Global Trade Architecture

This research project explored options that could help enhance the development dimension of the World Trade Organization, including complementary measures and “aid for trade.”

The project focused on what could be done to enhance the coherence between the activities of the development community (aid, technical assistance) and the World Trade Organization’s trading system. What is the impact of global trade reform on poverty and what complementary measures are needed to enhance the benefits of trade liberalization? How large is preference erosion? What is the distributional impact of trade reforms?

The project carried out a mix of theoretical analyses of the incentives for multilateral trade cooperation, econometric analyses of product-level trade and trade policy data combined with household level information on consumption, and development of databases on trade policy (antidumping, safeguards) and dispute settlement.

The findings showed that aid for trade interventions to lower trade costs would help poor households to exploit trade opportunities. However global trade liberalization alone would not have large effects on the poor in poor countries where preference erosion is a major issue. The findings also showed that poor countries do not directly benefit from World Trade Organization’s enforcement mechanisms, and that policy space and flexibility mechanisms in the World Trade Organization do not do much to promote better development outcomes.

The main impact of this research program was to bolster the case for “aid for trade” to complement trade negotiations and enhance the benefits of trade reforms for poor countries.

Project findings have been presented at seminars in Arusha, Zanzibar, Dar es Salaam, Hong Kong, Toronto, Oxford, Brussels, Cairo, Cotonou, New Haven, Geneva, London, and Windhoek


Project Code: P091490.
Completion date: March 2007.

Publications


Hoekman, Bernard M. “Trade Liberalization, Trade Agreements
and Economic Development.” In Tain-Jy Chen and Mitsuo Matsushita, eds. Trade Remedies: East Asian Perspectives. Deventer: Kluwer.


**Political Economy of Trade Policy**

This research project aimed at identifying the winners and losers associated with different trade policies or reforms, including agricultural trade liberalization in the World Trade Organization and tariff preferences granted by the United States to Latin American and Sub-Saharan African countries. The research used a range of methodologies, building on partial equilibrium global trade models to identify winners and losers, and the Grossman-Helpman lobbying trade model to incorporate the role of political economy factors.

The findings relating to agricultural trade policy suggested that agricultural exporters should focus their negotiating capital on market access, not subsidies. For developing countries, the greatest barrier to agricultural exports was border protection, addressed in the market access negotiations. The gains from elimination of domestic agricultural subsidies in rich countries were likely to be small. Moreover, liberalization of agricultural trade may have actually hurt many developing and least developed countries (such as Mauritania) because it led to deterioration in their terms of trade.

The results relating to U.S. tariff preferences for poor countries suggested that only a fraction of the gains were captured by developing country exporters; a sometimes significant share was captured by rich country importers. African exporters of apparel captured on average only 30 percent of the tariff rent associated with the tariff preferences under the U.S. African Growth and Opportunity Act. Exporters tended to capture a larger share in the presence of greater competition among importers. Similarly, although lobbying for tariff preferences in the United States may have had important returns for Latin American exporters, it had larger returns for U.S. importers.

**Responsibility:** Development Research Group, Trade Team—Marcelo Olarreaga (molarreaga@worldbank.org), Bernard Hoekman, Hiau Looi Kee, Francis Ng, and Caglar Özden. With Peri Silva, University of Illinois.

**Project Code:** P065308.

**Completion date:** June 2006.
Regional Integration and Development

The purpose of this research was to analyze regional integration and produce a book oriented to policy and lay audiences. This book covers a large number of topics, providing depth in terms of analytical framework, case studies, empirical work, and background data. The project accumulated a large amount of material and expertise, and presented the findings in a consolidated, rigorous, detailed, and accessible manner.

Sound international trade policy is a fundamental requirement for economic development, and sound policy includes maintaining open borders for trade in goods and services and for foreign direct investment. Research has shown that this openness is best achieved by reducing barriers to trade and investment evenhandedly on all partners, that is, by non-preferential trade liberalization. Such liberalization is desirable regardless of whether trading partners reduce their barriers in return; that is, unilateral trade liberalization is desirable. The project recognized, however, that political pressures could push governments toward regionalism and that regional integration agreements might be appropriate solutions to national policy needs.

The project gathered a number of contributions to the literature on the static effects, dynamics, credibility aspects, and politics of regional integration. It consolidated analysis and policy recommendations on regional integration strategy for developing countries.

The project findings were presented at the OECD, Paris, France; CEPII, Paris, France; Regional Integration Network, Montevideo; Central Bank of Chile, Santiago; World Trade Organization, Geneva, Switzerland; meetings with World Bank and European Commission (Trade) economists, Washington, D.C.; meetings with several Secretariats of Sub-Saharan African regional agreements; and the Annual Bank Conference on Development Economics, Dakar (January 2005).

Responsibility: Development Research Group, Trade Team—Maurice Schiff (mschiff@worldbank.org).

Project Code: P079557.
Completion date: June 2005.

Determinants of Trade Policy in Developing Countries

Understanding the economic and political determinants of trade barriers is important for evaluating the impact that removing these barriers would have on trade flows or the costs and benefits of trade barriers. This knowledge is also crucial for developing and designing trade policy reform packages: those that ignore the underlying determinants of trade policy run the risk of being economically inappropriate and infeasible or simply politically unacceptable.

This research project evaluated the relative significance of a variety of factors underlying trade protection in developing countries. The analysis first developed a broad theoretical framework allowing the derivation of predictions relating trade policy to underlying determinants. Then it estimated these relationships to arrive at quantitative estimates of parameters describing the relative magnitude of a variety of factors affecting trade policy in more than 50 developing countries. Finally, to explain cross-country variations in the structure of trade protection, the analysis looked for associations between the factors determining trade policy and a variety of economic and institutional variables in these countries.

The project findings showed that strengthening counter-lobbying by users of intermediate goods and factors was an effective way of promoting trade liberalization in developing countries.

Responsibility: Development Research Group, Trade Team—Marcelo Olarreaga (molarreaga@worldbank.org), Hiau Looi Kee, and Alessandro Nicita. With Kishore Gawande, Texas A&M University; Pravin Krishna, Johns Hopkins University; Olivier Cadot, University of Lausanne; and Jaime de Melo, University of Geneva.

Project Code: P087859.
Completion date: June 2005.
Publications


Estimating Trade Elasticities
Import demand and export supply elasticities are part of the everyday tool kit for trade policy analysis, needed for any exercise estimating the impact of a trade reform on customs, export, and import revenue. These elasticities are also crucial for transforming a nontariff barrier into an ad valorem equivalent of the cost for importers. Some of these barriers (agricultural subsidies and sanitary and phytosanitary standards) have taken on great importance in the Doha agenda, and estimating their costs for developing country exports is essential. But trade economists have lacked a consistent set of up-to-date import demand and export supply elasticities to do so. This research project aimed to fill that gap by providing a consistent set of trade elasticities by year for 117 industrial and developing countries and 4,200 products.

The methodology closely followed the GDP function approach to estimating trade elasticities, treating imports as inputs into domestic production given exogenous world prices, productivity, and endowments. The analysis treated imports as inputs into the GDP function—rather than as final consumption goods, as in most previous literature. The main difference with earlier estimates using the GDP function approach was that import demand elasticities were estimated at the tariff line level rather than at the aggregate or industry level.

The results showed much heterogeneity in import demand and export supply elasticities across products and countries. Elasticities tended to be larger among homogeneous goods. They were also larger in large and poor countries. And they were larger when estimated at very disaggregated levels (tariff line rather than industry level). All these results have implications for the measurement of the welfare cost associated with trade barriers.

The data set of trade elasticities was distributed and discussed in a World Bank course in Washington, D.C., in November 2004 and will be used in a series of World Bank Institute courses in developing countries. The results were used in computing the Overall Trade Restrictiveness Index and in estimating the effect of regional trade agreements in African and Latin American countries.

The results have been presented at workshops and conferences at the World Bank, Brown University, the Woodrow Wilson Center, the Center for Global Development, and the University of West Virginia as well as at the Latin American and Caribbean Economic Association meetings in San José, Costa Rica.

The data set will be posted on the Web at http://www.worldbank.org/research/trade/.

Responsibility: Development Research Group, Trade Team—Marcelo Olarreaga (molarreaga@worldbank.org) and Hiau Looi Kee. With Alessandro Nicita, University of Geneva; Robert Feenstra, University of California; and Eugenia Barconcile, University of Bologna.

Project Code: P082628.

Completion date: January 2005.

Publications


The Impact of Trade Liberalization and International Exposure on Labor and Capital Adjustment Functions in Uruguay

The traditional microeconomic textbook model assumes that the levels of employment and capital used by firms are optimal at any point in time. But since it is costly to adjust employment and capital levels, it is often the case that establishments deviate from what would be optimal in the absence of friction. This research project looked at the way firms react to this shortage to shed light on many issues of microeconomic and macroeconomic employment and capital adjustment. The empirical work was based on a panel of establishments in Uruguay.

The development strategy of the Uruguayan economy
evolved from inward-looking, based on state interventionism, and import substitution protectionist policies toward an outward-looking orientation. The outward orientation relied more on markets as resource allocation mechanisms and exports as the growth engine. This change started in the 1970s, when the first phase of trade reform took place accompanied by a quick financial liberalization process. During the 1990s, a second phase of trade liberalization took place. This phase combined deepened gradual unilateral tariff reduction with the creation of Mercosur, an imperfect customs union between Argentina, Brazil, Paraguay, and Uruguay.

The analysis showed that highly protected sectors adjusted less when creating jobs (reducing labor shortages) compared with sectors with low protection. Highly protected sectors adjusted more easily (than low protection sectors) when destroying jobs (reducing labor surpluses), especially in the case of blue collar labor. This suggests that trade protection may in fact destroy rather than create jobs within industries, as firms in highly protected sectors are more reluctant to hire and more ready to fire than firms in sectors with low protection. The results for capital were qualitatively similar but quantitatively smaller, suggesting that trade protection plays less of a role in explaining adjustment costs for capital. Interestingly, export-oriented sectors had lower adjustment costs for blue collar labor but not for white collar employment or capital. Thus, export-led growth may have been particularly successful in reducing blue collar unemployment.

Responsibility: Development Research Group, Trade Team—Marcelo Olarreaga (molarreaga@worldbank.org), Carlos Casacuberta (Universidad de la Republica, Montevideo) y Nestor Gandelman (Universidad ORT, Montevideo).

Project Code: P094072.
Completion date: June 2006.

Publications

Trade Facilitation
This research project examined the link between trade costs, trade facilitation, and development. It explored issues related to trade facilitation and development, including customs and border controls and impact on trade costs, international security and trade, World Trade Organization negotiations on trade facilitation and developing country interests, standards and regulations affecting trade costs, the role of infrastructure in driving trade transactions costs, and regional agreements on trade facilitation and developing country interests, among others.

The project addressed trade facilitation in a broad context, beyond issues only associated with border controls. The research produced research and policy papers on the above noted topics, as well as new data sets on issues related to trade costs.

The project findings were presented at seminars in Washington, D.C. (May and October 2006); Bonn, Germany (May 2006); Adelaide, Sanctuary Cove, and Canberra, Australia (August 2006); Cincinnati, Ohio (November 2006); New Haven, Connecticut (February 2007); Cairo, Egypt (March 2007); and Berlin, Germany (November 2007).


Project Code: P095689.
Completion date: September 2007.

Publications
Trade Policy Data Support/Dissemination

This research project analyzed trade policy data to support clients’ needs and research applications. It provided empirical evidence on dimension of trade issues facing the international trade community.

The project investigated a wide range of trade questions, including the following: (i) What are the trade patterns and performance/growth in the region as well as in specific countries? (ii) What is the composition of trade and market share for developing countries in world markets? (iii) How is trade integrated in the regions in the content of production sharing in the particular market development? (iv) What are the trade barriers facing in OECD markets and domestic markets in developing countries in the import regimes, including tariff structure, agricultural subsidies, anti-dumping, and non-tariff measures?

The project carried out data collection and analysis, created a trade flow matrix, investigated trade barriers, and developed a model for trade indicator measures. The set of trade indicators and performance variables included indices of trade intensity, intra-industry trade, revealed comparative advantage, export specialization, diversification, trade complementarity, export dynamics, market share changes, and various measures of growth in commodity trade.

The findings included trade performance and policy reforms in the dimension of economic growth and regional integration across regions as well as country specific findings.

And trade newsletter have been accessed and distributed to 15,000 internal and external subscribers, including many individuals, government officials, researchers and agencies in developing countries.

The data manipulation and analytical methodology has been contributed directly to country studies for Albania, Armenia, Bosnia, Bulgaria, Indonesia, Kenya, Latvia, Lesotho, Madagascar, Mali, Nepal, Philippines, Romania, Tanzania, Turkey, East Asia, Sub-Saharan Africa, and Europe and Central Asia, among others.

The project findings were presented at a World Trade Organization conference, Barcelona, Spain (January 2007).

Responsibility: Development Research Group, Trade Team—Bernard Hoekman (bhoekman@worldbank.org) and Francis K. Ng.

Project Code: P083356.

Completion date: June 2007.

Publications


Trade and Production II, 1976-2003

The objective of this research project was to update the Trade and Production 1976-1999 database, which was developed in 2001 and is publicly available at: www.worldbank.org/trade. As with the previous database, an important part of the work consisted in gathering and organizing existing data from different sources. Data sources included trade data from the United Nations COMTRADE, production data from UNIDO, input/output tables from GTAP, tariff data from the World Trade Organization, and UNCTAD’s Trains.

In the 3-digit ISIC database, the project added the following countries: Benin, Brazil, Côte d'Ivoire, Czech Republic, El Salvador, Iceland, Israel, Jamaica, Belgium, Luxembourg, Oman, Russian Federation, Saint Lucia, Senegal, Tunisia, Tanzania, Yugoslavia, and Zimbabwe. In the 4-digit ISIC database, the new countries were: China, Slovenia, Côte d'Ivoire, Fiji, Finland, Honduras, Iceland, Mauritania, Nepal, Nigeria, Saint Lucia, Senegal, Swaziland, Thailand, Turkey, Russian Federation and Sweden. The time coverage was increased by an additional four years (up to 2003 when data were available).

In terms of variables, the main addition was the measurement of export and import price indices. The project constructed Torquist price indices using both import and export unit prices from 6-digit HS data. The index was constructed at the 3 or 4-digit ISIC using the set of 6-digit goods that overlaps in each consecutive year. Construction of import demand elasticities estimated at the industry level also followed this approach.

The database is publicly available at www.worldbank.org/trade (click on “Data and Statistics”).

Responsibility: Development Research Group, Trade Team—Marcelo Olarreaga (molarreaga@worldbank.org), and Alessandro Nicita. With Eliana Rubiano, Fedesarrollo, Colombia; and Hager Ben-Mahmoud.

Project Code: P094071.
Completion date: June 2006.

Publications

Trade Costs, Export Competitiveness, and Development Prospects

This research project set out to develop an outline for new indicators of trade facilitation, building on several databases at the World Bank. The project explored, for example, new methods to leverage a firm-level database on standards from 15 countries and approximately 690 firms. It also updated the trade facilitation data of 75 countries. This involved creating a matrix and outline for possible new indicators that would quantify the costs of delays in transport, customs clearance, and meeting duplicative standards requirements on international trade.

The project combined two lines of exploration: the impact of standards on trade, and the impact of trade facilitation indicators on trade, with a focus on developing countries.

The project findings included empirical evidence that harmonized standards have affected export competitiveness, in particular through Mutual Recognition Agreements. The findings also showed that country and regional gains to trade associated with raising capacity in trade facilitation.


Project Code: P096129.
Completion date: June 2007.

Publications
Chen, Maggie, Ayako Suzuki, and John S. Wilson. “Mutu-
Trade Openness Can Be Good for Growth If Accompanied by Complementary Reforms

Although opening to trade is beneficial to economic growth on average, the aftermath of trade liberalization varies considerably across countries. This research project is studying how the effect of trade openness on economic growth depends on a variety of conditions related to the structure of the economy and its institutions.

The project presents a simple model where the gains in output after trade liberalization depend on the degree of labor market flexibility. The model is a version of the well-known Harris-Todaro model, and labor market distortions are represented by a minimum wage that applies to the formal sector of the economy. Trade restrictions are modeled as a tariff that also applies to formal sector output. In the model, trade protection may serve to ameliorate the problem of underemployment (and underproduction) in the sector affected by labor market distortions. As a consequence, trade liberalization unambiguously increases per capita income only when labor market distortions are sufficiently small.

The project also presents some cross-country empirical evidence on how the growth effect of openness depends on a variety of structural characteristics, including some that may be subject to reform. The analysis interacts the openness measure with proxies for educational investment, financial depth, inflation stabilization, public infrastructure, governance, labor-market flexibility, and ease of firm entry and exit. The objective for using this non-linear specification is to assess whether an increase in openness may have a growth effect that depends on country characteristics that, at least in principle, are subject to improvement through economic and institutional reforms.

The project findings show that the growth impact of openness is positive on average but it changes from negative to positive as progress occurs in complementary areas of reform. Many countries stand to lose from opening their markets if they do not advance significantly regarding labor market flexibility and firm entry/exit flexibility.

Preliminary findings have been presented at the George Washington University, the World Bank, the Central Bank of Chile, the Central Bank of Peru, and the Tenth Conference of Dynamics, Growth, and International Trade.

Responsibility: Development Research Group, Growth and Macroeconomics Team—Norman V. Loayza (nloayza@worldbank.org). With Roberto Chang, Rutgers University, and Linda Kaltani, International Monetary Fund.

Project Code: PO80834.
Completion date: June 2008.

Publication
Chang, Roberto, Linda Kaltani, and Norman Loayza. 2007.

Beyond Openness: Trade and Behind the Border Policy Reforms

The objective of this research project was to provide support for a broader research program analyzing the impacts of non-border policies and institutions on the trade costs and competitiveness of firms.

The analysis focused on the effects of service sector policies and reforms, entry and operating requirements for foreign investors, policies to attract foreign direct investment, determinants of technology diffusion, product standards and related compliance requirements, and intellectual property rights.

The research built on existing methodologies and knowledge, and had complementarities with efforts to measure the state of the investment climate in developing countries. The program included data collection projects on specific policies, empirical and econometric analysis, and sector and country studies.

Because it was a program of research as opposed to a specific project, it supported various sub-projects that generated an array of findings. A general theme that emerged from the research on “behind the border” policies was that these have had important impacts on the competitiveness of firms in developing countries.

The findings showed that policies that foster competition in markets for inputs – technology and producer services – can have significant impacts on growth performance. Similarly, policies to ensure that final product markets are competi-
tive are an important complement to an open trade regime as a source of market discipline, although trade openness tends to have a larger effect than domestic competition policies do. Furthermore, complementary policies are important determinants of the absorption of international technologies that are transferred through trade and investment flows, and the poverty reducing effects of greater trade openness. Behind the border policies can raise trade costs significantly. Therefore, a focus on reducing such costs is a necessary complement to policies to liberalize trade and investment flows in order to increase the beneficial effects of openness on productivity, growth, and poverty reduction.


Project Code: P086752.

Completion date: March 2006.

Publications


Trade Policies in Landlocked Countries

This project has two major aims. First, it will produce a rigorous assessment of the extent to which—and the channels through which—being landlocked impacts the trade performance of Central Asian countries. Second, based on these results, it will identify policy priorities at the country and regional levels, and support ongoing dialogue and operational efforts in this area.

This research will provide a detailed quantitative assessment of the implications of Central Asia’s landlocked status for trade and trade policy. It will estimate the trade effects of being landlocked, having to travel long distances to seaports, and poor infrastructure quality in exporting, importing, and transit countries.

The analysis is based on a large, panel, gravity model of international trade, covering 167 countries over the period 1992-2004. The model is consistent with recent theory, and includes time-variant multilateral resistance terms. The methodology corrects for the possible endogeneity of some of the explanatory variables. Trade data are taken from the UN Comtrade database, and explanatory variables are constructed using the World Development Indicators, CEPII’s Distance Database, and International Financial Statistics.

The poor state of transit country infrastructure penalizes trade in Central Asia by a large amount. Monopoly power over transit corridors also has a significant trade-inhibiting effect. This suggests that diversification of corridors should be a strategic priority for these countries. Beyond natural barriers, trade reform is largely an unfinished agenda in the region: openness, once corrected for structural factors, is actually on the retreat. To reverse this trend, cooperation should focus on the management of transit corridors, given the poor track record of preferential trade liberalization in the region.

Responsibility: Development Research Group, Trade Team—Bernard Hoekman (bhoekman@worldbank.org). With Olivier Cadot, Celine Carrere, and Christopher Grigoriou, all from l’Ecole des Hautes Etudes Commerciales, Switzerland.

Project Code: P099803.
Completion date: June 30, 2008.

Publications

Deep Integration and the Adjustment Process in Mexico

This research project is using a case study approach to explore the effects of membership in NAFTA and GATT on innovation and trade in the Mexican soaps, detergents, and surfactants industry.

Several basic findings have emerged. First, the most fundamental effect of NAFTA and GATT on this industry has been to help induce Wal-Mart to enter Mexico. Once there, Walmex fundamentally changed the retail sector, forcing firms in the soaps, detergents, and surfactants industry to cut their profit margins and/or innovate. Those unable to respond to this new environment tended to lose market share, and in some cases, disappear altogether.

Second, partly in response to Walmex, many Mexican producers have logged impressive efficiency gains. The gains have come from both labor shedding and innovation, which in turn were fueled by innovative input suppliers and multinationals bringing new products and processes from their headquarters to Mexico.

Finally, although Mexican detergent exports have captured an increasing share of the U.S. detergent market over the past decade, Mexican sales in the United States have been inhibited by a combination of excessive shipping delays at the border and artificially high input prices (due to Mexican protection of domestic caustic soda suppliers). Two additional factors have held back sales: lack of brand recognition among non-Latin consumers, and the zero-phosphate laws in many regions of the United States.

Responsibility: Development Research Group, Trade Team—Beata Javorcik (bjavorcik@worldbank.org). With Wolfgang Keller, University of Colorado, Boulder; and James Tybout, Pennsylvania State University.

Project Code: P100168.

Completion date: August 2008.

Publications

The objective of this project was first to establish whether households that produce export crops (like cotton, tea, or coffee) are richer, on average, than households specialized in subsistence agriculture. Second, the project explored one explanation for this finding: marketing costs matter. Indeed, districts with lower marketing costs foster export cropping and this in turn leads to lower poverty.

Farmers, especially the poorest, may not benefit from enhanced export opportunities (like those generated by the Doha Development Agenda) if complementary factors are missing. Based on parametric and non-parametric econometric analysis of household surveys produced by the Uganda Bureau of Statistics, the project identified some of these complementary factors, like transport costs and market access for inputs and outputs.

The findings showed that districts with higher marketing costs tended to be poorer. One reason behind this fact was that when marketing costs were high, export crop participation was low. Because export crops are high-return crops, an improvement in marketing costs led to lower poverty in rural Uganda.

The project contributed to the Uganda Country Economic Memorandum.

Responsibility: Development Research Group, Trade Team—Guido Porto (gporto@worldbank.org), With Jorge Balat, Yale University; Mariano Negri, World Bank; and Ethel Fonseca, Rutgers University.

Project Code: P0100061.

Completion date: June 2007.

Publication

Poverty Alleviation through Reducing Distortions to Agricultural Incentives

Since a large proportion of the world’s poor live in farm households in the poorest countries, improved understanding of the effects of government distortions to agricultural incentives would be useful for more-informed policy debate. This research project seeks to increase understanding of the ways in which trade-related policies distort the prices faced by farmers in poor countries.

The project studies are using computable general equilibrium modeling and micro simulation to estimate the distortions to farmer and consumer food prices. The project is collecting data and analyzing around two-thirds of farm products in more than 50 developing countries (nearly half of them low-income countries) plus 20 industrial countries. Together these countries account for about 90 percent of global agriculture. The data cover up to 50 years.

From the project findings so far, agricultural protection rates have been rising with per capita income; those rates are higher the lower the agricultural comparative advantage of a country. Anti-agricultural bias on average has almost disappeared in East Asia, at least. However, the anti-trade bias in agricultural policies remains, and the standard deviation is still very high, suggesting that much would be gained in improved resource allocation and greater agricultural productivity growth if further reforms were to follow.

The first stage of the project is generating several papers and a price distortions database. These will be key inputs in the second stage, which will analyze in much more depth, including through cross-country comparisons, the economic effects of alternative policies and the political economy reasons behind those policy choices. Lessons and policy implications from the analyses will be drawn out for various types of International Development Association countries.

The methodology has been placed on the project’s Web site (www.worldbank.org/agdistortions). Project results have been presented at the Global Trade Analysis Project Conference, Purdue University, West Lafayette, IN (June 2007).

Responsibility: Development Research Group, Trade Team—Kym Anderson (kanderson@worldbank.org) and Will Martin.

Project Code: P093895.

Completion date: June 2008.
Reducing Distortions to Agricultural Incentives

This project investigated the ways in which trade-related policies have distorted the prices faced by farmers in Uganda and Tanzania. Because a large proportion of the poor reside in farm households in these countries, improved understanding of the effects of distortions on agricultural incentives would lead to a more-informed policy debate.

The research built on an earlier study using a much larger sample of countries, more-sophisticated computable general equilibrium (CGE) modeling and micro simulation to estimate effects, and more-advanced political economy theory. The methodology was placed on the project’s Web site (www.worldbank.org/agdistortions) so as to attract external comments. Data on prices and quantities were gathered from official national sources by each country’s consultants.

The anti-agriculture bias on average has been reduced in those countries; the anti-trade bias in agricultural policies remains. The standard deviation is still very high, suggesting improved resource allocation and higher agricultural productivity growth could result if further reforms were to follow.

The findings were presented at the Africa Economics Conference, Oxford University (March 2007). The project outputs include two country case studies that analyze the changing extent, effects, and political economy reasons behind distortions in agricultural incentives faced by farmers. Specifically, the case studies estimate the distortions in farm and consumer food prices for around two-thirds of farm products in those developing countries. The working papers are available on the project’s Web site and will be published in a book. These and similar papers for other countries, together with the price distortions database generated as part of the first stage of the project, will be key inputs into stage 2, which will provide a deeper analysis and cross-country comparisons.

Responsibility: Development Research Group, Trade Team—Kym Anderson (kanderson@worldbank.org). With Alan Matthews, Trinity College; and Oliver Morrissey, University of Nottingham.

Project Code: P095611, PO100301.

Completion date: June 2007.

Anti-dumping and Safeguard Actions by Developing Countries

Provisions allowing import restrictions such as safeguard and anti-dumping actions were included in the General Agreement on Tariffs and Trade to help preserve the momentum toward liberalization created by agreed tariff reductions. The principal rationale for these mechanisms is that they provide an escape valve that a government can use to accommodate and at the same time isolate powerful domestic interests that might otherwise set back an entire liberalization program. In recent decades, developing countries have significantly reduced the number and intensity of trade restrictions they impose, yet since the Uruguay Round they have increasingly taken safeguard and anti-dumping actions to restrict imports. This juxtaposition of facts raises an obvious question: Is increasing use of these instruments by developing countries and their continuing use by industrial countries part of a momentum toward liberalization or part of a reversal toward protection?

This research project aimed to identify the problems that developing countries have attempted to manage with safeguard and anti-dumping actions and the resources that their policy managers have available to execute their responsibilities. The focus was on learning how policy managers have incorporated these instruments into their systems for managing trade policy in ways that have been supportive of a country’s overall liberalization objectives rather than a reversal of them.

The research examined how the use of these instruments has contributed to maintaining a dynamic toward openness to international trade. Where the instruments have caused problems, it looked at how developing country policy managers have dealt with the problems. It also investigated where the instruments have been overtly used for protection or for strengthening monopolistic positions in the domestic economy.

The research was carried out by developing country analysts working with high-level policy managers in Argentina, Brazil, Chile, Costa Rica, Mexico, and Peru to help them clarify and systematize their experiences. A major objective was to bring policy managers who had documented and systematized their experiences in contact with policy managers in other countries who may have been undertaking similar institutional reforms.

Preliminary results were presented at a workshop for African trade officials in Stellenbosch, South Africa (October 2004).

Responsibility: Development Research Group, Trade Team—Beata Javorcik (bjavorcik@worldbank.org). With Joseph M. Finger and Jorge G. Gonzalez, Trinity University, San Antonio, Texas; Elias A. Baracat, Universidad Nacional de Córdoba, Argentina; Julio Berlinski, Universidad Di Tella, Argentina; Chad P. Bown, Brandeis University; Honorio Kume, Instituto de Pesquisa Econômica Aplicada, Brazil; Ricardo Monge-Gonzalez, Costa Rican High-Technology Advisory...
Committee Foundation; Julio Nogues, Universidad Di Tel-la and Universidad del CEMA, Argentina; Mauricio Reina, Foundation for Higher Education and Development, Colombia; Juan S. Saez; Pablo A. Sued, Centro de Estudios de Estado y Sociedad; and Richard Webb-Malaga, Webb and Associates.

Project Code: P085090.
Completion date: December 2004.

Publications

Safeguards and Antidumping in Latin American Trade Liberalization
This project disseminated the findings of research publications. It analyzed country case studies and shared country experiences in managing instruments of contingent protection to support overall trade liberalization.

The project assembled the first set of detailed case studies of developing country experience; existing literature focused only on OECD nations.

The results illustrated that judicious use of anti-dumping and safeguards could be helpful in maintaining an open trade regime. The findings also showed that there was substantial value in World Trade Organization consistent design of instruments as a mechanism to control pressure for protection, but that this in itself was not sufficient to ensure beneficial outcomes. The study pointed to the importance of strong leadership and national management of the process that considers the national interest.

The project findings were presented at a workshop in Geneva (2006).
Responsibility: Development Research Group, Trade Team—Bernard Hoekman (bhoekman@worldbank.org). With J. Michael Finger and Julio Nogues.
Project Code: P099807.
Completion date: June 2006.

Publication

Economic Analysis of Regional Poverty Issues Using Computable General Equilibrium Modeling
The objective of this project in fiscal year 2007 was to add Georgia, Armenia, and Azerbaijan to the Global Trade Analysis Project (GTAP) database. Adding these countries to the GTAP database enabled researchers around the world to easily conduct trade policy analysis, including regional arrangement analysis on these countries.

The methodology of the project was to start with whatever input-output table was available. That was insufficiently disaggregated for the GTAP database. The project then gathered data on output or value added, exports and imports, and final demand for additional sectors from other sources. It then imposed intermediate demand requirements based on the most appropriate representative country input-output table for the sectors that were disaggregated. The GTAP Web site provides details of what is required for an acceptable submission that would allow GTAP to add the country to the database.

Responsibility: Development Research Group, Trade Team—Kym Anderson (Kanderson@worldbank.org). With Jesper Jensen, Teca Training.
Project Code: P095120.
Completion date: June 2008.

Evasion of Import Tariffs
An emerging literature has demonstrated some unique characteristics of trade in differentiated products. This project contributed to the literature by postulating that differentiated products may be subject to greater tariff evasion due to the difficulties associated with assessing their quality and price.

Using product-level data on trade between Germany and ten Eastern European countries during 1992-2003, the study showed that the trade gap, defined as the discrepancy between the value of exports reported by Germany and the value of imports from Germany reported by the importing country, was positively related to the level of tariff in eight of the ten countries. Further, the results showed that the responsiveness of the trade gap to the tariff level was greater for differentiated products than for homogenous goods. A 1-percentage-point increase in the tariff rate was associated with a 0.6 percent increase in the trade gap in the case of homogenous goods and a 2.1 percent increase in the case of differentiated products. Finally, the data indicated that the greater tariff evasion observed for differentiated products tended to take place through misrepresentation of import prices.
Export Diversification in Egypt, Jordan, Lebanon, Tunisia and Morocco

The export structure of countries in the Middle East and North Africa is highly concentrated. Recent empirical research shows that the characteristics of a country’s export structure have significant implications for export and economic growth. The objectives of this research project were to provide an in-depth analysis of the process of export diversification in these economies, to discuss the main constraints and determinants of export diversification, and to provide a policy framework as well as suggestions for how export promotion policies could be improved to embrace the objective of diversification. The methodology combined statistical and descriptive and empirical analysis, as well as qualitative analysis based on collected international best practice and 23 case studies of the emergence of new export activities.

There were three main findings. First, the export structure in the countries was highly concentrated relative to their income level and compared with other emerging economies. Second, the primary prerequisite for export diversification was an economic environment favorable to trade. And third, the emergence of new products and services was primarily triggered by individual entrepreneurs who had a more modern outlook on business and management practices and acted on information they proactively acquired, mostly abroad. Successful entrepreneurs overcame uncertainties through partnerships with other firms, subsidies to input suppliers, or public or private support.

The project showed that the diffusion process in countries in the Middle East and North Africa was fairly fragmented. Support through private intermediaries proved more effective in both search and diffusion than public support.

The project findings were used to propose a new policy framework that integrates elements that give more weight to reducing the costs of entrepreneurial experimentation.


Project Code: P082617.

Completion date: June 2006.

Publication

Measuring Real GDP and Trade Distortions

Cross-country comparisons of poverty reduction and economic growth are a key part of the mandate of World Bank operations and a major research topic in the literature. However, satisfactory measures of real GDP, which form the foundation for the measurement of poverty reduction and economic growth, have not yet been developed. The most commonly used measures—from the UN National Accounts, the World Development Indicators, and the Penn World Table—lack any theoretical justification, especially when they are used to compare across countries.

The first objective of this research project was to develop a theoretically sound measure of real GDP that could be consistently compared across countries and across years. By distinguishing between real GDP and real output, with the former measuring the general well-being of a country and the latter measuring the overall economic capability of the country, the project measured the extent of distortions in production and consumption due to various trade policies.

The project findings will be used to develop appropriate methodology in terms of cross-country collection of GDP measures corrected for purchasing power parity, and underly ing trade restrictiveness.

Responsibility: Development Research Group, Trade Team—Hiau Looi Kee (hlkee@worldbank.org). With Robert Feenstra, University of California at Davis, and Peter Neary, University College Dublin.

Project Code: P094655.
Completion date: June 2007.

Road Infrastructure in Europe and Central Asia: Does Network Quality Affect Trade?

This research project centered on the question of how much difference an integrated, functional road network would make for development and trade prospects in the Europe and Central Asia region. The project analyzed potential benefits of new road networks for landlocked developing countries in the region and poverty reduction prospects through trade expansion with upgraded roads.

The analysis included estimations of a gravity model for Central Asia, using inter-country trade data, road transport quality indicators, actual road distances, and estimates of economic scale for trading partners. The results provided an estimate of trade flows in the inter-city network and simulation of the impact of a major improvement in road network quality. The project explored the implications of the results for trade expansion at the regional, country, and city levels. The project also estimated the costs of network improvement, using a World Bank database of upgrading and maintenance costs for Central Asian road projects.

The project findings led to suggestions on approaches for administering and maintaining an upgraded road network in the region. Furthermore, the project highlighted the role of regional cooperation and trade arrangements in the region in fostering expanded road networks to increase trade in the region.

The project generated a new database of minimum distance road routes connecting 138 cities in 27 countries across Europe and Central Asia. The project findings showed that improved road network quality was robustly associated with greater intraregional trade flows. Gravity model simulations suggested that an ambitious but feasible road upgrade could increase trade by 50 percent over baseline, exceeding the expected gains from tariff reductions or trade facilitation programs of comparable ambition. Cross-country spillovers due to overland transit were important: total intraregional trade could be increased by 30 percent by upgrading roads in just three countries—Albania, Hungary, and Romania.


Project Code: P101457.
Completion date: June 2007.

Publications


Trade and Capacity Building in Russian Speaking Countries

Good teaching materials in Russian on the economic development aspects of trade policy and World Trade Organization accession are seriously lacking. To address this problem, this research project supported the production of course materi-
als on reform of both international trade policy and foreign direct investment. The World Bank Institute has developed – and continues to further develop – these materials, which are available on a bilingual Web site.

One set of materials came from the World Bank Institute course entitled “Trade Policy and WTO Accession for Development in Russia and the CIS.” This two-week course was delivered in March-April 2005 and March 2006 in Moscow. Although the development of effective trade policy institutions is acknowledged as crucial to development, how to develop good trade policy institutions is not often discussed. To begin to address this problem, the project supported a seminar at the headquarters of the European Bank for Reconstruction and Development, London (October 2006). The seminar was called “Building Institutions for Evidence Based Trade Policy Decision-Making: International Experience and Russian Strategy.”

**Responsibility:** Development Research Group, Trade Team—David Tarr (dtarr@worldbank.org). With Georgio Barba Navaretii, Università degli Studi di Milano; Junichi Goto, Kobe University; Ksenia Yudaeva, Center for Strategic Research; and Natalya Volekhkova, Center for Economic and Financial Research.

**References:** P086587.

**Closing date:** June 2007.

**Publication**


**Transnational Production Networks in East Asia and the Pacific**

The goal of this research project was to provide a quantitative, empirical assessment of the impact of different trade policy and trade facilitation measures on the growth of transnational production networks involving developing countries. A complementary aim was to compare the sensitivity of trade flows within networks to each of the different interventions.

Previous research on transnational production networks has largely focused on description, in particular identification of trade in parts and components—as a proxy for network trade—using standard international trade classifications. The approach in this project focused on the identification of policy impacts on such trade flows, both in absolute and relative terms. Although recent work on trade facilitation has analyzed policy impacts on aggregate or sector trade flows, it has not looked at the potential differences in impact as between final and intermediate goods.

The analysis was based on a standard gravity model of international trade. The model was estimated using bilateral trade data from the Comtrade database (accessed via World Integrated Trade Solution software). Trade in parts and components versus trade in final goods was identified using the SITC Revision 2 classification.

Preliminary results highlight the importance of parts and components trade in the East Asia and Pacific region, underscoring the rapid growth in transnational production networks in sectors such as electronic goods. The results also show that trade in parts and components (a proxy for network trade) is responsive to trade policy measures such as tariffs, as well as broader trade facilitation measures such as export/import costs, transport costs, contract enforceability, and services sector infrastructure. However, additional work is required to ensure the robustness of these results.

Preliminary project results have been presented at the European Trade Study Group meetings in Athens, Greece (September 2007).

**Responsibility:** Development Research Group, Trade Team—John S. Wilson (jswilson@worldbank.org). With Ben Shepherd, Matthias Helble, and Witold Czubala.

**Project Code:** P104431.

**Completion date:** November 2007.

**Publication**


**Services Analysis, Modeling and Capacity-Building**

There is a widespread perception among many observers that the response to merchandise trade reform has been disappointing in many low-income countries. In part this may be because more needs to be done to reform policies at the national, regional, and multilateral levels.

This research project is analyzing the impacts of service sector liberalization and the role of different modes of supply of services (especially foreign direct investment and cross-border trade); the interactions between service sector reforms that lower services costs and trade in goods (export competitiveness, patterns of trade); and the role of services in adjusting to liberalization. The project is also constructing better measures of the welfare consequences of liberalization of trade in goods and services.

The project is developing a computable general equilibrium model that incorporates recent theoretical develop-
ments such as firm heterogeneity and that includes services and foreign direct investment, thereby allowing assessment of the impacts of reforms in these areas. The project includes data collection on services policies in selected countries, and estimation of the ad valorem equivalents of barriers in the business services sectors.

The project is focused on Africa, developing the model and data collection for Kenya and Tanzania or Senegal.

**Responsibility:** Development Research Group, Trade Team—Guido Porto (gporto@worldbank.org). With Thomas Rutherford, ETH, Zurich; Edward Balestreri, Colorado School of Mines; Jesper Jensen, Teca Training; Borislava Mircheva, American University; and David Tarr.

**Project Code:** P0105190.

**Completion date:** June 2009.

### Services Trade Policy

This research project addressed a range of questions on improving services trade policy. It included a study on India that found that the more liberalized services sectors had faster growth in both output and employment than other sectors. Studies on the Czech Republic and Sub-Saharan Africa demonstrated that services reform contributed to the increased productivity of manufacturing firms. Research on telecommunications reform in developing countries showed that both the combination and the sequence of policy reforms matter: a comprehensive reform program, involving privatization and competition and the support of an independent regulator, produced the largest gains, and performance was better if competition was introduced at the same time as (or before) privatization.

A study on Zambia found that even in a least developed country, there are substantial benefits from reform of telecommunications, transport, financial, and tourism services. But past liberalization in weak and inappropriate regulatory contexts led to perverse results and undermined the case for further reform. Moreover, the failure to design and implement efficient policies to widen access to services could lead to a reversion to state capitalism and the use of inefficient instruments of “empowerment.” Studies on temporary migration demonstrated the benefits from, and constraints to, international cooperation on migration.

The findings helped build the case for policy reform in services (including trade liberalization), demonstrated the importance of appropriate combinations and sequences of policy change, and aided in the design of better international agreements on services.

In each study, the analytic approaches and data sources were determined by the policy research question and thus have ranged from theoretical analysis motivated by stylized facts, to econometric analysis using panel data, to analysis of World Trade Organization rules and institutions using data on access commitments by countries.

Much of the research has been used in the World Bank Institute course on Services Trade and International Negotiations, first delivered in Washington, D.C. (April 2004), and planned for publication by Oxford University Press as the Handbook of Services Trade.

**Responsibility:** Development Research Group, Trade Team—Aaditya Mattoo (amattoo@worldbank.org). With Mohammad Amin, Jens Arnold, and Lucy Payton.

**Project Code:** P083482.

**Completion date:** March 2007.

### Publications


Standards, Regulatory Reform, and Trade Facilitation

The relationship between technical regulations, voluntary standards, and trade is at the forefront of research and policy discussions. Issues such as the appropriate levels of protection for food safety and costs of testing and certification regulations are of critical importance to developing countries. This is especially true as tariffs decline and as developing countries seek to strengthen industrial performance, increase agricultural production, and expand export opportunities.

This research project addressed questions as to how standards and technical regulations could affect the exports of developing countries, and how multilateral policies should be formulated in reference to the international standards.

The project compiled existing data and new data sets, including the World Bank Technical Barriers to Trade data on standards and technical regulations. The survey was completed in 15 countries. It included questions on cost structures, production and exports, impediments to domestic sales and exports, and whether operations conformed to regulations. As part of this work, more than 200 tables of statistical description were generated. The project provided a detailed description of the contents of the database, by variable, as well as an outline of possible empirical approaches to deploying the data in Bank analysis. The data are available at: http://econ.worldbank.org/projects/trade_costs.

Responsibility: Development Research Group, Trade Team—John S. Wilson (jswilson@worldbank.org), Kym Anderson, and Tsunehiro Otsuki. With Keith Maskus, University of Colorado; Maggie Chen, University of Colorado; Jeff Randall; and Hager Ben-Mahmoud.

Project Code: P083360 (extension of P070569).

Completion date: March 2007.
Publications


World Trade Organization Agricultural Trade Reforms and Their Impact on Poverty: Consumption and Income Effects

The objective of this research project was to better understand how the World Trade Organization Doha Round negotiations, particularly in terms of agricultural reforms, have affected poor households in developing countries.

The project showed that it is important to model, and to estimate with household data, how consumers and producers will react to the price changes eventually brought about by WTO negotiations. In particular, the research showed that the concept that net consumers would benefit from price declines while net producers would benefit from price increases may be misleading when households are allowed to respond to new incentives. Consumers would adjust consumption and producers would adjust production and/or labor when prices changed, so that the net position of a household would become endogenous to the WTO scenarios being considered.

The research also showed that complementary policies matter in the relationship between WTO trade reforms and poverty. Although there may be gains from WTO agricultural trade, these gains can be greatly enhanced by domestic complementary reforms that allow rural households to take full advantage of the new trading opportunities.

A key output of the project was the collection of over 100 household surveys in all regions of the world. The data processing led to three sets of usable databases: i) individual datasets (Mexico, Zambia, and Uganda); ii) regional datasets (Latin America); and iii) world datasets (30 countries).

The project findings were presented at the Latin America and Caribbean Economic Association meetings in Costa Rica (2004), and in Paris (2005).

Responsibility: Development Research Group, Trade—Guido Porto (gporto@worldbank.org).

Project Code: P089214.

Completion date: June 2005.

Publications


Agricultural and Non-Agricultural Trade Reform under the Doha Development Agenda

Agriculture emerged as the key issue in World Trade Organization negotiations following the Cancún ministerial meeting, particularly in the negotiations leading up to the framework agreement reached on August 1, 2004. This framework changed the landscape by introducing such key concepts as the tiered formula and formalizing agreement on the inclusion of sensitive and special products. This framework was extended slightly at the Hong Kong Ministerial, but huge differences remain on issues such as domestic support in the industrial countries; the nature of the tariff-cutting formula; tariff-rate-quota expansion; and the sensitive and special product exceptions sought by industrial and developing countries.
This research project draws heavily on the MacMaps data set developed by the Centre d’Études Prospectives et d’Informations Internationales (CEPII) and the International Trade Centre, and the database on tariff bindings developed by CEPII. These databases include the all-important specific tariffs in agriculture and the impacts of tariff preferences. The study conducts tariff analyses using data at a fine level of disaggregation and only then aggregates up to changes that can be input into quantitative models. The negotiations on agricultural and non-agricultural trade liberalization have become strongly intertwined, as they are at the analytical level, so the project will cover both aspects of the negotiations.

The detailed analyses undertaken in this project, reported in a widely cited book and a large number of journal articles and books, were widely disseminated through the Web, publications, and presentations by team members on all continents. The work appears to have been very influential in the negotiations.

Responsibility: Development Research Group, Trade Team—Will Martin (wmartin1@worldbank.org), Kym Anderson, and Bernard Hoekman; Development Prospects Group—Dominique van der Mensbrugghe; and Agriculture and Rural Development Department. With Eugenio Diaz-Bonilla; Lionel Fontagne, Sebastien Jean and David Laborde, CEPII, Development Department. With Harry de Gorter, Cornell University; Andre Nassar, ICONE, Brazil; Thomas Hertel and Roman Keeney, Purdue University; Hans Jensen; and David Orden, International Food Policy Research Institute.

Project Code: P083210.

Completion date: March 2009.

Publications


Agricultural WTO Trade Reforms and Their Impact on Poverty: Consumption and Income Effects

The objective of this project was to better understand how the World Trade Organization’s Doha Round negotiations, particularly in terms of agricultural reforms, have affected poor households in developing countries. The outputs of the project could be used to help inform global negotiations on agricultural trade reforms, and to help developing countries design agricultural reform programs in a way that might mitigate negative effects on the poor while boosting positive effects. The research highlights the importance of stakeholders investigating carefully how consumers and producers will respond to Doha and develop feasible, complementary policies related to credit, finance, infrastructure, knowledge, and health.

The project used household data to estimate how consumers and producers would react to price changes eventually brought about by WTO negotiations. In particular, the research showed that the concept that net consumers would benefit from price declines while net producers would benefit from price increases could be misleading when households are allowed to respond to new incentives. This is because consumers will adjust consumption and producers would adjust production and/or labor if prices changed. As a result, the net position of a household was endogenous to the WTO scenarios considered.

The research also showed that complementary policies matter in the relationship between WTO trade reforms and poverty. The gains from WTO agricultural trade could be greatly enhanced by domestic complementary reforms that allow rural households to take full advantage of the new trading opportunities.

The ideas explored in this project were part of the core issues discussed in the sixth annual meeting of the Global Development Network (GDN). The main objective of the meeting was to examine the interdependence between policies of developed & developing countries, with a focus on poverty. Outputs from this KCP project were a critical component of one of the main sessions of the meeting, which the team helped organize. Findings were presented in the LACEA meetings of Costa Rica, 2004, and Paris, 2005. Academic seminars were also delivered. The ideas born out of this project are increasingly being used in World Bank reports, mainly in Zambia, Uganda, and Rwanda Diagnostic Trade Integration Study and Malawi Poverty Assessment.

A key output of this project is the search of data and documentation: the team gathered more than 100 household surveys in all regions of the world. The data processing led to three sets of usable databases: i) individual datasets (Mexico, Zambia, Uganda); ii) regional datasets (Latin America); iii) World datasets (60 surveys from 30 countries). Several papers and other outputs have been produced out of these datasets.

Responsibility: Development Research Group, Trade, Guido Porto gporto@worldbank.org.

Project Code: P089214.

Completion date: June 2005.

Publications
Developing Countries and World Trade Organization Dispute Settlement

This research project constructed a database of World Trade Organization disputes in order to assess the functioning of the World Trade Organization’s dispute settlement mechanism. The project mapped the World Trade Organization documents into a database that was complemented by economic information (product codes, etc.).

The data are publicly available; a descriptive paper documents what is in the database and the pattern of cases. “The WTO Dispute Settlement Data Set” is posted at Trade program of the Research Website.

Responsibility: Development Research Group, Trade Team—Bernard Hoekman (bhoekman@worldbank.org). With Petros Mavroidis and Henrik Horn.

Project Code: P086834.
Completion date: June 2005.

Publications


Doha and Poverty in Low-Income Countries

The objective of this research project was to better understand the impact of the Doha Round on poverty in the poorest countries. The project complemented the research project on Agricultural Trade Reforms and Their Impact on Rural Poverty (PO02134).

The results highlighted the importance of agricultural reforms for rural poverty, suggesting that the Doha Round should focus on reducing tariff and non-tariff barriers (for example, sanitary and phytosanitary measures), rather than providing agricultural domestic support, if it wants to achieve its development objectives. The results also stressed the importance of complementary reforms for the population in low-income countries.

Responsibility: Development Research Group, Trade Team—Marcelo Olarreaga (molarreaga@worldbank.org), Bernard Hoekman, Hiau Looi Kee, and Francis Ng.

Project Code: PO94653.
Completion date: June 2006.

Publications


Doha, Trade and Poverty

The Doha Development Agenda is an ambitious attempt to use trade to promote development, but little has been done to ensure that the negotiations will actually promote development. The objective of this research project was to help identify ways in which the negotiations might be given a stronger orientation on development and poverty reduction.

The study analyzed the consequences of changes in tariffs and other policy instruments at a very detailed level. The project built these into estimates of the reforms at a more aggregated level that could be analyzed using computable gen-
eral equilibrium models, which were then used to analyze the effects on economies. Finally, in order to form assessments of poverty impacts, the project evaluated the impacts of price and other changes on individual households. Subsequent research building on these foundations has allowed investigation of the distributional consequences of reforms.

Another element of the project focused on endogenous productivity effects. The researchers developed a computable general equilibrium comparative static model of the Russian economy. The goal was to assess the impact of accession to the World Trade Organization on income distribution and the poor.

A key finding was that greater agricultural liberalization in developing countries creates larger reductions in poverty compared with policies that focus on defensive approaches. The project also highlighted the country-specific nature of the impacts on poverty in individual countries. This provided a basis for recommendations on ways to reduce poverty that would complement the impacts of trade reform. Recent work on services trade liberalization points to large potential reductions in poverty from liberalization in key service sectors.

The results of the research undertaken for this project were extensively disseminated in developed and developing countries, and helped provide key decision-makers with more information and a more structured approach to analysis of these key problems. The Hertel and Winters volume received the annual prize from the American Agricultural Economics Association for Quality of Communication in 2007.


Project Code: P089139.
Completion date: June 2007.

Publications


Effects for the Russian Federation of Accession to the World Trade Organization

Accession to the World Trade Organization (WTO) could have significant economic effects for the Russian Federation. To help Russia recognize where reform and WTO commitments can be useful to its growth, development, and poverty reduction, this study estimated potential effects of WTO accession on the Russian economy.

The work proceeded along several paths. One major avenue of research was the development of a computable general equilibrium model built on household expenditure surveys, input-output tables, regional trade flow matrices, and estimates of ad valorem equivalents of non-tariff barriers to foreign direct investment. The analysis assumed that WTO accession encompasses improved market access and reductions in tariffs and barriers against multinational service providers in Russia. The model incorporated productivity effects in both goods and services markets endogenously, through a Dixit-Stiglitz framework. The ad valorem equivalents of barriers to foreign direct investment were estimated based on detailed questionnaires completed by Russian research institutes. This methodology was developed initially for Rus-
Estimates suggest that Russia would gain about 7.2 percent of the value of Russian consumption in the medium run from WTO accession and up to 24 percent in the long run. The largest gains would come from reducing barriers against multinational service providers. Piecemeal and systematic sensitivity analysis shows that the results are robust.

An analysis of household and poverty effects incorporated all 55,000 households from the Russian Household Budget Survey as real households in the model, using a new algorithm developed to solve general equilibrium models with a large number of agents. The results show that in the medium term virtually all households would receive income gains from WTO accession. In the short term, however, many households might lose because of the costs of transition. The estimates are decisively affected by the lowering of barriers against foreign direct investment in business services and endogenous productivity effects in business goods and services.

The findings have been disseminated in Russia through the World Bank’s Russia Economic Report, an op ed in the Russian newspaper Russiskaya Gazeta, an article in the magazine of the American Chamber of Commerce in Russia, and through participation in forums organized by the Ministry of Economic Development and Trade and the International Labor Organization to discuss the modeling results on the effect of WTO accession. The results have been disseminated through a World Bank Institute course on trade policy and WTO accession for development in Russia and the Commonwealth of Independent States, a “training of trainers” course delivered in March-April 2005 and March 2006 in Moscow, and in Central Asia in April 2006.

An important paper in the policy discussions, which helped to resolve a major dispute in the accession negotiations, was “The Merits of Dual Pricing of Natural Gas,” by David Tarr and Peter Thomson. In addition, the first systematic analysis of the Russian tariff structure, taking into account the ad valorem equivalents of the specific tariffs, was completed by Shepotylo and Tarr.

A Russian-English website has been developed to disseminate this and related work (http://ww-w.worldbank.org/trade/russia-wto).

Responsibility: Development Research Group, Trade Team David Tarr (dtarr@worldbank.org). With Thomas Rutherford, University of Colorado; Oleksandr Shepotylo, University of Maryland; and Jesper Jensen of Teca Training.

Project Code: P077509.

Completion date: June 2005.

Implementation of Obligations under World Trade Organization Agreements

In international trade negotiations, governments have increasingly committed themselves to making substantial changes in domestic regulations. These obligations require developing countries to make significant investments in administrative capacity and market-supporting institutions.

This project assessed the costs and benefits of implementing the domestic regulatory reforms mandated by international trade agreements. The project consisted of a series of country case studies to document the scope and sequence of the institutional reforms required for World Trade Organization agreements to yield economic benefits. The country studies focused on reforms in customs, technical standards, intellectual property rights protection, sanitary and phytosanitary standards, industrial product standards, and regulations affecting trade in services (such as telecommunications and financial services).

Publications


The project produced case studies on implementation costs in eight countries in Africa, Southeast Asia, and Latin America. These studies documented a wide variation in developing country governments’ approaches to trade-related domestic regulations. The case studies gathered information from public sector budgets, international trade data, donor project documents, and interviews with public and private sector officials.

**Responsibility:** Development Research Group, Trade Team—Beata Javorcik (bjavorcik@worldbank.org); and Poverty Reduction and Economic Management Network Trade Team—Philip Schuler. With Facultad Latinoamericana de Ciencias Sociales, Argentina; Cambodia Legal Resources Development Center; Victor Abiola; Johnson Maiketsu, Botswana Institute for Development Policy Analysis; Flora Musonda, Economic and Social Research Foundation, Tanzania; Walter Odhiambo, Kenya Institute for Public Policy Research and Analysis; and Nichodemus Rudheranwa.

**Project Code:** P082440.  
**Completion date:** December 2005.

**Publications**


**World Trade Organization Accession, Policy Reform, and Poverty Reduction in China**

The objective of this research project is to assess the implications of China’s accession to the World Trade Organization on the economy, trade, and poverty. The research is continuing beyond World Trade Organization accession in the development of frameworks for evaluation of the poverty impacts of reforms, including through unilateral changes in policy and participation in regional trade arrangements. Key policy questions include an assessment of the extent of trade reform associated with accession, estimation of the quantitative implications of these reforms for the economy, and an assessment of the impacts at the household level.

The project draws on a sample of 80,000 households to form assessments of the implications of reform for income distribution and poverty. The analysis builds up from highly detailed information on trade policy reforms. In agriculture, it has been necessary to measure the stance of trade policies by comparing domestic and international prices, which have been used to create representative estimates of trade policies. These have then been applied to models of the Chinese economy to assess the impacts on the economy. Finally, households have been subjected to the resulting price impacts in order to assess the consequences for households.

Key findings demonstrate the benefits to the Chinese economy, and to China’s trading partners, of World Trade Organization accession and highlight the vulnerability of a small percentage of households to reductions in the prices of some goods, particularly cotton, maize, dairy products, and sugar.

The research completed so far has heightened awareness of the need for complementary actions to assist poor people in China—whether in conjunction with trade reforms or to offset the adjustment pressures on the incomes of the poor in a fast-growing economy.


**Project Code:** P055163.  
**Completion date:** 2008.

**Publications**


**Trade and Foreign Direct Investment Reform and Poverty**

Adequate assessment of the effects on the poor of trade and foreign direct investment reforms requires better data. For example, a key data requirement for such analysis is the shares of capital, skilled labor, and unskilled labor used in various productive sectors. This information is notoriously inaccurate in country input-output tables.

This project applied econometric analysis to improve the data that go into models used by the World Bank to analyze the effects on the poor of trade and foreign direct investment reforms. One paper was produced estimating the shares of value added that go to skilled labor, unskilled labor, and capital in different sectors. The paper was submitted to the GTAP consortium for use in improving the factor intensity information in the widely used international trade database known as GTAP.

**Responsibility:** Development Research Group, Trade—David Tarr (dtarr@worldbank.org). With Space Design Bureau; and Junichi Goto, Kobe University.

**Project Code:** P087609.

**Completion date:** June 2005.

**Publication**


**The Role of Investment Promotion Agencies in Attracting Foreign Direct Investment to Developing Countries**

Many countries spend significant resources on investment promotion agencies in the hope of attracting inflows of foreign direct investment (FDI). This research project is using newly collected data on national investment promotion agencies in 109 countries to examine the effects of investment promotion on FDI inflows. The project’s empirical analysis follows two approaches. First, it tests whether sectors explicitly targeted by investment promotion agencies receive more FDI in the post-targeting period relative to the pre-targeting period and non-target sectors. Second, it examines whether the existence of an Investment Promotion Agency (IPA) is correlated with higher FDI inflows. In the latter approach, potential reverse causality between FDI inflows and the agency’s existence is addressed using instrumental variables.

The results show that investment promotion efforts appear to increase FDI inflows to developing countries. The agency’s characteristics, such as its legal status and reporting structure, affect the effectiveness of investment promotion. There is also evidence of FDI diversion due to investment incentives offered by other countries in the region.

Although a sizeable literature documents the importance of ethnic networks for international trade, little attention has been devoted to studying the effects of networks on FDI. The existence of ethnic networks may positively affect FDI by promoting information flows across international borders and by serving as a contract enforcement mechanism. The project is investigating the link between the presence of migrants in the United States and U.S. FDI in the migrants’ countries of origin, taking into account potential endogeneity concerns. The results suggest that U.S. FDI abroad is positively correlated with the presence of migrants from the host country. The data further indicate that the relationship between FDI and migration is driven by the presence of migrants with a college education.

**Responsibility:** Development Research Group, Trade Team—Beata Javorcik (bjavorcik@worldbank.org). With Torfinn Harding (Statistics Norway) and Naotaka Sawada.

**Project Codes:** P098750 and P098716.

**Completion date:** August 2008.

**Publications**


Rules of Origin and Heterogeneity of Firms

This research project studied the effects of rules of origin for firms with heterogeneous productivity and applied the analysis to Bangladeshi garment exports to the United States and the European Union. The project showed that differences in trade policies in the United States and the European Union in woven and non-woven garments generated differences in the composition of exporters and productivity in the two markets. The analysis used a newly collected firm level data set of Bangladeshi garment exporters to show that the facts matched the predictions of the model.

The project used a monopolistic competition model of international trade. The findings showed that rules of origin affected both fixed and variable costs of exporting if a firm complied with the rules of origin. As such only the more productive firms were able to satisfy the rules of origin and take advantage of the tariff preference in the European Union.

The analysis used a newly collected firm level data set. By exploring the differences in rules of origin in the European Union and the United States, as well as production techniques in the woven and non-woven garment industries, the project showed that rules of origin are very important in determining the export destination of firms with different levels of productivity.

Responsibility: Development Research Group, Trade Team—Hiau Looi Kee (hlkee@worldbank.org). With Kala Krishna, Pennsylvania State University.

Project Code: P095496.

Completion date: November 2005.

Publications


Environmental and Labor Market Regulation and Foreign Direct Investment

This research project examined the regulatory determinants of foreign direct investment. One study tested the “pollution haven” hypothesis, the possibility that pollution-intensive multinational firms relocate to developing countries with less stringent environmental regulations with the aim of maximizing profit. Although this hypothesis seemed plausible, the only evidence in its support has been found for direct investment flows in the United States.

In examining this hypothesis in the context of developing economies, the study contributed to the literature in four ways:

- It examined the location decision for foreign direct investment from multiple source countries into 25 developing economies in Eastern Europe and the former Soviet Union.
- It postulated that there may be features of developing countries that deter foreign direct investment but also are correlated with lax environmental protection.
- It took into account both the pollution intensity of the potential investor and the environmental stringency in the potential host country.
- It used a unique firm-level data set that describes the investment decisions of 143 multinational firms in the 25 host countries studied.

Despite these improvements in analytic approach, the study found little support for the pollution haven hypothesis.

Another study looked at the effect of labor market flexibility on foreign direct investment. This study tested empirically whether a host country’s labor market flexibility, in absolute terms or relative to that in the investor’s home country, affected the location decisions of multinationals.

The analysis used firm-level data on new investments undertaken in 1998–2001 in 19 Eastern and Western European countries. The study used a variety of proxies for labor market regulations—reflecting the flexibility of individual and collective dismissals, the length of the notice period, and the required severance payment—along with controls for business climate characteristics.

The results suggested that greater flexibility (absolute or relative) in the host country’s labor market was associated with larger inflows of foreign direct investment.

The project findings have been presented at the World Bank International Trade Seminar Series, the Empirical Investigations in International Trade Conference at Purdue University, the International Atlantic Economic Society Conference in Paris, the Yale University School of Management Seminar Series, and the annual meetings of the American Economic Association in San Diego.

Responsibility: Development Research Group, Trade Team—Beata Javorcik (bjavorcik@worldbank.org). With Shang-Jin Wei, Mariana Spatareanu, Reno Dewina, and Yi Wu.

Project Code: P076326.

Completion date: December 2004.
Publications

Foreign Direct Investment and Labor Market Interactions
This research project created a database on foreign direct investment and trade in financial services, and labor market outcomes.
Project Code: P094423.
Completion date: June 2006.

Publication

Productivity and Employment Effects of Foreign Acquisitions
This research project used micro data from the Indonesian Census of Manufacturing to analyze the causal relationship between foreign ownership and plant productivity. To control for the possible endogeneity of the foreign direct investment decision, the analysis combined a difference-in-differences approach with propensity score matching. An advantage of this method, which had not been previously applied in this context, was the ability to follow the timing of observed changes in productivity and other aspects of plant performance.

The results suggested that foreign ownership led to significant productivity improvements in the acquired plants. The improvements became visible in the acquisition year and continued in subsequent periods. After three years, the acquired plants outperformed the control group in terms of productivity by 34 percentage points. The data also suggested that the rise in productivity was a result of restructuring, as acquired plants increased investment outlays, employment, and wages. Foreign ownership also appeared to enhance the integration of plants into the global economy through increased exports and imports.
Responsibility: Development Research Group, Trade Team—Beata Javorcik (bjavorcik@worldbank.org). With Jens Arnold and Torfinn Harding.
Project Code: P095560.
Completion date: June 2007.

Publication

Spillovers from Foreign Direct Investment through Vertical Relationships
Governments often favor joint ventures over fully-owned foreign direct investment (FDI) projects, believing that active participation of local firms facilitates knowledge transfer. Leaving aside the issue of whether this perception is true, this research project tested whether differences in the magnitude of horizontal and vertical spillovers from FDI were associated with different extents of foreign ownership. Using an unbalanced panel of Romanian firms for 1998-2000, the analysis found evidence consistent with positive horizontal spillovers resulting from fully-owned foreign affiliates but not from projects with joint domestic and foreign ownership. This finding was in line with the literature, suggesting that foreign investors tended to put more resources into technology transfer to their wholly-owned projects than to joint ventures. Further, the data indicated that the presence of partially foreign-owned projects was correlated with higher productivity of domestic firms in upstream industries, suggesting that domestic suppliers benefited from contacts with multinational customers. The opposite was true, however, in the case of fully-owned foreign affiliates which appeared to have a negative effect on domestic firms in upstream industries.
These results were in line with the observation that foreign investors entering a host country through greenfield
projects would be less likely to source locally than those engaged in joint ventures or partial acquisitions. They were also consistent with the evidence suggesting that fully-owned foreign affiliates using newer or more sophisticated technologies than jointly owned projects may have had higher requirements vis-à-vis suppliers that only a handful of domestic firms, if any, were able to meet.

**Responsibility:** Development Research Group, Trade Team—Beata Javorcik (bjavorcik@worldbank.org). With Mariana Spatareanu, Rutgers University.

**Project Code:** P098213.

**Completion date:** August 2007.

**Publications**

