh, and Sub-Saharan Africa, are frequently protectionist. Global protection in rich countries is lower. Thanks to preferential schemes like Europe's Everything But Arms (EBA) initiative and the U.S. African Growth and Opportunity Act (AGOA), as well as to specialization in products little taxed across the world (like coffee, coca, cotton, and mining), many developing countries face low average tariffs on their exports, while they charge high import duties. Of course, exports from developing countries to rich countries are taxed, but much less than previously expected. Further distortions arise from developing countries' own policies.

The simulation run at IFPRI using the MIRAGE model might also explain divergences observed in the literature. The central experiment, as simulated using the MIRAGE model, concluded that full trade liberalization would result in a 0.33 percent increase in world real income. If the simulation had been based on a database with no preferential schemes, it would have led to a positive result 24 percent higher (see Figure 3).

This modeling exercise includes a pre-experiment. Why? The purpose of this study is to assess the consequences of full trade liberalization when implemented in 2005, but the database on which this model is calibrated represents the world economy in 2001. As a consequence, a pre-experiment is designed to account for the trade reforms that occurred from 2001 to 2005: the end of the Uruguay Round, the accession of China to WTO, and the enforcement of some preferential schemes like EBA and AGOA. If a pre-experiment had not been included, this rate of change would have been augmented by 36 percent: put differently, the trade liberalization that occurred from 2001 to 2005 increases welfare gains by 36 percent.

Another factor that can explain divergences between studies is the Armington elasticity, which measures the degree of substitutability between domestic goods and imported goods. This para-

metrical choice is a key decision for the modeler, for its level determines how much imports will increase when tariffs are eliminated. With higher trade elasticities, trade liberalization creates more trade and accordingly higher real incomes.

The Armington elasticities used in IFPRI's study come from the Global Trade Analysis Project (GTAP) network and are based on recent econometric work. This kind of econometric investigation remains open to methodological criticisms, but the choice is well founded. Using higher trade elasticities (for instance, those used in the World Bank's LINKAGE model instead of GTAP elasticities) would have increased expected benefits from trade liberalization by 33 percent.

Finally, some studies are more optimistic about the impact of trade liberalization because they include a direct and positive relationship between trade openness and total factor productivity. This relationship makes sense: openness may accelerate the transmission of technologies. Empirical studies broadly confirm the existence of this link, but confirming it in this kind of econometric study raises a number of conceptual and empirical difficulties. It is extremely difficult today to measure precisely the intensity of this relationship in all sectors and countries. Furthermore, a direct relationship between trade openness and total factor productivity has not been established on a microeconomic basis. As a result, integrating this relationship automatically amplifies expected benefits but does not show the channels by which trade integration raises factor productivity. The intensity and the coverage of these effects are also questionable. Implementing such a relationship in IFPRI's assessment of trade liberalization gives a 79 percent higher rate of change in world welfare.

Figure 3—Increase in world welfare rate of change compared with the central experiment

Source: Author's calculation.
Note: TFP stands for total factor productivity.

Trade Reform Is Nevertheless Highly Desirable

In a nutshell, there are two main reasons for trade pessimism: the world is more globalized than previously expected, and some economic linkages, especially dynamic ones, remain uncertain. But international trade reform is nevertheless highly desirable.

Even if expected benefits from full trade liberalization have been revised downward, they are still positive. In the case of certain developing countries (such as Bangladesh, China, India, and countries in the Middle East and North Africa), the benefits are high. Furthermore, these assessments do not even include liberalization in services, trade facilitation, or the elimination of some nontariff barriers (technical, sanitary, and phytosanitary norms)—changes that could deliver additional benefits. Finally, countries can improve the results from trade liberalization by simultaneously putting in place domestic reforms: when markets are more efficient and domestic institutions are more stable and predictable, trade reform will be all the more beneficial.

Trade reform must be very ambitious to improve welfare and have a positive impact on development. These studies point to several policy recommendations related to the Doha Agenda:

- Tariff cuts must be large and progressive (higher rates of reduction on higher tariffs). On the tariff issue, a sensitive products clause could have very negative consequences on the extent of liberalization even if it concerns a limited number of products.

- Agriculture is the main area where distortions must be cut.

- Developing countries must liberalize their own economies.

These reforms could drastically change agricultural policies in the countries of the Organisation for Economic Co-operation and Development (OECD) and their level of output, but it is a price worth paying to promote development and reduce poverty.

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Antoine Bouët is a senior research fellow in the Markets, Trade, and Institutions Division of IFPRI. This brief is based on Bouët 2006.