The World Bank Trade Research Program:

Summary and Synthesis*

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THE WORLD BANK TRADE RESEARCH PROGRAM:
SUMMARY AND SYNTHESIS

This report summarizes the Bank's research agenda on trade issues. It is structured as follows. After a brief Introduction, Section 1 summarizes research on national trade policies and related 'behind-the-border' policies and how these impact on growth and poverty reduction. Section 2 turns to work on the global agenda, in particular the WTO and the ongoing Doha round of negotiations. Section 3 focuses on the design and impact of regional integration and preferential trade arrangements.

INTRODUCTION

The major question or theme that informs much of the research agenda is to better understand the huge differences in growth performance across countries, and specifically, what the role of trade and related policies is, and, as important, what trade agreements can do to assist countries in implementing beneficial reforms. The stylized facts that inform the research program are well known: (i) there has been a lot of trade (and other) policy reform in most developing countries over the last 2 decades; (ii) there have also been large scale technological changes that have made trade easier; (iii) both of these factors have led to a huge increase in trade in manufactures, especially in intermediates, reflecting fragmentation and global outsourcing of parts of the value chain; (iv) this has led to developing countries' export bundle now comprising mostly manufactures, and an increase in their world market share; and (v) these trends hide a great deal of variation in country performance and outcomes, with low-income countries in Africa in particular having benefited less than other parts of the developing world.

There are a number of potential explanations for the difference in performance:

- Continued high levels of effective protection and anti-export bias in some countries—leading to a need to determine how much have countries liberalized and what is the effective trade policy stance. This is not just directed at developing countries; barriers in export markets may also be important.
- Differences in the way countries have dealt with the so-called 'behind the border' trade agenda—which revolves around issues of services trade liberalization, the quality of public institutions and governance, and the efficiency of trade facilitation. The questions here relate to the importance of such factors in creating (maintaining) an anti-trade and investment bias, even if traditional trade liberalization is being (has been) pursued, and the appropriate sequencing of reforms to increase the gains from trade reforms. Disentangling the various factors that play a role here requires country specific analysis that distinguishes between structural features (e.g. distance from markets, being land-locked or small) that cannot be changed, institutional factors (e.g. governance, internal cohesion) that can only be changed in the long-run; 'behind-the-border' policies such as trade logistics or standards capacity that can be changed in medium term; and macro/fiscal policies or the exchange rate that can be adapted relatively quickly. In contrast to trade policy, which can be done rapidly, changes in behind the border policies or improving Customs are much more time and resource intensive.
- Distribution-related issues, including poverty impacts and adjustment costs of trade reforms, influence the political economy of policy. It may be that existing trade policy creates rents for a small but powerful group that in turn lead to resistance or re-imposition of barriers to trade, preventing the expected supply response and reallocation of investment. Or, it may be that the absence of complementary measures to facilitate adjustment or to ensure competition and new entry of firms into new activities led to a detrimental outcome and/or made reforms unsustainable.

All these potential factors are the subject of research. More specifically, the trade research program can be divided into three major dimensions:

- national trade policy design and implementation—with a focus on the links between trade, trade policy, and growth and poverty reduction and on reforms that could help lower trade costs and improve competitiveness;
- the global agenda—where the primary focus is on the WTO negotiations; and
- regional integration—which advising governments on options to enhance the benefits of membership of such agreements, analyzing the impact of trade preferences and options to reduce any adverse effects on nonmembers.

This tripartite breakdown is followed in the discussion below. The national dimension is of most direct immediate operational relevance—the basic question is what policies and institutions are needed for trade to be an instrument of pro-poor growth? Here the distinction between border barriers and so-called 'behind the border' trade constraints is important. In a number of countries, especially the poorest, border barriers remain important—creating anti-export biases through high effective rates of protection. But as important may be inefficient trade logistics broadly defined (customs clearance, documentary requirements, operation of ports and transport infrastructure). In many countries behind-the-border policies may be more of a priority than further traditional trade policy reform. While priorities will differ across countries, the increasing tradability of services and the technological developments that are driving firms to split their production across multiple countries raise common policy challenges for all countries.

The global and regional dimension of the research agenda has become more important in the last 5 years, reflecting the greater engagement of developing countries in both the WTO and in regional trade agreements. Trade agreements are now *the* focal point for policy decisions and debates in a majority of countries. Twenty-seven countries are in the process of acceding to the WTO. About 130 regional agreements by WTO members are planned or under negotiation.

Space constraints prevent a comprehensive treatment of the research program. For the same reason little attention is devoted here to how research is generated or to its dissemination. Both are important components of the "production function," however. The research program relies importantly on collaborative efforts with partners in both developed and developing economies. These include other international organizations, national think tanks and multi-country networks of policy researchers in developing countries. One consequence of the networked production process is that some of the research results that are reported below are 'Bank-supported' but not necessarily undertaken by Bank staff.

As far as dissemination is concerned, major Bank publications such as Policy Research Reports (e.g., *Trade Blocs* (2000), and *Globalization, Growth and Poverty: Building an Inclusive World Economy* (2002)) the *Global Economic Prospects* reports, as well as the trade website (www.worldbank.org/trade) and periodic trade newsletters are important vehicles through which research is disseminated. In 2002, a Trade and Development series was established jointly between Oxford University Press and the World Bank to provide an outlet for some of the research output. A concerted effort is made to synthesize research results in an accessible format. Major examples are Handbooks, e.g., *Development, Trade and the WTO* (2002), *Agriculture and the WTO* (2004), and, most recently, a *Customs Modernization Handbook* (forthcoming 2004). In 2003, a new dissemination vehicle, a series of short Trade Notes, was created. These review topical trade policy questions and present a development view of the policy options (see Annex 1 for a listing). They can be downloaded from the Bank's trade site.

1. Research on the National Trade Agenda

Research on national trade-related policies spans many subjects. Five topics are highlighted in what follows: using trade as an instrument to promote growth; identifying the distributional impacts of trade (reform); understanding the political economy of trade policy; quantification of barriers to trade and their removal; and benefiting from international trade and investment in services. A common theme or question that underlies the research in these areas is to assess the impact of trade reforms and identify complementary measures to enhance (or realize) the benefits of trade reforms and ensure their sustainability.

1.1 Trade and growth

A basic and contentious issue concerns the relationship between trade, trade liberalization and growth. Empirical analysis has demonstrated a positive correlation across countries between openness to trade and economic growth, yet critics claim that such results are fragile, do not indicate causality (does trade lead to growth or vice versa?) and cannot be used to say much about the trade policies that underlie increased trade performance. Also, although many countries have benefited greatly from policies aimed at fuller integration into the world economy, lagging countries are found in all regions, though regional aggregates suggest that SSA and MENA have been the least successful. Reasons for this are numerous, and include civil conflict and macroeconomic policies that led to real exchange rate overvaluation (Gelb, 2000; World Bank, 2001). In addition to such important factors, unfavorable demand characteristics for the primary commodities and raw materials that constitute Sub-Saharan Africa's traditional exports may jeopardize the region's growth and industrialization prospects (Ng and Yeats, 1997, 2000), especially when account is taken of trade distorting policies of OECD countries. These factors induce instability in commodity prices and have adverse impacts on the demand for affected commodity exports (Ng and Yeats, 2001).

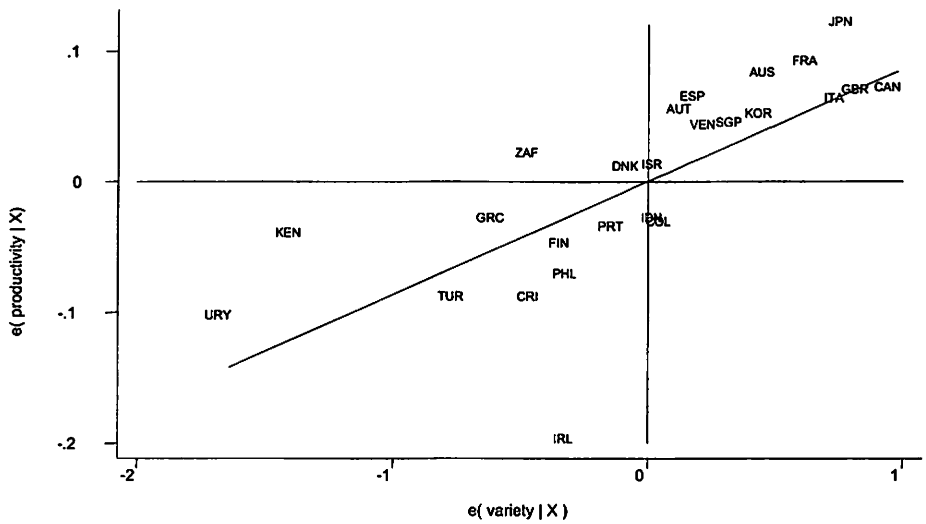
Research suggests that the removal of anti-export biases in African countries' domestic policies, as well as initiatives to promote more competitive prices for traditional exports, are policy priorities (Ng and Yeats, 2002 and 2003). The 'traditional' trade agenda (high tariffs) continues to be important in many countries—barriers to trade and anti-export bias is often still substantial, with effective protection often being 30 percent or greater for import-competing sectors (Hinkle and Herrou-Aragon, 2002). As if not more important are issues related to trade facilitation and product standards, as these are critical in order to benefit from the market access opportunities that have been granted by major trading partners. Research on these subjects is discussed below.

Work seeks to enhance the understanding of links between trade (policy) and growth is mainly microeconomic. It involves industry- or firm-level analysis of individual economies or groups of developed and developing countries, and focuses not only on trade policies but on complementary 'behind the border' policies as well. These types of studies can shed light on linkages between trade and growth in a way that cross-country regressions cannot (Hallak and Levinsohn, 2004).[1] For example, opening to trade opportunities will typically increase the

[1] Much of the debate in this area revolves around the policy implications of cross-country regressions that find a positive association between trade (measured by the trade to GDP ratio: 'openness') and incomes of countries. Critics argue that the direction of causality is not shown by such studies, and that these results are not informative regarding the trade policy stance that accompanies a countries openness ratio. Important econometric studies of the linkage between trade reform and the rate of economic growth include Sachs and Warner (1995) and Frankel and Romer (1999); Rodriguez and Rodrik (2001) is the seminal critique. A recent study by Wacziarg and Welch (2003) addresses a major part of the critique by showing that dates of trade liberalization do characterize breaks in investment and GDP growth rates. Specifically, for the 1950-

product variety of imports available and may also increase the variety of exports, both of which contribute to productivity growth and hence aggregate growth. Feenstra and Kee (2004a) show that for a sample of 34 countries from 1982 to 1997, more than 50 percent of country productivity differences can be explained by the differences in industry export variety (Figure 1).[2] The policy implication is that via the increase in product variety in trade, trade integration is an important mechanism and channel that lead to aggregate growth. Feenstra and Kee (2004b) further demonstrate that product variety of the exporting countries depends on the trade policies of the importing countries and the distance between the trading partners. These findings suggest that by lowering importing countries' trade barriers, exporting countries may enjoy a productivity boost due to a greater variety in their exports. The policy implication is that trade integration (openness) is an important determinant of growth.

Figure 1: Productivity Differences versus Product Variety Differences, 1991



Source: Feenstra and Kee (2004a).

The link between industry (export) and aggregate growth has become an active area of debate. Acemoglu and Ventura (2002), for example, claim that industry growth may lead to diminished aggregate growth via deteriorating terms of trade. Bank research has shown that this need not be the case. Kee (2001) concludes that the growth of the electronic industry in Singapore was mainly driven by productivity gains, whereas that of other industries was mainly driven by increases in labor and capital. Such a growth pattern can only be sustainable because Singapore trades intensively. Kee (2002) finds similar evidence for Hong Kong. Kee and Hoon (2004) also show that trade is responsible for reducing Singapore's unemployment rate from 9 percent in the 1960s to 3 percent in the 1990s.

1998 period, countries that liberalized their trade (raising their trade-to-GDP ratio by an average of 5 percentage points) enjoyed on average 1.5 percentage points higher GDP growth compared with their pre-reform rate. See, e.g., Anderson (2004) and Baldwin (2003) for further discussion of the literature; and Greenaway et al (2002) for a review of the developing country experience.

[2] Both productivity and variety variables are reported in terms of deviations from their sample means. The regressions control for year and country fixed effects, as well as endowment differences between countries.

Significant attention has been devoted in Bank research to the role of trade in transferring knowledge across international borders, since diffusion of knowledge is one of the basic factors underpinning growth. Several studies examined the effect of research and development (R&D) embodied in trade on total factor productivity in developing countries (Schiff and Wang, 2003; Schiff, Olarreaga and Wang, 2003). The results suggest that R&D content of imports has a positive effect on productivity with the effect being larger for North-South than for South-South trade. However, while R&D-intensive industries benefit mainly from North-South trade-embodied R&D flows, other industries are more affected by South-South trade. This may be due to the fact that the North has a comparative advantage in R&D-intensive industries, while the South has a comparative advantage in low R&D sectors. These results have implications for the dynamics of North-South and South-South regional integration. For instance, South-South regional integration agreements are likely to slow down the development of high-tech economies in member countries by reducing the technology spillovers in R&D-intensive sectors from the North (Schiff and Wang, 2003a).

A relevant policy question is then what factors facilitate trade-related R&D spillovers. Schiff and Wang, 2003b) found that high levels of education and better governance increase productivity levels not only directly but also through their interaction with foreign R&D embodied in trade in R&D-intensive industries. These results imply the existence of potential virtuous growth cycles and suggest that simultaneous reforms of trade, education and governance may have a greater impact on productivity. This is one example of a common conclusion emerging from the research program—complementary policies are needed to enhance the benefits of trade liberalization.

Greater openness to foreign direct investment (FDI) may serve as another channel facilitating technology diffusion and thus economic growth in developing countries. Bank research has focused on the effects operating across industries, as multinationals have an incentive to prevent knowledge dissipation to local competitors in host economies, but may benefit from transferring technology to local suppliers. Firm level-based empirical analysis by Javorcik (2004) for Lithuania found evidence consistent with such positive productivity spillovers from FDI—a one-standard-deviation increase in FDI in the sourcing sectors was associated with a 15 percent rise in output of each domestic firm in the supplying industry. Related work finds that inter-industry spillovers may be greater in projects with shared domestic and foreign ownership than for fully owned foreign investments (Javorcik and Spatareanu, 2003; Javorcik, Saggi and Spatareanu, 2004).

Research on the Czech Republic is illustrative of the differences between firms supplying multinationals and those that do not. During 1993-2000, suppliers are larger in terms of sales, assets, and employees (Figure 2); and have higher value added per worker. As firms that are larger to begin may have a greater probability of becoming suppliers, this work also analyzed what happens after an enterprise starts a business relationship with a foreign firm and concluded that suppliers experience faster growth rates of sales, assets, value added and employment.

Fig. 2 Firm Characteristics of MNC Suppliers and Non-Suppliers in the Czech Republic

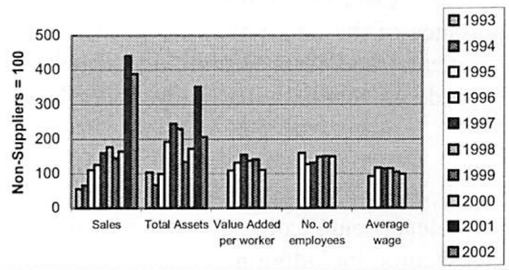
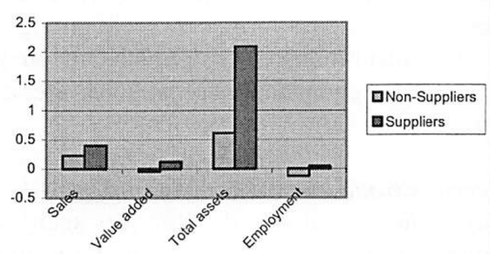


Fig. 3 Average Annual Growth Rates of MNC Suppliers vs. Non-Suppliers in the Czech Republic, 1994-2002



A theme emerging from much of the research on trade and FDI is that openness matters for growth, but that liberalization must be supported by a good investment climate. An example is research suggesting that trade does little to stimulate growth in economies with excessive regulation. A cross-country analysis by Freund (2003) indicates that increased openness to trade is positively correlated with income in all countries (as expected) (Figure 4), but that, if anything, it is associated with a lower standard of living in heavily regulated economies (Figure 5).[3]

Figure 4: Income and Openness, All countries

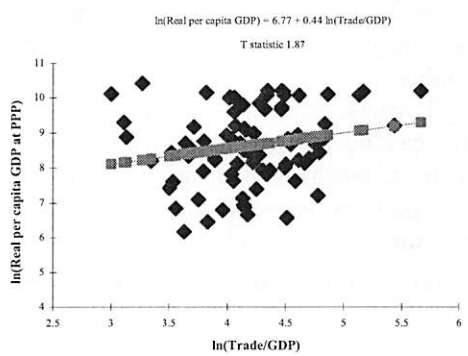
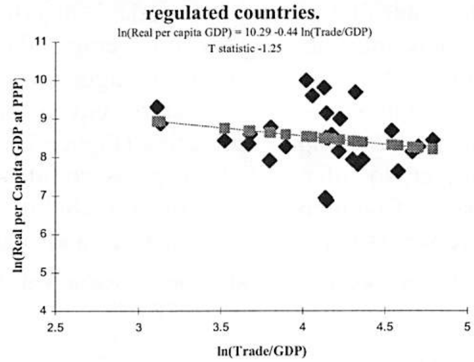


Figure 5: Income and openness, One-third most regulated countries.



Excessive regulations reduce incomes because resources are prevented from moving to the most productive sectors/firms following liberalization. Once the impact of trade on growth in more regulated economies is controlled for, the evidence that trade positively affects growth is stronger than what has been found in previous studies. While cross-country regression analysis of this type is always subject to caveats regarding the direction of causality and problems of endogeneity, these findings are consistent with a large body of micro-econometric country studies that find that entry and exit of firms (turnover rates) is a key determinant for positive productivity effects of trade openness—see e.g., the studies in Roberts and Tybout (1997). The policy conclusion suggested by this work is that trade liberalization needs to be complemented by measures to facilitate reallocation of factors of production, in particular policies to promote domestic competition and labor market flexibility.

[3] The study focuses on regulation of new entry (number of procedures, time and cost involved) and labor market restrictions on new hiring or layoffs.

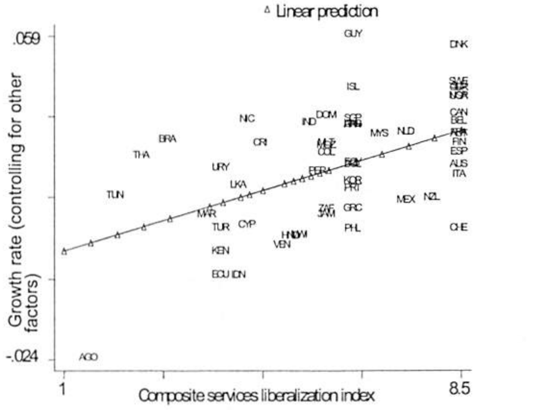
In addition, the experience of several LICUS countries suggest that unless certain basic conditions are met—peace, security, stability, etc.—trade liberalization may not yield much (World Bank, 2001). Rodrik (2002) has argued that institutions are superior to openness in delivering growth benefits to countries. While Bank research would tend to support that conclusion, it goes further by highlighting the importance of the interaction of the two. Not only do bad institutions lower growth, but they also prevent trade from generating growth. If the appropriate complementary policies are in place, trade is much more likely to will support growth.

Services trade and investment and growth

Given the central role that services such as finance, telecommunications, transport, etc. play as inputs into production, barriers to entry into services sectors, including not just foreign suppliers but new domestic ones, can have negative effects on growth performance. Greater foreign participation and increased competition together imply a larger scale of activity, and hence greater scope for generating growth-enhancing effects. Even without scale effects, entry of foreign suppliers (FDI) that characterizes services liberalization can have positive effects because they bring new technology with them. If greater technology transfer accompanies services liberalization — either embodied in FDI or disembodied — growth effects will be stronger.

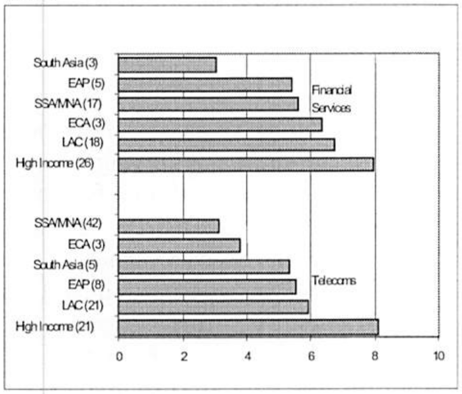
Cross country econometric analysis by Bank staff — relatively strong for the financial sector and less strong but nevertheless statistically significant for the telecommunications sector— suggests that openness in services influences long run growth performance (Figure 6). After controlling for other (standard) determinants of growth, countries that fully liberalized both telecoms and finance grew, on average, about 1.5 percentage points faster than other countries.[4] While these estimates are only suggestive, they do indicate that there are potential gains from liberalizing key services sectors. Given that existing barriers to foreign provision (entry) are higher in developing countries (Figure 7) such gains can be substantial. It would be wrong, however, to infer that these gains could be realized by a mechanical opening up of services markets. Complementary actions, including competition policies and regulation to achieve social objectives (such as universal service and access for the poor) are also needed.

Figure 6: Greater liberalization in services is associated with more rapid growth



Source: Mattoo, Rathindran and Subramanian (2001)

Figure 7: Services liberalization indices: Telecoms and financial services

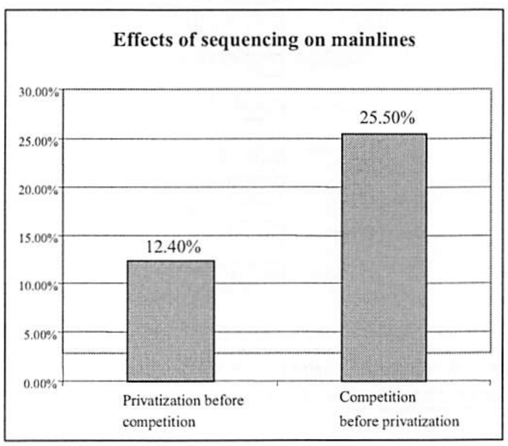


Source: Mattoo, Rathindran & Subramanian (2001)

[4] The measure of reform included not just liberalization (access for foreign firms) but also regulatory improvements to achieve prudential and non-economic objectives.

Better understanding the implications of services trade and investment liberalization is an important part of the research program and a major dimension of the 'behind-the-border' trade agenda confronting developing countries. Bank research here spans efforts to deepen understanding of the impacts of liberalization on 'backbone' services such as telecoms and other infrastructure services such as port facilities and domestic and international transport, and how liberalization affects overall economic performance and participation in international goods trade. An example is a recent effort to assess the impact of liberalization of telecommunications services (Fink, Mattoo and Rathindran, 2004). They analyze the impact of policy reform in basic telecommunications on sectoral performance using a panel data set for 86 developing countries between 1985-99. They conclude that the sequence of reforms affects performance: mainline penetration is lower if competition is introduced after privatization, rather than at the same time. This suggests that delays in introducing competition – e.g., due to market exclusivity guarantees granted to newly privatized entities or limitations introduced in the context of trade negotiations – may adversely affect performance even after competition is eventually introduced (Figure 8).

Figure 8. Telecoms: sequences matter

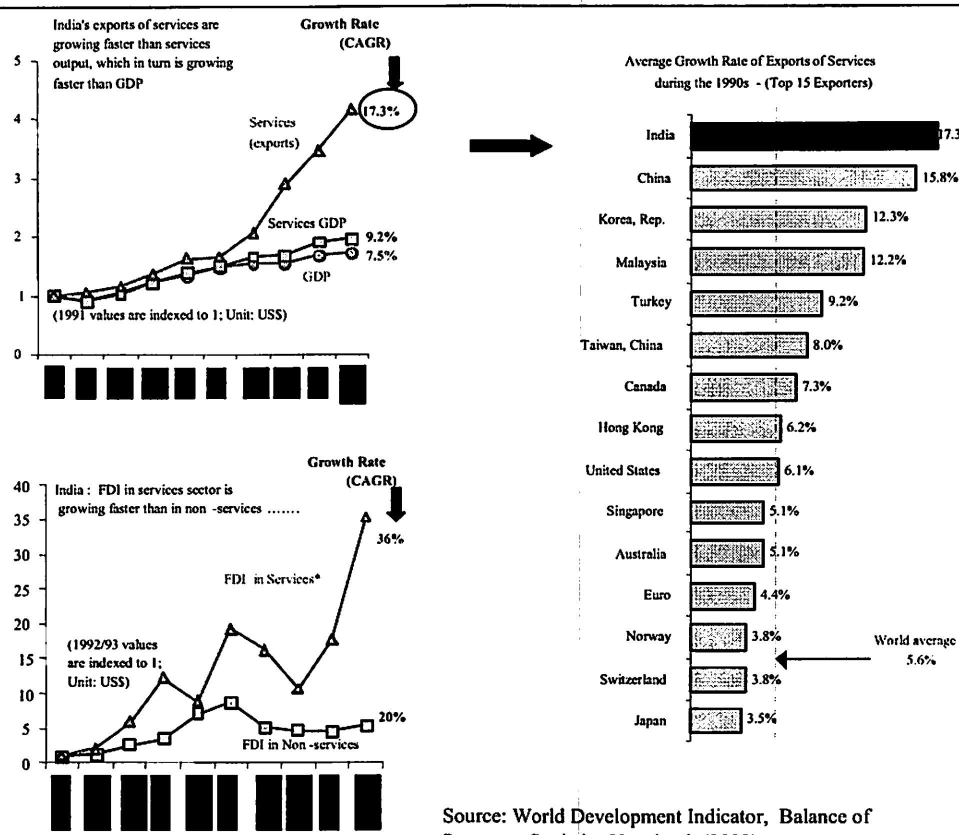


Source: World Bank/ITU Telecommunications Policy Database & Fink, Mattoo, Rathindran (2001), forthcoming

A major aspect of Bank research on services is to assist developing countries in assessing the likely impact and implications of services reforms; better understand the potential of and barriers to developing countries' exports of services (e.g., movement of individual service providers); and how pro-poor outcomes can be achieved though complementary policy initiatives (e.g., universal service requirements or the appropriate sequencing of reforms).

Examples of such work on services have been undertaken for India, Malaysia, and Russia, among other countries (Mattoo and Wünsch, 2004, Chaudhuri, et al. 2004, Kee, 2003; Tarr et al, 2003). The work on India explores ways to help translate India's growing stake in more open services markets into a comprehensive domestic reform program and assesses options that could be pursued through the WTO. It shows that the emergence of India as one of the fastest growing economies in the world during the 1990s is attributable in significant part to the rapid growth of its services sector. During the 1990s, Indian service sector grew at an average annual rate of 9 percent, contributing to nearly sixty percent of the overall growth rate of the economy (Figure 9). At the same time, exports of services displayed one of the fastest rates of growth in the world – over 17 percent per year in the 1990s – and grew two and a half times faster than the domestically focused part of the services sector.

Figure 9: India's services sector has grown rapidly and so has the export of services and FDI into services

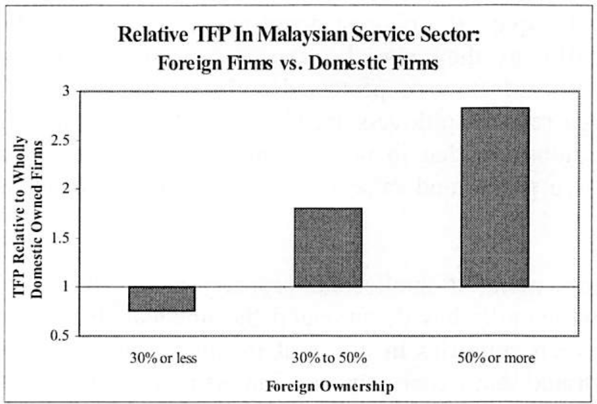


Source: World Development Indicator, Balance of Payments Statistics Year book (2002).

A large part of the dynamism in services sectors is attributable to factors such as the high-income elasticity of demand for services, cost-reducing and variety-enhancing technological advances, and changes in the method of organizing production favoring increased outsourcing. But two other factors have also played a significant role: access to a growing external market for services and the gradual, though partial, liberalization of the domestic economy. Liberalized services sectors like information technology and telecommunications services have attracted significant FDI, witnessed faster growth, created more employment opportunities and galvanized other parts of the Indian economy. On the other hand, services sectors like retail and certain professional services that have not been exposed to sufficient domestic and foreign competition and where the regulatory framework is weak have failed to create income or employment opportunities for the economy. In order to sustain the dynamism of the services sector, India confronts two critical challenges: domestically, the persistence of restrictions on trade and investment and weaknesses in the regulatory framework; and, externally, the problem of actual and potential protectionism. The WTO negotiations in the framework of the General Agreement on Trade in Services (GATS) provide opportunities to address the latter (see Section 2 below).

Related research on services in Malaysia on firm competitiveness (Kee, 2003) finds regulations restricting competition in some sectors, especially in terms of foreign ownership, hurt the performance of service industries and negatively affected economy wide growth. Firms that are constrained by policies limiting foreign ownership to less than 30 percent were less productive than domestic firms, while those firms that are not constrained were more productive.[5]

Figure 10: Productivity in Malaysian Service Industries and Foreign Participation



Source: Kee (2003)

These findings reveal that regulations restricting competition from foreign providers matters for performance of both domestic firms and the economy overall. However, regulation will often be required to address market failures and to achieve social objectives. Differentiating between regulations that require discrimination against foreign firms and those that do not is therefore important. This is also the subject of research. One recent output of this line of enquiry is a collection of papers (Mattoo and Sauvé, 2003) that addresses the complex interaction between domestic regulation and trade liberalization in services. The contributions address two key questions: the impact of international trade rules on services on the exercise of domestic regulatory sovereignty; and how services negotiations can be harnessed to promote and consolidate domestic policy reforms, focusing on key sectors: accountancy, energy, finance, health, telecommunications and transportation services. One conclusion that emerges is that for many of these sectors the key is to enhance competition, and that this mostly requires domestic initiative. However, monopolistic control of essential facilities and the protectionist capture of domestic regulations such as licensing requirements create opportunities to use the GATS framework to overcome such political economy constraints to the adoption of beneficial policies. The contributions stress that there is scope to generalize the regulatory principles developed for telecoms and accountancy in the GATS to other sectors. Such new disciplines require the application of the principle of national treatment—which is one of the cornerstones of the WTO.

A major challenge in undertaking research on services trade and liberalization is the absence of information on policies that restrict trade and investment. One mechanism developed by the Bank team to encourage collection of such data on a cross-country comparable basis is a survey instrument. This has been used by partner organizations to collect and analyze data on market structure in services as well as the regulatory regime affecting entry and operation of firms in service industries. This work complements an ongoing effort by the Australian Productivity Commission to compile information on services trade and investment barriers in the APEC region (Findlay and Warren, 2001).

Intellectual property protection and trade and investment flows

Protection of intellectual property rights (IPRs) is one of the elements of the business climate that may affect the volume and composition of trade and investment flows (Maskus, 2000). A controversial policy issue for some time now as the result of the inclusion of IPR disciplines in the WTO, research in this area has focused on the effect of IPRs on trade and investment, as well

[5] This analysis controls for regional location, sector, age and export status of the firms, as well as for general macroeconomic factors and the existence of general entry and exit restrictions on industry.

as on the magnitude of the potential transfers associated with stronger global disciplines. The latter work was reported in the *Global Economic Prospects 2002*, and revealed that the transfers could be large depending on initial conditions and the trade position of countries. A general finding is that patent protection increases flows of knowledge to countries with technological capacity and shift the focus of multinational activities to local production and away from distribution only (e.g., Javorcik, 2004). However, the poorest countries are unlikely to benefit from strong IPRs (e.g., McCalman, 2001), as they may be expected to oblige developing countries to pay more for the average inward flow of protected technology. These are also countries where knowledge and technology-related spillovers are likely to be small at best, given limited absorptive capacity. The implications are that in poor countries policy should aim at lowering costs of imports of IPR-intensive goods and raise the capacity to absorb and adapt technologies.

IPR protection and thus the endowment of intellectual property may affect not only imports but also exports. Research on trademarks has documented the unequal distribution of international trademark registrations between countries in different income groups (Baroncelli, Fink and Javorcik, 2004). It also demonstrated that richer countries import more from economies whose exports are of higher quality and exhibit a greater degree of product differentiation, as measured by trademark-intensity. This result was found for most consumer goods sectors but not in intermediate goods sectors (Fink, Javorcik and Spatareanu, 2003). It suggests that without complementary reforms, facilitating creation of intellectual property, developing countries may not be able to take a full advantage of an increased access to developed country markets.

Most of the work in this area has focused on how poor countries (and specific communities in developing countries) can use IPRs to increase the incomes of poor households and communities in developing countries. This is the focus of the latest volume in the World Bank-Oxford University Press Trade and Development series, *Poor People's Knowledge: Promoting Intellectual Property in Developing Countries* (Finger and Schuler, 2004)—a series of case studies illustrating how people in developing countries can earn more from their own innovation, knowledge, and creative skills. Chapters investigate the commercial, legal, and cultural dimensions of promoting intellectual property in diverse sectors such as music, crafts, medicine, agriculture, and design. The volume includes a chapter summarizing research on the music industry in Africa that subsequently was incorporated into a Bank lending program (Senegal).

One lesson of this research is that formal legal rules for IPR protection, such as the TRIPS Agreement, are often not the most important consideration in generating more income from existing intellectual property. Thus, policies to implement the TRIPS Agreement will not automatically yield benefits to low-income economies. Policymakers and donors must focus attention on the commercial dimension of intellectual property, such as overcoming supply-side constraints in bringing crafts products to market or repackaging traditional foods and medicines for modern markets. This research also highlights the positive contributions of civil society organizations in educating consumers and acting as intermediaries in IPR disputes.

1.2 Distributional impacts: trade and poverty

Understanding the effects of trade liberalization on poverty is important in designing trade reforms to ensure that trade liberalization will help achieve poverty reduction goals and will facilitate building broad ownership of reforms, thus making them more sustainable. As the effects of trade (and trade reforms) on the poor depend on a large number of factors that vary across countries, research on this subject has been micro-econometric and simulation based.[6] The methodology used has been developed in the last few years—e.g. McCulloch, Winters and Cirera, 2002)—and is based on two links—one connecting trade policies to prices of a disaggregated bundle of goods, and another connecting these prices to household welfare.[7]

Trade barriers generally raise domestic prices of traded goods above world prices, thus affecting households insofar as they consume or derive income from the affected goods (either directly or through employment, i.e., wages). Ex-post analyses of trade liberalization have now been undertaken for Mexico, Argentina and Ethiopia, among others. These studies suggest that the poor generally benefit from liberalization, but that it can also increase income inequality (Ethiopia, Mexico).[8] The reason is that protection tends to be higher on relatively skill-intensive goods; thus, tariff removal tended to benefit the poor over those better off. In Ethiopia, existing tariffs 'protect' the richest households two times more than the poorest (Nicita and Olarreaga, 2003). Not all households gain. Those with little access to credit or that are located in remote areas where self-subsistence farming is prevalent may not gain or gain much less. In Mexico, for example, Northern states saw much more reduction in poverty than Southern ones. Analysis of the potential impact of complete trade liberalization in Ethiopia suggests that on average real incomes of the poor would increase by 5 percent, but that some 12 percent of the poor could suffer a decline in income. This illustrates the need for complementary policies and safety nets.

Much of the Bank research on trade and poverty linkages has been undertaken in the context of Integrated Framework diagnostic studies. A feature of this work is that it assesses both the effects of own reforms and those by trading partners. Exports matter for poverty as households that obtain a significant share of income from exportables generally have a lower probability of being poor. Thus market access matters. This extends beyond tariffs in export markets; equally; if not more important, are measures to facilitate (domestic) trade and lower transactions costs. Simply ensuring that farmers are connected to local markets is sometimes the binding constraint on output and export growth.

The importance of well-integrated domestic markets for insuring the effectiveness of trade reforms has been emphasized in studies of Ethiopia and Mexico (Nicita, 2004). The price transmission is especially important in low-income countries where local markets may be subject to high transaction costs and are usually poorly integrated into the international economy. In Ethiopia, it has been found that trade reforms and/or improved market access (and their benefits) are unlikely to reach most rural areas because of the weak (domestic) price transmission and high (domestic) trade costs. In the case of Mexico, the effects of trade liberalization of the 1990s (including NAFTA) have been to the advantage of the more integrated northern region. The poor in the most remote southern regions, those far away from the U.S.-Mexican border received only minimal benefits, if any.

Infrastructure related constraints may be relatively less important than trade policies for middle-income countries. Bank research on Argentina concludes that own trade liberalization (free trade) would lower the poverty headcount by 0.6 - 1.7 percentage points. Moreover, liberalization by trading partners would reduce poverty by 1.4 - 2.9 percentage points, for a total of 1.7 – 4.6 points; or, between 7 and 18% of the baseline poverty headcount (Porto, 2003b). A 10 percent increase in world prices would increase employment by 1.5 percentage points and

[6] This therefore complements cross-country regression based analysis such as Dollar and Kraay (2003).
[7] See Winters (2002) and Winters, McCulloch and McKay (2004) for surveys of the literature.
[8] See Ianchovichina, Nicita and Soloaga (2002), Nicita and Olarreaga (2003) and Porto (2003a).

raise expected wages by some 10 percent (Porto, 2003c). This illustrates the importance of the agricultural trade reform agenda being negotiated in the Doha round.

Simulation methods have also been used to assess the impact of trade reforms on income distribution and the poor. Examples are model-based analyses for China,[9] Russia (Tarr and others, 2003), Brazil (Harrison, Rutherford, Tarr and Gurgel 2003) and Iran (Jensen and Tarr 2004) to assess the impact of alternative types of trade reforms. Results for Russia suggests that virtually all households should gain from the liberalization, with average gains ranging from 2 to 25 percent increases in household income. The lack of virtually any losers is explained by the explicit incorporation of services liberalization and endogenous productivity effects (Rutherford and Tarr, 2002), two innovative features of this work. Services are inputs into all production and thus lead to lower prices, they also have positive wage and employment effects. Here again, income distribution may become more skewed because production shifts away from unskilled labor-intensive sectors. Government revenue from the growth following liberalization exceeds losses of tariff revenue.[10]

One conclusion that emerges from Bank-supported trade and poverty research is that one cannot generalize. Although on average the poor generally are found to benefit from trade reforms, much depends on the pass-through of price changes, wage-price elasticities and factor intensities – and even if the poor gain on average, individual pockets can lose. Aggregate results mask substantial variation in poverty changes by individual household groups and by type of policy. For example, some studies have found that skilled labor may do better than unskilled, which can be attributed to relatively higher initial tariffs on unskilled-labor-intensive products.

Infrastructure, trade facilitation etc. matters in all countries, but especially in poor ones. Reasons for this are that many poor countries are often landlocked or geographically far away from major economic centres; their output tends to be small, preventing economies of scale in transportation; weak administrative capacity combined with red tape raises transactions costs above those in more advanced nations; and trade policies of partners tend to be less of a constraint—many of the lowest income countries have duty free access to the major markets (Canada, EU, Japan and U.S.).

A common feature of the trade and poverty research is the importance of agricultural production for the less skilled. While market access can be very important for many countries, the marginal effects of own reforms tend to have a greater positive effect. When one focuses specifically on OECD trade policies, agricultural policies are again most important (Dimaranan, Hertel and Keeney, 2003). The reasons for this are that this sector has relatively larger trade distortions, so that liberalization generates larger world price effects. This is particularly true for border barriers such as tariffs, which have been shown to induce changes in world prices that are generally a multiple of what the elimination of agriculture domestic support or export subsidies would generate (Hoekman, Ng and Olarreaga, 2004). Because the budget share of the poor

[9] Space constraints prevent discussion of the China work, which is both diverse and comprehensive. Much of this work will be published in 2004 in a special issue of the *World Bank Economic Review* and in a volume to be published in the OUP-World Bank Trade and Development series (Bhattasali, Li and Martin, 2004).

[10] General equilibrium models are useful in calculating the likely order of magnitudes of changing policies, their interactions, and the complementary policies that may be needed to enhance the gains (reduce losses) of reforms. The numbers generated by these models are not predictions—actual outcomes will depend on actual events (e.g., exogenous changes in prices) as well as on the extent to which modeling assumptions are correct (e.g., labor markets equilibrate supply and demand for workers). That said, they are by far the best available tools to provide policymakers with information on the likely impacts of policy reforms.

devoted to food products is very high, they are vulnerable to large changes in food prices induced by liberalization across OECD countries. Finally, in many developing economies, many of the poor are highly dependent on agriculture for their earnings, either directly or through labor markets, and therefore the impact on poverty is likely to be important (Porto, 2003c).

Despite the expected gains for the majority of households in the medium term, many may lose in the short term due to adjustment in employment, wages, and prices. Thus, safety nets are crucial for the poorest members of society during the transition. This is of course well known, but the recent research points as well to the importance of ensuring competition is feasible (e.g., removal of entry and exit restrictions) (Djankov and Hoekman, 2000; Bolaky and Freund, 2004) and the role that services trade and investment can play in enhancing the benefits of trade reforms both for the poor and society more generally (Hoekman et al, 2003).

1.3 Political Economy of Protection and Reform

Trade and investment policies are generally the result of political processes and lobbying activities. Understanding the incidence (distribution) of gains and losses due to existing policies is important in designing policy reforms so as to enhance the feasibility of implementation. Bank research in this area has centered on better understanding the policy-formation process through analysis of lobbying activities by stakeholders as well as analysis of the distribution of benefits and costs of policies and possible policy reforms across different groups in society. There is a close connection between this type of research and activities under the headings of trade and poverty and agricultural trade policy research—what is needed is to identify gainers and losers from (proposed) reforms so as to be able to determine the magnitude of likely adjustment costs, the need for compensation of losers, and possible instruments through which such compensation could be achieved.

Recent work in this area has focused on the political process for tariff and tariff preferences in developing and developed countries work. Kee, Olarreaga and Silva (2003) assess the role played by foreign lobbying by Latin American and Caribbean exporters in the United States in determining tariff preferences granted by the United States government to Latin American countries under different preferential schemes (Andean Act, Caribbean Basin Initiative, GSP, NAFTA, etc.). Their empirical results suggest that lobbying efforts by Latin American exporters are a significant determinant of tariff preferences granted by the United States, although most of the observed variation in tariff preferences is explained by other factors. Returns to pro-active engagement are estimated to be around 50 percent. Ongoing work in this area investigates the payoff to informational lobbying by export interests in major trading partner countries. The work on trade and poverty discussed above often also has a political economy dimension as one of the objectives is to highlight who gains and who loses from trade policies. The micro-economic, household-based approach taken in that research allows this to be done at a very disaggregated level.

Lederman and Ozden (2003) show that political variables (such as being in a formal alliance with the U.S. are important determinants of the U.S. decisions to grant preferential market access - both reciprocal such as FTA's and unilateral such as CBI etc. When this selection bias is taken into account, the positive effect of preferences on exports to the U.S. declines considerably. Ozden & Reinhardt (2003) obtain similar results for GSP eligibility of a country.

Understanding the economic and political factors underlying the determination of trade barriers is important for evaluating the impact of the removal of trade barriers on trade flows (or nearly equivalently for evaluating the costs and benefits of trade barriers). This knowledge is also crucial for the development and design of trade policy reform packages as policy reform prescriptions that ignore the underlying determinants of trade policy run the risk of being economically inappropriate and infeasible or simply politically unacceptable. Ongoing work by Olarreaga and others evaluates the relative significance of a variety of factors underlying trade protection in developing countries: industry lobbying, counter-lobbying by consumers and users of intermediate goods, tariff revenue motives, and rent-shifting motives. Work by Freund and Ozden (2004) brings in insights from the behavioral literature to help understand why governments are more keen to avoid losses than to reap potentially larger gains.

1.4 Non-Tariff Barriers to Trade

As tariffs have fallen, over time policy attention has increasingly turned towards the impact of non-tariff barriers to trade—licensing, quotas, standards and contingent protection. Research is focusing in particular on the effects of standards on the trade of developing countries, and on the effect of antidumping (work on the impact of the abolition of MFA quotas is discussed elsewhere).

Technology and distance

Distance is well known to be an important determinant of trade. Indeed, for many exports transport costs far exceed the tariff burden. This is especially a problem for developing countries where isolation and inefficient port systems often lead to excessive transport costs. Bank research has built a body of evidence focusing on the importance of distance on trade and whether it is being reduced as a result of improved technology (Freund and Bertelon, 2003; Carrere and Schiff, 2003). Results on the effect of technology on distance-related costs are not encouraging—research shows that if anything distance has become more important for trade flows over time, and this is especially true for developing countries. The results emphasize the need for low-income developing countries to improve transport systems as well as reduce border barriers so as to be able to benefit from globalization.

Product Standards

International differences in product standards and procedures for testing and certification are important determinants of trade volumes and patterns. Meeting international standards may facilitate trade by improving confidence in importing countries about the characteristics of goods produced in developing nations. However, standards may also restrict exports by raising the costs of production and certification and by discriminating among trading partners. Recent Bank research suggests that specific product standards can have a substantially negative impact on developing country exports. Papers on aflatoxin, pesticide residue, food safety, and environmental standards have highlighted the potential effects of standards on trade.[11] This does not necessarily imply that standards are bad for trade, or, more specifically, that they are used with protectionist intent. In most cases standards are set with legitimate health or safety objectives in mind, and standards can help exporters improve quality. However, the research does show that standards can have a discriminatory effect because of a differential capacity to satisfy them.

Research has produced estimates of the impact of various standards on developing country exports. In Otsuki, Wilson, and Sewadeh (2001) EU aflatoxin standards affecting trade in nuts, dried and preserved fruits and cereals, were found to reduce exports from 9 African countries by as much as US$ 670 million as compared to a counterfactual in which importing countries used the Codex international standards. In Wilson, Otsuki, and Majumdar (2003), a similar study of the impact of national veterinary drug standards on beef trade, the estimated gain for African exporters from importers following the Codex standards was US$160 million. Total

[11] Otsuki et al. (2001a, b), Wilson and Otsuki (2003a, b, 2004), Wilson, Otsuki and Majumdar (2003).

gains from following the Codex standards were estimated at $1.2 billion for the African countries. These studies illustrate that current application of food safety standards in importing countries are costly to developing country exporters. Policy responses are needed at two levels: encouraging the adoption of international standards by heavily regulating importing countries while reducing the compliance cost by providing public support to advance technological capacity and to improve testing and certification facilities.

One element of research on this subject has been to collect data. An outcome of this effort is a 690 firm survey in 17 developing countries on technical barriers to trade, as well as a number of case studies of African countries (Mozambique, South Africa, Uganda, Kenya, Nigeria) [12]. Here again it is not possible to generalize: national capacity and conditions play an important role in determining the effect of product standards on exports (Jaffee, 2003; Jaffee and Henson, 2004). Preliminary results indicate the importance of product standards in raising firm-level production and compliance costs, and in determining firms' export success reflected in total export share and market diversification. Wilson, Otsuki and Maskus (2004) study the cost of compliance with standards and find that they increase short-run production costs. A one-percent increase in one-time compliance cost raises production costs by around 0.07 percent, a statistically significant increase. While the impact is small, it implies that standards and technical regulations may act as NTBs. Wilson, Chen, and Otsuk (2004a) study the impact of standards on firm-level exports. They find that quality standards and testing procedures reduce likelihood of exporting to multiple markets by 13% and 3%, respectively. Moreover, the market access of agricultural firms is, in particular, significantly blocked by quality standards, whereas testing procedures are a significant concern to manufacturing firms when diversifying their export markets. A conclusion of this paper is that building exporters' capacity in meeting labeling requirements could substantially raise export volumes. Facilitating the inspection process at Customs would especially stimulate the export of perishable goods. Regional negotiations on testing procedures would unambiguously lead to a larger export volume and more diversified market access.

Wilson, Chen and Otsuki (2004b) find that firms in developing countries export 20% more to countries with Mutual Recognition Agreement (MRA) on conformity assessment than to countries without such agreement. Each additional product subject to such treatment with the same destination leads to a 3.8% larger share of export. For those firms that currently do not have any MRA treatment, the benefit they would gain from a prospective arrangement rises with the extent of duplication in testing procedures they confront. Labor intensive firms or domestically owned firms have a stronger preference for MRAs. An exporter's preference for MRA with an importing nation falls with their bilateral distance. In related work, Chen and Mattoo (2004) conclude that standards harmonization in the EU raises not only intra-regional trade but also the trade with excluded developed countries by improving scale economies. However, such harmonization will divert trade away from excluded developing countries, especially when standards are harmonized upwards. MRAs have a more powerful impact on both types of trade, but if they contain rules of origin then intra-regional trade increases at the expense of import from the rest of the world, especially import from developing countries.

A policy conclusion that emerges from both the database and more product and country specific work is that building exporter capacity to meet certification and labeling requirements could substantially raise export volumes and may be a priority for technical assistance efforts.

[12] The African country case studies are collected in Wilson and Abiola (2003).

Trade facilitation

Inefficient trade logistics are a major factor reducing the competitiveness of firms in developing countries—both directly, by raising costs, and indirectly, by locking firms out of contracts that require timely delivery of goods and services. The first major output of recent Bank research on this subject was an October 2002 that developed trade facilitation indicators were developed for APEC countries in four key areas of trade facilitation: port efficiency, customs procedures, the regulatory environment and e-commerce capacity. The analysis suggests that improved trade facilitation could increase intra-APEC trade by $254 billion, or 21 percent (Wilson, Mann and Otsuki, 2003a). Wilson, Mann and Otsuki (2003b) extend this analysis to 75 countries. Their results suggest that trade facilitation measures that bring countries 50 percent up towards 'best practice' could expand total trade by $377 billion (Figure 11). The most important determinant of

Figure 11: Estimated trade gains from trade facilitation by policy area

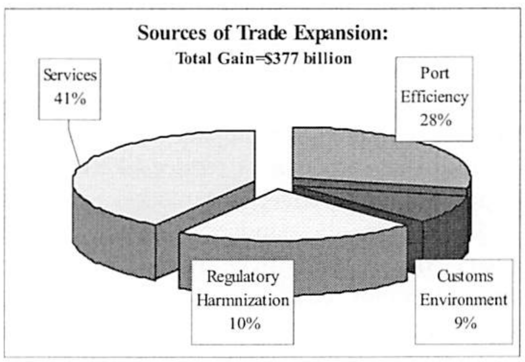
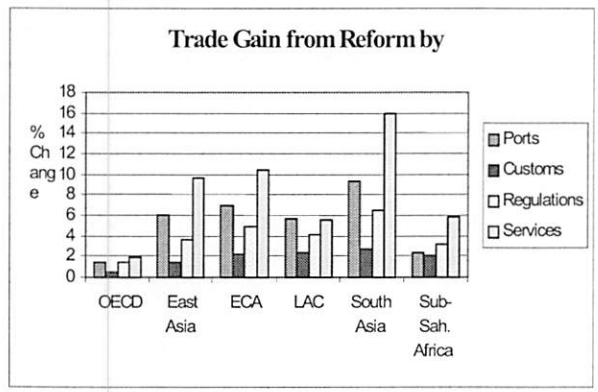


Figure12. Trade gain from reform by region



these gains is own trade facilitation efforts, with trade-related services and port logistics being two key areas in most regions (Figure 12). It is important to stress that these findings are illustrative of the relative order of magnitude of the impact of dealing with different dimensions of the trade facilitation agenda, and are not necessarily accurate predictions of the trade volume effects of reforms.

Antidumping

Historically the preserve of OECD members, developing countries have become the most important initiators of antidumping actions since 1995, accounting for 1,144 of 1,972 actions initiated. Developing countries are also the primary target, with 1,149 actions initiated against them. The average level of duties against developing countries is extraordinarily high, with average rates applied by developing countries at around 70 percent, being over five times as high as average tariffs imposed by these countries. The existence of antidumping creates substantial uncertainty regarding the conditions of market access facing exporters. Investigations have a chilling effect on imports (they signal importers to diversify away from targeted suppliers). China now confronts the highest incidence of investigations and the highest average level of duties in the United States (Table 1)[13] and most other countries (it accounts for 20 percent all EU investigations in recent years, with average duties of 40 percent and in specific cases ranging to over 100 percent) (Liu and Van den Bussche 2003).

[13] Bown et al. (2003) note that the average duty on developed countries (excluding Japan) was 31 percent, compared to 53 percent for developing countries.

Table 1. Average tariff imposed in final U.S. antidumping duty determinations

Period	Total	Developing countries			Developed countries	
		Lower income	Upper income	China	Japan	Other
1979–98 (all cases)	46	53	30	95	60	31
1989–98 only	58	66	36	116	74	34

Source: Bown et al. (2003).

Bank research in this area seeks to quantify the impacts of own and foreign antidumping actions on developing country welfare. More specifically, an ongoing research project managed by Mike Finger strives to address the following questions: (i) how the use of antidumping has contributed to maintaining a dynamic toward openness to international trade; (ii) where the antidumping instruments have caused problems and how developing country policy managers have dealt with the problems; (iii) the extent of overt use of antidumping for protection or the strengthening of monopolistic positions in the domestic economy. Further, of particular interest will be to identify where policy managers have found discipline over application; e.g., (i) the economic content of the rules, (ii) the universal nature of the standard – same in all countries – to promote acceptance by domestic petitioners of negative decisions, (iii) deterrent effect of the information requirements imposed on petitioners and on the government.

2. The Global Agenda

Research on global trade issues centers to a large extent on the WTO and the ongoing Doha round. Major elements of this research span agricultural trade issues, assessing the impact of options for non-agricultural market access negotiating modalities, trade in services, special and differential treatment and the so-called Singapore issues. This work has been an important input into the *Global Economic Prospects* reports.

2.1 Agriculture

Research on agriculture has included both commodity- and country-specific analysis. Space constraints prevent a comprehensive treatment of all the research that has been done in this area. A recent publication is a handbook *Agriculture and the WTO: Creating a Trading System for Development* (John Nash and Merlinda Ingco, eds., World Bank and OUP, 2004). A major recent effort has involved a series of commodity-specific studies that focus on the impact of global trade and protection regimes in agriculture on the trade and output performance of developing countries. The studies focus on Cotton, Coffee, Sugar, Rice, Dairy, Groundnuts, Wheat, Seafood, and Fruits and Vegetables. Each study analyzes the trade regimes in key producing and consuming countries, documents the magnitude of distortions in these commodities and assesses the distributional impacts (by groups of countries) of trade policy reform in both developing and developed countries. Baffes (2003) and Mitchell (2004) distilled some of their findings in the *Trade Notes* series (Annex 1). This work will be published in 2004 in the Trade and Development series (Aksoy and Beghin, 2004).

The studies document both that distortions created by OECD policies are often large and that impacts depend on country circumstances. For example, protection rates for sugar are frequently above 200 percent (Mitchell, 2003), and producers receive more than double the world market price. OECD support to sugar producers of $6.4 billion per year roughly equals developing country exports. U.S. subsidies to cotton growers totaled $3.9 billion in 2002; three times U.S. foreign aid to Africa. These subsidies depress world cotton prices by some 10 percent. In West Africa, where cotton is a critical cash crop for many small farmers, annual income losses for cotton growers are about $250 million a year (Baffes, 2003).

Another finding is that more than 40 percent of agricultural tariff lines in many OECD countries are specific, which makes it difficult to calculate average tariffs, obscures actual levels of protection, and penalizes developing countries who tend to supply cheaper products. Low-income countries have much more transparent tariff regimes. Average agricultural tariffs in industrial countries, when they can be measured, are 2–4 times higher than manufacturing tariffs. Tariff peaks make it very difficult to correctly measure the real impact of protection because the key products rates tend to get buried in the average tariffs. Once this variance is taken into account, the negative impact of protections increases substantially—as illustrated in recent results that suggest the welfare impact of liberalization may be more than twice that found using approaches that rely on aggregate data (Martin and Manole, 2003).

The commodity studies suggest that a narrow sectoral approach is unlikely to be fruitful in dealing with the distortions created by policy. Interests differ across commodities and instruments. A major conclusion from the studies is the importance of microanalysis to identify both the key policy instruments that currently distort competition and the likely winners and losers from global reforms. The latter is critical in order to appropriately sequence reforms and put in place complementary policies, including adjustment assistance (Box 1).

Box 1: Agricultural commodity studies: A summary of findings

Cotton An important source of rural income and exports in Africa and Central Asia, in 1998/99 cotton accounted for more than 30 percent of merchandise exports in Burkina Faso, Benin, Chad, Mali, and Togo. In Uzbekistan, Tajikistan, and Turkmenistan, the corresponding figure was 32, 15, and 12 percent. Cotton confronts low border barriers but there is considerable domestic support granted to OECD producers. Major subsidizers are the United States, $3.7 billion in 2001/02 and the EU—Greece and Spain—$0.7 billion. This support implies that prices received by US and EU cotton producers are 87 and 160 percent above world prices, while world prices are reduced by some 10 percent, cutting incomes of poor farmers in West Africa and Central and South Asia. Cotton has important poverty ramifications in these countries, as it is a cash crop. In Benin, where cotton accounts for 40-percent of exports and 7 percent of GDP, a 1 percentage point increase in the world price of cotton would raise per capita income by one half a percentage point, and reduce the incidence of poverty by 1.5 percentage points. If support is completely removed, Africa is expected to increase production by 6 percent, while US and EU output would fall by 7 and 10 percent.

Dairy The world dairy sector exhibits the worst case of distortions of all the markets examined in the studies, with a complex system of trade barriers, especially in the Quad and Korea. Domestic price discrimination schemes in the EU, US, and Canada rely heavily on the ability to close borders to prop up prices. Dairy is a dynamic sector with much growth potential. Dairy consumption in Asia has been expanding dramatically and there is great potential for expanded trade if barriers were to fall.

Groundnuts The groundnut market is divided into a market for edible groundnuts (confectionery, processed butter and paste, an ingredient in candy items), and crushed groundnuts (yielding oil and cakes used in livestock feed). African producers have potential in this sector, but face challenges to become dependable exporters of confectionery products because of export volume volatility, inefficient processing, and uneven quality. The policy dimension of international groundnut markets is essentially a South-South challenge. India and China constitute large protected groundnut product markets, low cost producers in Argentina and sub Saharan Africa would be potential gainers from global reforms. With trade liberalization, the bulk of world welfare gains in this market would occur with groundnuts, rather than derivative products. However, the additional liberalization of the value-added markets (groundnut oil and meal) would lead to larger welfare gains and rural income for African countries ($72 million of aggregate welfare, $124 million of farm profits). Consumers in India and Southern China, who pay partially the price of heavy government intervention in the sector, will be better off.

Rice The most important food grain in the world, production and consumption is concentrated in China, India, and Indonesia. On average, consumers in low-income-food-deficit countries get 28 percent of their calorie intake from rice. Tariff and related border protection is very high, averaging about 40 percent globally and rising to 200 percent in some markets. Total support in Japan is a staggering 700 percent of production (at world prices). Tariff escalation is systematically practiced for rice (from paddy to milled rice) in many countries. This pattern of protection depresses world prices for milled high quality long grain relative to brown and rough rice prices and places economic hardship on the milling sectors of high quality, long grain exporting nations such as Thailand, Vietnam, and the United States. Following trade liberalization, rice net consumers could be negatively affected by resulting world price increases. African countries, other than Nigeria, Côte d'Ivoire, and Senegal, tend to have low consumption of rice (7 percent of average calorie intake), and thus would be less affected by any price increases.

Sugar One of the most distorted markets in the world, the EU, US and Japan all impose high protection, equaling some $6.4 billion per year, about the same as the value of total developing country exports. On average, domestic producers receive more than triple the world price for their output. Middle-income countries such as Mexico, Turkey, and Poland also provide significant support to producers. Current preferential trade agreements provide some suppliers with significant rents, but often exclude low-cost producers from entering the internal markets covered by the agreements. Quota allocations tend to be concentrated on a few countries, generally not the poorest and often high-cost relative to others. Mauritius has 38% of EU preferential quotas. Thailand, a very low-cost producer, is limited to a 15,000 tons quota of sugar to the US, whereas the Philippines has a quota about 10 times larger, which often goes under-filled.

Wheat: The global wheat market has become less distorted since the early 1990s. Export subsidies have largely ended, although other surplus disposal programs, such as non-emergency food aid and export credits, are still used. Most importing countries have reduced wheat tariffs or allowed duty free imports from regional trading partners and thus benefit from low world market prices. A few, such as Japan, continue to have extreme protection with internal prices more than five times global market levels. While wheat trade has become less distorted, tariff escalation is high with tariffs on flour well above wheat tariffs, and tariffs on bakery and pasta products even higher. Consequently, trade in wheat products in largely confined to free-trade areas such as intra-EU or NAFTA. A major concern for wheat importing countries is the lack of assured access to wheat export markets during periods of high prices as was demonstrated in 1995 when the EU imposed an export tax on wheat in order to protect its consumers from high prices. Such actions increase international price volatility and create incentives to pursue self-sufficiency policies in importing countries. Global liberalization is expected to raise world wheat prices by a relatively small amount (5-10 percent) because of large surplus capacity in major exporters. This capacity could return to production under policy reform and prevent prices from rising significantly.

Seafood: Fish is one of the most traded food commodities in the world. Developing countries account for over 50% of global fish product trade by value; seafood now constitutes 20 percent of their agricultural and food processing exports, more than tropical beverages, nuts and spices, cotton, and sugar and confectionary put together. The share of aquaculture, which is much more closer to agriculture has increased to 30 percent. The most valuable component of seafood trade is shrimp, with total world trade of over $10 billion in 2000. There is a myriad of policy issues in fisheries and aquaculture production. For example, capture fisheries still supply the majority of fish production, but many developing, lack the management resources to enforce their 200-mile Exclusive Economic Zones to ensure sustainable harvesting and adequate compensation. Trade barriers in fisheries products come primarily from tariffs, sanitary and phytosanitary measures, and increasingly from countervailing and anti-dumping measures. These barriers can have devastating effects on particular fish products and countries. Impacts of trade liberalization by country will depend importantly on domestic policies with respect to fisheries and aquaculture. Many developed countries heavily subsidize their fishing sector, including buying access to fishing in waters of developing nations. Increased aquaculture production in developing countries, particularly shrimp, has led to environmental impacts along the coastal areas. If trade liberalization in fish products led to higher prices for exporters, given already over-stressed resources, this may well lead to fewer fish to catch, a decline in food security, and, ultimately, unsustainable international seafood markets.

Table 2. Trade Shares of Products Affected by Agricultural Subsidies
(1995-98 Average, in Percent)

Country	Domestic Support		Export Subsidies	
	Exports	Imports	Exports	Imports
All (143)	3.6	3.7	4.4	4.4
Industrial Countries (23)	3.1	3.3	4.0	3.9
Developing Countries (90)	4.2	4.2	5.0	5.0
Least Developed Countries (30)	17.8	8.9	16.7	13.1

Note: 1995-98 is the most recent period for which detailed data were reported to the WTO. Numbers in parenthesis indicate the number of countries.
Source: Hoekman, Ng and Olarreaga (2004).

Another element of Bank research in this area focuses on the distributional impacts across countries of global reforms. Although the major agricultural exporting economies will benefit most from global agricultural reform, LDCs also stand to gain. Some 18 percent of total LDC exports on average comprise goods that are subsidized in at least one WTO member (Table 2), compared to 3-4 percent for other countries (Hoekman, Ng and Olarreaga, 2004). However, a similar observation holds for imports—nine percent of all LDC imports involve products that are subsidized, compared to 3-4 percent for other countries. Given that OECD support tends to depress world prices of the affected commodities, this points to the importance of taking into account the possible adjustment costs associated with global reforms that may result in increases in the world price of key food imports. Complementary financial support from the development community will be needed to assist developing countries negatively affected.

Work has also assessed the relative importance of different trade distorting agricultural support policies in OECD countries on developing countries. From the point of view of farmers in developing countries, the key issue is the impact of agricultural support policies on the prices they receive (or pay) for their products. This will depend primarily on the extent to which output is increased and consumption decreased by policies in other countries. Research (both outside and inside the Bank) suggests that what matters most is market price support, i.e., market access (Beghin *et al.* 2002, Hoekman *et al*, 2004, World Bank, 2003a). These studies all find that the impact on world prices of reducing border barriers (tariffs) is likely to be much larger than the impact of reducing domestic subsidies, by a up to factor of 5 to 10, depending on products and countries. One reason for this is that tariffs are often very high for subsidized products, frequently taking the form of non-transparent specific duties. While minimum market access commitments negotiated during the Uruguay Round—implemented through tariff rate quotas (TRQs)—ensure some access, in many cases the TRQs are small, and the effect of the tariffs is to support high domestic price levels.

Looking forward, new research activities on agricultural trade focus on analysis of options for the WTO negotiations, analysis of agricultural policies and policy reform options in developing countries (working jointly with FAO, IFPRI, and OECD); and analysis of the impact of existing preference schemes. The latter will seek to quantify gainers and losers from both the status quo and possible global reforms that may emerge from the Doha round. An objective here is to incorporate preference utilization into the databases used for analysis of agricultural trade reforms, and to identify countries/sectors that may lose from preference erosion. One issue is that given global price distortions—that may or may not be temporary—it is an open question as to what is the optimal trade policy of developing countries.

2.2 Non-Agricultural Market Access

Developing country export patterns have changed dramatically in the last 2 decades, as reflected in a massive increase in manufactures exports from virtually all regions. Barriers to such trade have fallen but remain high in critical sectors such as textiles and clothing. Research on market access for manufactures is in part covered by work on behind the border policies, as well as NTBs—standards and trade facilitation. But there is also still a large tariff agenda. Research here focuses on the consequences of alternative formula approaches to tariff reduction. This concludes that reductions in average tariffs appear to be more important for trade volumes. but that bringing down the highest rates (peaks) is important for expanding the market access of low-income countries. High tariffs in rich countries on many products important to developing nations must be reduced. Peaks currently average 40 times the average tariff in OECD countries. Restricting the ratio of the maximum tariff to the average tariff to be at most 5 would force members to dismantle tariff peaks. Tariff peaks are also a reflection of tariff escalation, which implies that market access for more processed products (embodying greater value added) is more restricted. Specific tariffs also disproportionately target developing countries that produce lower priced goods, making the ad valorem equivalent of the specific tariffs highly regressive. While developing countries have high tariffs vis-à-vis each other, static welfare gains in low-income countries from reducing tariffs on non-agricultural products are greater when high-income countries reduce tariffs than when low-income countries reduce tariffs. This is a result of both greater market size and tariff peaks.

A key issue is the long-awaited abolition of remaining quotas on textiles and clothing—required under the WTO Agreement on Textiles and Clothing. Recent research finds that the restrictiveness of the quotas has diminished for most suppliers where quota growth rates have been relatively high. But the very slow growth of China's quotas during the MFA phase-out period has been associated with substantial increases in the restrictiveness of these quotas. Exporters of textiles and fibers are more likely to gain from abolition of the quotas, as it will make the processing phase of final production more efficient. Outcomes in the clothing market are difficult to predict, because of uncertainty about the protective impacts of the maze of quotas on developing country exports and the ability exporters to shift to other labor-intensive manufactures such as leather products, travel goods and toys.

Whether existing producers will be better or worse off from quota elimination depends, *inter alia*, on the extent to which exports are currently restricted relative to exports from other suppliers; the strength of competition between suppliers; and the complementarities associated with global production sharing—particularly the benefits from increased demand for textiles and clothing as inputs. In the case of Pakistan, recent analysis suggests that overall, the short-run impact of MFA abolition will be positive on the textile sector but negative on clothing (as a result of stronger competition from countries with higher productivity in this sector). If no action is taken to improve productivity, output could decline by over 15 percent, and exports by a quarter (World Bank, 2004). A recent analysis of Caribbean countries (Ozden and Sharma, 2004) finds that the average price received by apparel exporters in the Caribbean has already declined by 25 percent in categories where MFA quotas have been eliminated. This is much higher than the preferential margin granted by the U.S. through the Caribbean Basin Initiative. The policy implication is again that productivity must be increased and/or that producers need to shift into higher value added products. Improved infrastructure and greater FDI to take advantage of geographic proximity to the U.S. market (closer integration into 'just-in-time' supply networks) is essential.

An emphasis of current work on non-agricultural market access is the provision of analytical tools and databases designed to facilitate active participation in trade negotiations by developing country trade negotiators. The major focus here is on the development and dissemination of the World Integrated Trade Solutions (WITS) software. This is a joint effort with UNCTAD that combines disaggregated tariff and NTB information, trade statistics and a software system that can be used to extract and analyze these data. The tool is intended for trade negotiators and policy analysts. WITS allows Doha negotiating proposals and formulas to be assessed for any country. New features such as *ad valorem* equivalents and protection indices have recently been added and the interface improved (Annex 2).

2.3 Services

Much of the public discourse on the Doha agenda has focused on trade in goods, particularly protectionist policies in agriculture. The negotiations on trade in services have received surprisingly little attention. At Cancun, services were not an area of disagreement. The Draft Ministerial Text stated that Ministers recognized the progress made in the negotiations and urged participants to intensify efforts to reach a successful conclusion. The progress so far consists of a large number of confidential but reportedly highly ambitious *requests* Members (including a number of developing countries) have made to each other for greater market access. The *offers* of improved access that have been submitted so far by thirty or so Members (including a number of developing countries) are reportedly disappointing. Negotiations on completing the GATS framework of rules – underway since the conclusion of the Uruguay Round – have also borne little fruit. Developing country engagement in the negotiations has been inhibited by the perception that the "assessment" of trade in services – mandated by the GATS as a condition for the new round of negotiations – has not been adequately carried out; that their domestic regulatory institutions are ill-equipped to deal with the demands of a liberalized market; and that there is little prospect of meaningful liberalization in their areas of export interest.

This suggests that three types of initiatives could help support a good development outcome from the services negotiations: (i) mobilization of intellectual resources to identify the elements of successful reform; (ii) technical and financial assistance to improve the regulatory environment; and (iii) political support to deliver improved market access (see below).

Work on services in the context of the global agenda has revolved around an effort to improve data on policies affecting trade in services through a partnership based program of surveys using a template developed by the Bank, and research identifying areas where developing countries have a strong stake in making and obtaining commitments through the GATS. An example is collaborative research with the ASEAN Economic Forum that focuses on ASEAN's services trade and the role of international trade negotiations. Country-based researchers have started by taking stock of actual policy in the various service sectors and comparing policy to services trade commitments both at the regional and multilateral level. An important finding is that actual policy in most countries and most service sectors is far more liberal than what is committed under the GATS or the ASEAN Framework Agreement on Services (AFAS). Even where AFAS commitments go beyond GATS commitments, this typically does not translate into actual preferential treatment at the regional level. The findings of this research will be an input to the rapidly increasing number of bilateral and regional trade negotiations in the region as well as the Doha negotiations.

To date the GATS has not been a very powerful instrument for liberalization commitments. Research indicates that it has primarily been a vehicle for countries to partially lock in reforms that have been undertaken unilaterally. A major policy relevant question is whether the GATS can (indeed, should) become a more effective mechanism to support countries seeking to open access to service markets. A case can be made that the mercantilist approach used to exchange "concessions" in the WTO may not be very effective in services, in part because services remain less tradable than goods, and are also intangible, making it more difficult to 'exchange' policy commitments on similar trade volumes by product. It can also be argued that the domestic political economy forces supporting services reforms are more powerful than in the case of merchandise trade liberalization—many key services are inputs into production of many industries, so that there is (should be) an easily mobilized and large constituency for reform. Experience to date does suggest reforms have been pursued on a mostly autonomous track, and that the GATS is perhaps most useful as a lock-in device (Hoekman and Messerlin, 2000). A key issue then is what such lock-in is worth to trading partners. There may be a 'Catch-22' situation—if unilateral reform is the driver and has a robust constituency, the probability of reversal is also low, reducing the incentive to make a 'mercantilist payment' for lock in.

An important issue for developing countries is the temporary movement of service suppliers, so-called mode 4 access. A first major output of Bank-supported research on this topic is Mattoo and Carzaniga, 2003), *Moving People to Deliver Services*. It examines the economics, law and politics of the "temporary movement of individual service suppliers", currently being negotiated under the WTO's General Agreement on Trade in Services (GATS). It includes a demonstration of the potential economic gains of mode 4 liberalization, which could easily exceed the total gains from complete liberalization of goods trade, as well as analysis of the existing international and national regimes for temporary migration by key negotiators, regulators and the private sector. Chaudhri et al. (2004) examine options for facilitating more liberal movement of individual service providers. The task is to carve out of highly restrictive immigration regimes greater scope for service delivery per se. They suggest an important first step may be securing liberal access for the strictly temporary (for at most one year) movement of skilled professionals as intra-corporate transferees and to fulfill services contracts. For these classes of providers, movement could be facilitated by the creation of a service provider visa with streamlined and transparent procedures.

As important for many countries is 'mode 1': the cross-border exchange of services—e.g., call centers, business process outsourcing, etc. Mattoo and Wunsch (2004) examine how the current Doha negotiations could be used to preempt nascent protectionism. The most ambitious option would require all WTO Members to commit to maintain existing liberal cross-border trade in services. Such a commitment to free trade would in no way deprive countries of the right to regulate in a non-discriminatory manner.[14]

[14] It is important to bear in mind that the available data on employment in the U.S. economy indicate that to date the cost of outsourcing to the U.S. labor force has been minimal. For example, a recent study estimates that *total* trade-related layoffs in the U.S. averaged 270,000 workers annually over the last few years (2% of the workforce), and only around 10% of total annual job losses (around 2.5 million per year).

Research priorities looking forward are informed by the fact that the ability to use trade agreements to deliver improved access to foreign markets and facilitate domestic reform is impeded by inadequate information and analysis. No country can participate meaningfully in international services negotiations without understanding how domestic reform is best implemented. This recognition is the basis of a joint DFID, UNCTAD and World Bank project to take stock of individual and cross-country experience with services reform, identify the areas where there are clear prescriptions for policy and where there is need for further research.

2.4 Special and Differential Treatment

Ensuring that WTO rules are supportive of development is a fundamental challenge confronting the trading system. Traditionally, developing countries have sought 'differential and more favorable treatment' in the WTO. This involves preferential market access for developing countries, limited reciprocity in negotiating rounds and greater freedom to use trade policies.

Non-reciprocal trade preferences

A major feature of SDT is unilateral trade preferences granted by developed countries. Fears of an erosion of preferences have become more of issue in the Doha round than before because the EU Everything But Arms (EBA) initiative and the U.S. African Growth and Opportunity Act (AGOA) substantially deepened preferences for beneficiary countries that can satisfy eligibility constraints. At the same time they also raise concerns on the part of countries that are excluded. Research, at the Bank and elsewhere, concludes that preferences have not been very effective (World Bank, 2003) and often fail to deliver expected benefits (Ozden and Reinhart, 2003a,b):

- Rules of origin may be so constraining that countries are forced to pay the MFN tariff because they cannot satisfy the requirements. . For instance, only 50 percent of EU imports from non-ACP LDCs, which are eligible for preferences, actually request preferential access to the EU (Brenton, 2003; Inama, 2002; Brenton and Ikezuki, 2004a);
- Goods in which developing countries have a comparative advantage often have the highest tariffs, and preferences for these products frequently have been limited;
- For certain key agricultural products (e.g. groundnuts in the US) preferences are often limited to (very small) in-quota quantities (Brenton and Ikezuki, 2004b).
- Preferences are subject to unilateral change or withdrawal, in part as the result of non-trade conditionality (foreign policy, labor rights, environmental requirements, etc.);
- Preferences can give rise to serious trade diversion, as beneficiary developing countries tend to produce and trade products that are similar to those of other developing countries.
- Even in cases where preferences apply to highly protected sectors in importing countries and are used, a share of the rents will be captured by buyers in importing countries—who extract much of the difference between the work and protected domestic price when negotiating with developing country suppliers (Olarreaga and Ozden, 2003; Ozden and Sharma, 2004).

Outsourcing is responsible for only a fraction of these trade-related losses. Moreover, total job creation by U.S. firms in developing countries (including both outsourcing and other activities) is only a small fraction of total job creation – for example, the number of workers directly employed by U.S. companies in developing countries rose by 300,000 (from 3.3 to 3.6 million) between 1998 and 2001, while over the same period, the number of employees in the U.S. rose by 3.7 million. Moreover, the total number of U.S. jobs that can be outsourced in the long run is limited. Some call center functions and some back-office accounting functions can be performed effectively overseas, but the vast majority of service jobs (which include everything form hair-cuts, restaurants, to psychiatrists and lawyers) cannot be. According to a recent analysis by McKinsey and company, the total number of jobs that could *potentially* be outsourced does not exceed 11% of total U.S. jobs. See "Who Wins in Offshoring?" McKinsey Global Institute, 2004.

This is not to deny that some countries have benefited from preferences. However, given the rapid expansion of regional trade agreements and the relatively low average level of tariff protection in OECD countries, preference erosion is unavoidable. Current research aims at identifying which countries and products will be most affected by preference erosion, in part by identifying where preferences are both utilized and generate returns for exporters,[15] and to identify alternative options through with high income countries can help current beneficiaries to adjust.

Rule making and enforcement

A second major pillar of SDT is non-reciprocity and exemptions from specific trade policy disciplines. A precondition for developing countries to benefit from WTO membership is 'getting the rules right'—ensuring that they support development. Bank research suggests that when it comes to traditional trade policies—tariffs, quotas—the WTO disciplines make good economic sense, including the use of the WTO to commit to tariff bindings (Francois and Martin, 2004). The Single Undertaking approach in the Uruguay Round led to the inclusion into the WTO of rules in many areas of a regulatory nature—e.g., subsidies, product standards, trade-related investment policies. This trend shows few signs of abating—witness the current focus on competition law, FDI policy, transparency in government procurement, trade facilitation and environmental policy. From a development perspective the issue is to determine the rationale for proposals to pursue deeper integration, and, if so, whether the WTO is an effective forum for this.[16]

'Getting the rules right' requires evaluating and understanding the implications of alternative rules. Ideally, countries should have the assurance that rules will only apply once the preconditions needed to benefit from implementation have been put in place. This suggests the need for "differentiation" among developing countries in determining the reach of WTO rules that require significant complementary institutional capacity to implement; or that will potentially give rise to large net transfers from low-income developing countries (as could arise under the TRIPS agreement, for example). Research has identified several options to take into account and operationalize country differences in WTO agreements. A common feature of these options is that they entail more narrowly defining eligibility for temporary exemptions from WTO rules and devoting much more attention to determining the economic costs and benefits of implementation of rules (Hoekman, Michalopoulos and Winters, 2003).

Looking ahead, internal and external consultations identified a strong interest on the part of negotiators and policymakers for more in-depth research on whether and how the concept of 'policy space' for development could be operationalized in the WTO. Some preliminary work on options that could be considered in the context of technology transfer has been completed (Hoekman, Maskus and Saggi, 2004). A larger project is being planned that will bring together a

[15] Work on the impact of rules of origin is part of this (e.g., Brenton, 2003). Lederman and Ozden (2003), Ianchovichina et al (2002) and Mattoo et al (2003) find that the effectiveness of preference programs decline considerably when rules of origin requirements and selection biases due to non-economic motivations are taken into account. Determining the extent of utilization is also important in assessing the impact of further nondiscriminatory trade liberalization—both unilateral and through the WTO—on countries currently benefiting from trade preferences—the so-called preference erosion issue.

[16] There has been a substantial amount of research on the development dimensions of addressing these issues in the WTO. Space constraints prevent a discussion. On procurement, see Hoekman (1998) and Evenett and Hoekman (2000, 2003, 2004); on investment, see Hoekman and Saggi (2000) and Hallward-Driemeier, 2001); on competition, see Evenett (2202), Hoekman and Holmes (2001), Hoekman and Mavroidis (2003), and Hoekman and Saggi (2004). Trade facilitation research is discussed above. The main findings of all this work have been summarized in the 2002-04 *Global Economic Prospects* reports.

set of experienced and knowledgeable specialists on industrial policy and development as well as trade agreements to explore policy options in this area.[17]

3. Regional Integration

The growth of preferential trade agreements (PTAs) has been a major development in recent years. More than half of world trade now occurs within actual or prospective trading blocs. Nearly every developing country is in, or is discussing, a regional integration arrangement. Many are seeking advice on the appropriate strategy to pursue and how such agreements might best be organized. Given the "second best" nature of PTAs, unlike global, multilateral trade liberalization, there are few universally accepted rules of conduct that are applicable to all such arrangements. However, research in this area has generated a wealth of information and experience that provides broad guidelines in their dealings with regional integration issues.

PTAs can be beneficial for members, but they also give rise to costs. What matters is the net effect, requiring a case-by-case assessment. Whatever the effect on members, the discrimination created by PTAs will tend to be welfare reducing for many non-members and for the world as a whole (compared to a non-discriminatory counterfactual). Political realities are such that not all countries will have access to the major PTAs, i.e., many countries, especially those with the largest number of poor people, will confront discrimination. Research has focused on the effects of discrimination in trade policy; both in the context of formal, reciprocal regional trade agreements, and in the context of non-reciprocal preferential access schemes granted by developed countries. Issues that have been explored include assessments of trade diverting effects of such discrimination—who gains and who loses? This has shown that diversion is a matter of concern, with new evidence on how PTAs can shift the terms of trade against non-members (Chang and Winters, 2002).

Regionalism and development has been a major focus of research for the Bank since the mid 1990s. The policy conclusions of recent research are summarized in a 2000 Policy Research Reoprt, *Trade Blocs*, and in a comprehensive synthesis volume (Schiff and Winters, 2003). The latter surveys the literature and incorporates the findings of new analyses of the politics and dynamics of regionalism. These books as well as a short summary chapter in the *Development, Trade and WTO* handbook (Hoekman and Schiff, 2002) provide a series of rules of thumb for the design of regional agreements from a development perspective. In a nutshell, these 'rules' suggest that North-South PTAs are likely to be more beneficial to developing country members than South-South agreements; that the latter can be efficient mechanisms to achieve political objectives, but that mechanisms are needed to monitor the economic costs of attaining these objectives; that free trade agreements are likely to be easier to implement than customs unions, but that this must be accompanied by simple rules of origin that do no more than is necessary to prevent large-scale trade deflection; and that the best insurance that can be taken against a welfare reducing deal is to lower external trade barriers at the same time as the PTA is implemented.

Subsequent work has focused on both extending and on operationalizing the research in the contexts of specific agreements. An example is recent analysis on how to maximize the benefits of prospective Economic Partnership Agreements (EPAs) between the EU and ACP countries. These are North-South agreements, and therefore offer substantial potential benefits for ACP countries in terms of integration into the global economy and support for beneficial reforms.

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[17] One element of the agenda here concerns enforcement of trade agreements. Another ongoing project will construct a database of all WTO dispute settlement cases to date to determine what are the outcomes (costs and benefits) and whether there is any bias against developing countries. This work will also help inform analysis of alternative options for enforcing cooperation in the WTO.

However, they also pose numerous policy challenges, including: the need to restructure indirect tax systems and reduce MFN tariffs; liberalization of service imports on an MFN basis, identification and implementation of related complementary regulatory policies; and the need to liberalize trade in goods and services within the regional economic communities that the EU is negotiating with.

For EPAs and similar agreements to realize potential development benefits, three elements are essential. First, Northern partners (EU, U.S.) must treat the PTAs as instruments of development, subordinating their commercial interests in the agreements to the development needs of developing country partners. In particular, this implies liberal rules of origin that do not distort the incentives for firms to source from least-cost producers. While rules of origin are needed to prevent transshipment, the danger of liberal rules leading to this is low given the many infrastructure and other related constraints that will make such arbitrage unprofitable. 'Made to measure' rules of origin that are intended to stimulate local sourcing are likely to be ineffective, and if not, will impose high costs on African consumers. Second, effective coordination of trade and development assistance components is essential—the trade capacity agenda is both large and urgent if countries are to benefit from liberalization. Third, partner countries need to implement the trade-related policy reforms associated with the PTA, while at the same time reducing the extent to which such implementation results in discrimination against third parties. Here also assistance in addressing adjustment costs is critical, as are pro-active policies to use instruments such as the WTO to pre-commit to such MFN reforms (Hinkle and Schiff, 2004). There are clear linkages here with the need for OECD countries to make meaningful commitments on services and agriculture in the Doha round—this would do much to help achieve the third condition.

Looking ahead, work will focus on the economics of agreements that include services—how they are best designed, what they should cover, and what is best done where (regional vs. WTO-based commitments). Whether a country should liberalize telecommunications, transport, and financial or business services faster in the regional context than multilaterally is an open question. Our conjecture is that explicit barriers to foreign participation are best removed on an MFN basis (to avoid trade diversion), but that regulatory cooperation – harmonization or mutual recognition of qualifications, technical standards, prudential regulation, etc. – may be more feasible and desirable regionally (because of economies of scale or scope). But much depends on "what, where and how much" (Hoekman, 2004).

4. Looking Ahead

The research agenda looking ahead emphasizes continuation of work on trade and poverty, with extensions to investigate issues related to adjustment costs of reforms in developing countries and the distributional effects of reforms. There will be an increase in country-specific work, in part through the launch of country studies investigating the role of 'behind the border' policies in explaining why some countries have been successful in using trade reforms as part of a growth strategy. Given the importance of agriculture both for development outcomes and poverty reduction and the high profile of agricultural policy on the WTO (and regional) agenda, work will continue to analyze the implications of global reform in this area on individual developing countries and commodities. Finally, much of the work described above—e.g., on services, trade and growth and regionalism—is ongoing and will continue in the coming years.

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Annex 1: Trade Notes

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Annex 2: WITS

WITS (World Integrated Trade Solution) is software, developed by the World Bank in collaboration with UNCTAD, that allows users to retrieve and analyze information from (currently) five databases on trade and trade barriers. These are the UN Statistical Division's COMTRADE database of trade flows; UNCTAD's TRAINS database of tariffs and nontariff barriers ; WTO's IDB of applied tariff rates and CTS database of tariff bindings; and the Agricultural Market Access Database Consortium's AMAD database of agricultural trade barriers. This software is a key output from long-standing collaboration with UNCTAD in which the Bank has specialized on software and UNCTAD on the collection of primary data.

The objective of the WITS project is to provide the best possible information on trade and trade policies to its users, and the ability to transform these data in ways that are valuable to data users. The two key groups of users are:

(i) Trade policy makers and their advisers, and
(ii) Policy and research economists in the World Bank and other institutions

Technically WITS is designed in a modular way that facilitates the addition of new functionalities. The original functionalities of the system were extraction and simple aggregation of trade and tariff data. As the negotiations under the Doha Agenda have progressed, development has focused on the needs of trade negotiators, particularly in the analysis of different approaches to analyzing changes in trade barriers.

In 2003-04, major achievements have been the addition of a Doha proposals analysis feature, simplification of the installation procedure, upgrades to security, launch of a website and adoption of an improved interface. Moreover, new features (*ad valorem* equivalents, protection indices) have been added, and the online help functionality updated.

Dissemination of the WITS package includes other international institutions as well as trade negotiators, policymakers and researchers who support them.

The WITS development strategy is to meet the needs of these user groups through:

- Improved accessibility and guaranteed reliability,
- Improved interface and appropriate user support
- Integration of additional databases
- Continued development of analytical capabilities
- Appropriate collaboration and coordination with other international institutions (UNSD, UNCTAD, WTO, ITC).

Annex 3. Recent trade team research output

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