ECONOMIC INTEGRATION IN THE WESTERN HEMISPHERE

Edited by Constanza Valdés and Terry Roe

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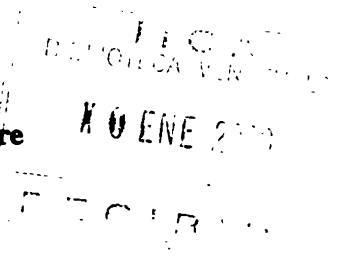

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PREFACE

The International Agricultural Trade Research Consortium [IATRC] is a group of 160 economists from 16 countries who are interested in fostering research related to international trade of agricultural products and commodities and providing a forum for the exchange of ideas. The Consortium holds two conferences per year, one in December and another in June. The December conferences have a theme day related to trade and trade policy, or occasionally to new developments in trade theory or research methods. The June conference typically focuses on broader issues of trade policy and trade research, as exemplified by this conference on *Economic Integration in the Western Hemisphere* held in San Jose, Costa Rica in June 1995.

The activities of the IATRC are made possible by financial support form the Economic Research Service and the Foreign Agricultural Service of the US Department of Agriculture [USDA], and from Agriculture and Agri-Food Canada. This conference, was also supported by the Inter-American Institute for Cooperation on Agriculture (IICA). IICA, founded in 1942, is the specialized agency for agriculture of the Inter-American System. It is composed of 33 Member States of the Western Hemisphere, creating a link among North, Central, and South America and the Caribbean. Its mission is to encourage, facilitate, and support cooperation to promote agricultural development and rural well-being. IICA provide financial and logistical support for the conference, as well as helping in the development of the program and the identification of speakers.

Over 100 individuals attended this conference, with approximately 30 percent from Latin America, 50 percent from the United States, and the remainder from other locations, including Canada, Europe and Africa. The conference entailed over 15 papers, and several panel discussions. The editors acknowledge the contributions of the discussants and other participants whose comments are reflected in the final versions of the papers included in this proceedings.

Organizing an international conference typically requires the sacrifices of a few individuals willing to produce such a "public good." Among the contributors to this conference were Laura Bipes, Administrative Director of the IATRC and of the Department of Applied Economics, University of Minnesota, and Sonia García, Administrative Assistant to the Director of Trade and Integration, IICA. Without their special efforts, the conference would not have been the success it was. Very sincere expressions of gratitude are also owed to Rodolfo Quirós Guardia, Director of Trade and Integration, IICA and to IICA more generally for helping to conceptualize the conference, for encouraging participation from economists and policy analysts from throughout Latin America, and for making available the facilities and the pleasing environment within which the conference was held. Special thanks goes to Susan Pohlod, University of Minnesota, for preparation of this manuscript for publication. We hope that this conference helps to establish a precedent leading to more cooperation and integration of skills and ideas in the future.

IATRC membership information, and a complete list of past IATRC conferences and related publications, including proceedings, commissioned papers and working papers, is available from Laura Bipes, Administrative Director, Department of Applied Economics, University of Minnesota, St. Paul, MN 55108. Information about the IATRC is also available at http://www.umn.edu/iatrc.

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FORWARD

The purpose of the conference was to provide a better understanding of the hurdles to and likely impacts of trade agreements among Western Hemisphere countries. From a historical perspective, countries in the hemisphere are engaging in massive realignments of their trade regimes as evidenced by the Uruguay Round Agreement, the conclusion of the North American Free Trade Agreement and, importantly, the fundamental economic reforms undertaken by many Latin American countries. Many counties in the region view economic integration as an important step towards global competition, and a priority within the framework of market-oriented reforms. Most of the conference papers focus on agriculture since it is an imported traded goods sector in most of these economies, and since agriculture was a major hurdle to concluding the Uruguay Round and NAFTA. The proceedings are timely as they respond to the December 1994 Summit of the Americas with its commitment to construct the "Free Trade Area of the Americas" by the year 2005, and to the creation of the World Trade Organization which will play an important role in trade negotiations and disputes.

The papers presented range from the broad implications of Western Hemisphere trade liberalization on trade diversion, expansion and resource adjustments, to the specific issues faced by particular counties. These include lessons learned in the case of Mexico's policy reforms, the anticipated benefits to Chile from joining NAFTA, and the problems that arise in the details of trade negotiations. Concluding papers tend to focus on future concerns and contingencies in sustaining growth and development. An example of the former are the papers by Alberto Valdés, David Blandford, and Constanza Valdés, et al. A. Valdés concludes that although Europe and Asia are important markets for Latin American exports, they cannot escape the fact that a large segment of the regional economy is now part of a regional trade agreement. Efforts to preclude trade barriers associated with tariff escalation, sanitary and phytosanitary restrictions, and seasonal surcharges will induce these counties to become part of a broader regional trade agreement. Problems will arise with countries that struggle with internal and external imbalances, and adjustments in agriculture will be substantial for some countries. Blandford concludes there is little evidence that regional trading agreements have contributed to protectionism; regional agreements have often liberalized trade faster and deeper than would have been possible at the multilateral level. The C. Valdés, et al. paper notes that liberalization will have strong effects on income, which will foster growth in both agricultural and non-agricultural trade. They note that the US may experience significant gains from trade in high value processed agricultural goods.

Papers addressing the country level report on the results from joining a larger regional trading block, and the likely outcomes from countries that are either in the process of, or anticipate, enlarging their respective trading block. Andrés Casco's paper reports on the experience of Mexico, and Carol Goodloe's paper discusses the lessons learned from the perspective of individuals helping US negotiators to conclude the NAFTA with Mexico and Canada. Drawing on Mexico's experience, Casco focuses on four basic "axioms" in market formation: (1) free markets are no panacea for economic ills since agents must learn how to adapt to the opportunities markets make available and how to live with market risks; (2) markets do not emerge like mushrooms once the State has decided to reduce interventions; instead conditions must be created to encourage agents to freely interact and to accept and manage market risks; (3) the transition to a free market should be gradual, but not so gradual as to allow the formation of "antibodies" to the process; and (4) once reforms are initiated, policy must be consistent with efforts directed to liberalize all of the economy.

Goodloe argues that the lessons gleamed from NAFTA can be best analyzed if a treaty is viewed as a process divided into three phases, negotiation, legislation and implementation. She discusses the negotiation phase by focusing on the substantive issues, and then the practical. She notes that part of the contentiousness between Canada and the US resulted from the lack of consistency between the tariffs created in the Uruguay Round to replace nontariff barriers and the obligations stated in the NAFTA to not impose new tariffs or raise existing ones. In contrast, once Mexico and the US agreed on the ultimate goal of complete elimination of tariff and nontariff barriers on agricultural trade, only six months were required to work out the transition arrangements and to address questions of access and other sensitive issues. As an economist responding to the questions and data needs of negotiators, she is able to provide a unique perspective into the problems of handling the extremely detailed, commodity specific and product sensitivities that are common to carrying out negotiations. Finalizing agreements requires more detailed information. For example, economists may simply analyze production and trade of poultry and eggs as an aggregate. In the case of poultry and eggs, it was necessary to examine 20 to 30 different tariff lines to determine what level of trade is occurring at what rate of duty for which type of poultry. Assembling these data, determining rules of origin when additional countries join the agreement and several other factors necessary to for implementation present almost insurmountable difficulties.

An example of a paper focusing on the potential benefits to joining the NAFTA is that of Eugenia Muchnik. She suggests that Chile's fresh fruits and vegetable exports to the US already face low tariffs, so gains to these sectors might be rather small, while gains to the agroindustrial sector might be relatively large since it now faces relatively high tariffs in the US market. At the same time, farmers are exerting pressure to minimize the exposure of the sector to potential low cost imports that could originate from other countries.

The importance of integration and environmental policy were also discussed. The Richard Gray, et al. paper suggests that potential sources of conflict in negotiations are likely to arise from the divergent national environmental standards. Divergent standards may become non-tariff barriers to trade, and the consequent need to seek some level of harmonization, especially for phytosanitary and sanitary standards. Vernon Ruttan's paper emphasizes the need to build global research systems that integrate agricultural, health and environmental standards as a way to arrive at a more uniform consensus on how to support sustainable development and to contribute to the harmonization of standards among countries. Other papers considered the broader implications of Western Hemisphere integration on labor market adjustments, capital flows and the implications of integration to emerging policy issues and research priorities.

The tone of most papers was that the removal of trade barriers would tend to benefit all even though fairly large sectoral adjustments would be required in some countries. Given the shocks of the 1970s, the debt crises of the 1980s, the adjustment and reform problems of the 1990s, open discussion among participants left some room for concern. Should we really be that optimistic about the future? Concern was expressed as to whether capital flows might be destabilizing and thus threaten reform and trade arrangements. What are the ancillary policies to make trade liberalization and the opening of economies to world capital markets yield real per capita welfare gains to all? What can be done to ensure that the poor gain from openness without undue loss of economic efficiency? What are we overlooking that may give rise to outcomes as deleterious to welfare as were the experiences of the last two decades? For these reasons, a felt need was expressed to further linkages among participants and to pursue joint efforts to explore these questions.

Constanza Valdés and Terry L. Roe

SESSION 1. EVOLUTION TOWARDS REGIONAL INTEGRATION

Joining an Existing Regional Trade Agreement: Issues and Policies from the Perspective of a Small Open Economy in Latin America

Alberto Valdés, World Bank[1]

Introduction

Latin American countries began to open up their economies in the late 1980s following decades of protectionism, effectively putting an end to four decades of import substitution policies. Most countries had relied on quantitative restrictions before this and, in most cases, high tariffs were used in order to protect the production of importables. In several countries, agricultural exports were taxed directly; moreover, agriculture suffered extraordinarily high indirect taxation from industrial protection and macroeconomic policies (Schiff and Valdés, 1992).

For most of Latin America, a bold program of unilateral trade had already occurred in April of 1994, the time of the Uruguay Round Agreement (URA). These reforms have exceeded the requirements of GATT, and therefore, with some exceptions, the URA for agriculture is not likely to cause major adjustment problems in the countries concerned (Valdés and McCalla,1995).

Following the strong trade reforms of the late 1980s and early 1990s, many countries in the region are facing new policy and institutional challenges. One major policy challenge is to maintain open trade regimes in the face of continuous pressure to protect one sector or another. A second challenge is to push the trade liberalization agenda further; the URA provides new opportunities for increasing trade under a hopefully improved market access. Not all trade liberalizations were completed in LAC countries, and some of the trade related institutions such as customs administration and rules for dealing with contingency protection measures (safeguards, anti-dumping, etc.,) remain out of step with liberalized trade (Rajapatirana, 1994).

Preferential trade agreements have taken on an astonishing prominence more recently in the trade policy debate of the post-Uruguay round in Latin America. Regional agreements are 'in' and trade agreements proliferate: Mercosur in the Southern Cone of South America; NAFTA in North America; the Free-Trade Area for the Americas agreed at the Summit for the Americas in Miami, are among the most recent initiatives and the 'older' treaties, such as the Andean Trade Preference Act; the Caribbean Basin Initiative; and Central America's trade agreement. These agreements are dominating the current debate on trade policy in the region. Add to these the numerous bilateral agreements and trade preferences under ALADI, Chile and Mexico's membership in APEC, Colombia, Mexico and Venezuela (the G3) and others, an increased commitment to regional and subregional trading arrangements is revealed. This obsession with preferential trade agreements raises several questions. Does this regional approach mean a slow down of the reforms in the trade regime from a multilateral 'MFM' perspective? Is Latin America and NAFTA

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[1] Presented at the conference on Economic Integration in the Western Hemisphere, co-sponsored by the International Agricultural Trade Research Consortium (IATRC) and the Inter-american Institute for Cooperation on Agriculture (IICA), San José, Costa Rica, June 7-9, 1995.

moving in the direction of closed trading blocks? Or, quite the contrary, one could expect that these regional agreements might speed up liberalization within the regional agreements and between sub-groups and non-members? Are these overlapping preferential agreements likely to create a morass of bureaucratic procedures making enforcement of commitments rather unworkable? Hopefully this conference will help elucidate these questions.

Agriculture is rapidly becoming one of the most contentious issues in the regional agreement as was demonstrated also in the URA negotiations. This sector's requirements are particularly contentious because they are taking place against a backdrop of stress on profitability experienced by agriculture in several countries. This phenomenon - reflected in a decline in (red) farm prices in domestic markets - has lead to an intensive pressure for protection for import-competing subsectors. The main factor underlying the decline in real (domestic) farm prices is the exchange rate appreciation (mainly due to large capital inflows) observed during the early 1990s; a phenomenon which was amplified by the tariff reductions and removal of QRs, reducing (real) farm prices even further. An eventual integration with Mercosur, or with NAFTA, will increase the pressure for competition among some import-competing subsectors (traditional crops), as well as open up new opportunities for exports. Thus, the design of a negotiating strategy for a country usually takes the form of minimizing the potentially adverse effects on importables, and maximizing the potential benefits on exportables. The fairly recent exchange rate phenomenon occurring in several countries in Latin America will, I believe, profoundly influence the local perception as to expected benefits and costs from joining an FTA. To the extent that this exchange rate appreciation is a temporary phenomenon, it could distort the negotiating strategy of these countries.

This paper attempts to identify important analytical issues involved in the joining of an existing trade agreement from the perspective of a small open economy in Latin America. As such, this paper does not examine the global welfare implications of such initiatives. The analysis considers the possibility of joining NAFTA whilst simultaneously exploring a special preferential status with other subregional agreements. Chile, for example, is considering the possibility of joining NAFTA while simultaneously negotiating a preferential status with Mercosur (Chile is not a member of Mercosur nor of the Andean Group). Colombia, Peru, or Venezuela could consider the same option. These countries all belong to the Andean group and have expressed interest in joining NAFTA. Argentina, a member of Mercosur has expressed an interest in joining NAFTA. Hopefully, the framework presented could be useful in delineating a negotiating strategy.

The first part simply identifies two important issues regarding the debate on multilateralism versus free trade areas, namely the potential effect on the level of external trade barriers (applying third country imports) and rules of origin as a key element. The second part attempts to identify arguments for and against joining an established FTA. The last section concludes with some thoughts on a negotiating strategy for a small open economy that is considering joining an FTA.

Multilateralism and Regional Trade Areas (RTAs)

It is generally accepted that multilateral treaties based on the most favored nation (MFN) principle-equal treatment of all on a multilateral basis - have succeeded in expanding world trade over the past decades. Most trade economists agree that MFN based trade is the most successful and that departure from MFN is good only if it leads to GATT-plus trade, i.e., more net trade is created than possible under MFN trade liberalization on a unilateral basis. Across products worldwide, there has been much greater trade

expansion under MFN basis than under preferential trade (Rajapatirana, 1994). See McCalla (1992) for a synthesis of the empirical evidence of the impact of preferential trading arrangements on agriculture.

A large proportion of this growth in trade is occurring within certain regions, although not under preferential market access, such as in Asia. This is not always the case for agricultural trade, and the clearest case is the growth of inter-European Union (EU) agricultural trade, which is far above the growth of inter-regional trade for that block (Josling 1995).

Latin American RTAs have not lead to significant trade expansion in the past, due to the protectionist approach, discriminatory practices and complex regulations. Most countries in the regions followed inward-looking policies, and the subregional RTAs departed from MFN treatment ending up with reducing trade and isolating the local economies from the rest of the world. It is not trivial to remember that several countries joined GATT only recently (Mexico in 1986, Bolivia and Costa Rica in 1989, El Salvador, Guatemala, Honduras, and Venezuela in 1991).

However, a new and critical element in the early 1990s is that RTAs in Latin America are now being negotiated in the context of countries which had already began a unilateral liberalization of their trade regime. Thus, the question is to what extent RTAs are raising the trade barriers to nonmembers. So far, the answer is that they have not raised them. However, as argued by Primo-Braga and Lustig (1994), there are some caveats to this assessment. One is whether the common external tariff results in higher trade barriers. The second is the potential protectionism element regarding the rules of origin.

If the RTAs do not raise their barriers to nonmembers, the scope for trade diversion (e.g. divert trade from lower cost exporters outside the block to higher cost exporters within the block) is weaker. However, some critics of the RTAs believe that the determination of the common external tariff in the case of the customs union will probably not converge to the lowest tariff levels. That is, for a number of goods it will result in tariffs higher than those maintained by the member with the lowest tariff for a number of goods. We should remember that the URA (Art.XXIV) provides some GATT guidelines and disciplines with respect to regional arrangements. Customs unions would be GATT compatible if the weighted average tariff against nonmembers does not increase with the formation of the customs union, although it could increase at specific tariff levels.

Particularly for free trade areas, rules of origin raise a complex issue for agricultural trade in RTAs. Rules of origin are necessary in a free trade area or in a customs union to determine which goods are entitled to preferential treatment. Under free trade areas, they are needed to prevent exporters outside the trade area using a partner with lower trade barriers to tranship exports to more protected markets within the area. Within a customs union, they determine the domestic content requirement. However, most primary agricultural products are fairly homogenous commodities, and thus it is hard to run rules of origin effectively, which has made analysts wonder whether free trade area arrangements will gradually evolve towards a custom union arrangement, at least for primary agricultural commodities.

The Benefits and Costs of Joining an RTA

a) The most frequent empirical question regarding the costs and benefits of RTAs is the classic *trade creation versus trade diversion effects*. The amount of trade creation versus diversion will depend on the initial conditions in the countries concerned regarding tariff levels and non-tariff barriers (NTBs), tariff escalation, and products excluded from the preferential agreement.

Trade diversion (increased trade with higher cost trading partners) can be large if the country joining an RTA is more open than the RTA. For example, if Chile which has an 11% uniform tariff on imports were to join Mercosur, which has agreed on a common external tariff of 20% (ranging from 0 to 20%), it would be joining an RTA which is more protectionist, thus resulting in an increase in Chile's tariffs with respect to non-Mercosur members. Trade diversion in the case of joining NAFTA would be less because NAFTA economies have lower trade barriers than Mercosur, and NAFTA economies are so much larger than Mercosur. However, joining NAFTA would still imply some trade diversion as a large proportion of Chile's imports (consumer durables) come from Asia and Europe, and because NAFTA exportables are not perfect substitutes with these other sources.

However, potential trade diversion effects on agricultural products are reduced considering that they are fairly homogenous products and thus probably have high substitution elasticities.

b) *The cost of being excluded from an RTA* as perceived by a country that wants to join may be important. Baldwin's (1993) *domino theory* comes to mind as a relevant framework in attempting to explain the recent series of calls by prominent political leaders in Latin America for regional agreements. Baldwin's theory is based on the outcome of political forces within a country. He argues that once an RTA is established between two or more 'large' countries there is political pressure on the governments of third countries to join the RTA, pro-membership forces visualize a loss in their export markets to member countries as a result of the agreement. If these non-members do eventually join the RTA and expand the trade bloc, there is further pressure to join from other countries that are still left out. Baldwin concludes that this process lasts until a new political equilibrium (within each country) is reached and anti- and pro- membership forces are once again in balance.

An example of this is Chile and Mercosur. Although from a static creation/trade diversion perspective Chile might benefit from not joining Mercosur, there are pressures on Chile in favor of becoming an associate member of Mercosur (Chile would keep its external tariff schedule, which is lower than Mercosur's). The concern is that Chile might lose export markets in Brazil and Argentina, which are important for certain products, as a result of a trade diversion in the Mercosur market. Between 1991 arid 1993, Chile had signed preferential agreements with Argentina, Bolivia, Colombia, Mexico, and Venezuela, had become a member of APEC, and had initiated negotiations with NAFTA. Another example is Colombia which had signed more than 20 free trade agreements with the rest of Latin America between 1991 and 1994.

c) *Reducing uncertainty of market access could induce an expansion in local investment for producing exportables.* The experience shows that large economies such as the United States can unilaterally adjust access conditions to exports from small economies, and stop imports for a substantial period of time. The delay in resolving these disputes can mean the end of an otherwise profitable exports for the small economy, particularly for perishable products. Non-tariff barriers (NTBs) are the preferred instrument used by the larger economy, and sanitary and phyto-sanitary regulations head the list of preferred instruments to block the entry of imports. The presumption is that by becoming a member of an RTA, such as NAFTA, and due to clearer rules and established procedures regarding the resolution of disputes, there might be less uncertainty regarding unilateral action affecting exports from the smaller economies. The case of cut flowers from Colombia, the infamous case of the 'poisoned grapes' from Chile into the United States, etc., are still fresh in the memory of exporters in those countries.

d) *The cost of joining an RTA in which some members have a history of unstable macroeconomic conditions.* Volatility in the real exchange rate between members can rapidly be transmitted to domestic prices, introducing great uncertainty affecting employment, trade flows, and fiscal revenues. Depending on the degree of economic integration, the larger the economy of a member with unstable policies, the greater is the effect on the smaller economies. As Krugman (1993) notes, for a large country such as the United States, any significant change in the economy caused by changing trade flows under an RTA could be easily offset by a change in domestic monetary policy. The Federal Reserve, faced with the prospect of a reduction in US employment because of rising imports from Mexico, could set interest rates lower than it otherwise would have. After concluding that the most pessimistic estimates of job losses due to NAFTA do not exceed 500,000 - less than half of one percent of US employment - Krugman (1993) argues that

> "a job loss (or gain) in the order of half a percent (in the US) is small change compared with the effect of Federal Reserve policy. Such a change can and will be offset by a change in interest rates of a fraction of a percentage point".

The United States has a flexible exchange rate system and a "deep" financial market which permits the use of monetary policy to offset external macroeconomic shocks. By contrast, the Latin American economies typically intervene directly in the foreign exchange market avoiding large fluctuations and are fairly constrained in their possibilities of using interest rate policy to offset external shocks. One reason for this is that the interest rate is usually tied to price stabilization targets, and secondly, because the level of 'monetization' of these economies (M/GDP) is typically a fraction of that prevailing in industrial countries. Thus, for a small, open and macroeconomic "stable" economy, the combined effect of trade and capital flows from "large" and macroeconomic unstable partners in an FTA can be very hard to offset. Argentina and Brazil have a long history of highly unstable macroeconomic policies. By contrast, Canada and the United States are more stable, thus, the advantage of NAFTA vis-a-vis Mercosur for Chile or Colombia.

e) *FTAs and environmental standards.* For the smaller economy, environmental problems in foreign trade are centered around their exportables. It is useful to distinguish between those that concern the finished products (demand) and those related to the production process (supply) of agricultural exportables. GATT has generally backed trade sanctions based on demand criteria, justified directly in terms of a possible damage to consumers in the importing country, but has not backed sanctions based on environmental criteria related to the production process. However, negotiations with the United States could include supplementary negotiations which could impose some trade restrictions related to environmental concerns on the supply side. The latter could include run-off of agricultural residues, water pollution, labor standards for workers exposed to agrochemicals, and others.

As was the case concerning trade and wages during the negotiations of the United States, Canada and Mexico, environmental concerns easily become a political issue under an FTA with the United States. This strengthens the hand of local lobbies who can demand costly environmental measures in the Latin American economy. It is paradoxical that, because the United States is a very open economy, countries such as Chile and Colombia have access to the market without having to raise their environmental standards (on supply) as would be the case should they join NAFTA.

An analysis on environmental issues by the World Bank (1994) for Chile under a scenario of negotiations with the United States, concluded that the principal concerns for Chilean agriculture were centered around the production process. These were: (i) weak supervision and enforcement of the relevant legislation; (ii) inadequate information on the effects of some toxic substances on the environment and on finished products; and (iii) inadequate legislation regarding run-off of agricultural residues. According to the World Bank, the greatest problem is not the content of environmental regulation, but deficiency in supervision. The bottom line is that more government and private sector resources would have to be allocated to this task, increasing local production costs.

f) *Joining an FTA could have positive externalities such as:*

* complying with higher environmental standards on exportables may also lead to better access to third country markets, e.g., Japan and the European Union. This would probably arise if the country were to joining NAFTA;

* joining an FTA with neighboring countries (Chile and Mercosur) could bring about higher returns for joint investments in infrastructure, such as ports, roads, energy, and others;

* the potential benefits from increased credibility in domestic policies, reducing the country risk which may lead to greater foreign investment.

g) *The potential benefits from a reduction in tariff escalation* faced by smaller countries exporting to the United States. In the United States, tariff rates for agriculture, fishery and forestry products increase with the level of processing (Butelman 1994). This bias against exports of processed foods to the United States is apparently very important for Chilean agriculture. A recent study (World Bank, 1994) on the potential effects for Chile were to join NAFTA concluded that while primary agricultural exports to the United States could increase by 5.8% due mainly to an increase in exports of grapes (other fruits and vegetables are less affected by NTBs and tariffs), exports of agro-industrial goods to the USA could increase by as much as 43% (tomato concentrates, fruit juice, frozen fruits and vegetables, and others). In other words, as a price taker in the United States, Chile would benefit from some gain in its export prices of processed foods. This tariff escalation phenomenon probably applies also in Mercosur's common external tariff, and thus there is a potential terms of trade gain for a new member. The advantage of NAFTA vis-a-vis Mercosur in this regard is obviously the much larger size of the NAFTA economies.

h) *On sequencing of applications to Mercosur vis-a-vis NAFTA.* For countries which today are outside NAFTA and Mercosur, Butelman (1994) has raised what seems to be a relevant consideration on sequencing regarding application to these trade areas. At the Summit Meeting of the Americas in Miami in 1994, it was decided that a free trade agreement (FTM) should be implemented for the whole Western Hemisphere region by the year 2005. On the other hand, Chile or Colombia's application (or the application of Bolivia, Peru or others for that matter) to Mercosur would not be considered until five years after the implementation of Mercosur in December 1994, that is by the year 2000. Under this schedule, Mercosur would then become subsumed into the FTAA in the year 2005, about the same time that Chile or Colombia would be reaching the full member status of Mercosur. Thus, the market access advantages of joining Mercosur would be short-lived.

Concluding Comments

Several countries in Latin America have an advanced program of unilateral trade liberalization, which includes agriculture. This is the case for Argentina, Bolivia, Chile, and Peru. To advance further along this unilateral route will require further institutional development, such as the implementation of better customs administration, and better systems designed to deal with contingency protection measures (safeguards, anti-dumping and countervailing duties). However, the major reforms are already in place.

Although these countries have important segments of their markets in Europe and Asia, they cannot escape the fact that a large segment of the regional economy is now part of an RTA. Members outside these RTAs are unlikely to remain passive against trade barriers such as tariff escalation, NTBs such as sanitary and phytosanitary restrictions, seasonal tariff surcharges, and the sometimes discriminatory treatment they receive on services attached to their exports in Latin America and North America. This is particularly important for agricultural trade. A policy option being considered is exploration of the potential for deepening their market access for exports within the region through RTAs. The economic blocks are a reality today, and non member countries feel the competitive pressure for their exports to RTA member countries and the preferential treatment given to their competitors exporting from within the RTA. As argued earlier in the text, the cost of being excluded from an RTA could become high.

For a small open economy in Latin America, joining an existing regional trade agreement raises several challenges and options.

Firstly as a general criteria, conditions for minimizing the risks of trade diversion involve having the lowest possible level of protection in the domestic economy, and the negotiation of further reduction in protection in the trade partners when entering an RTA. Furthermore, enhancing competitiveness for the domestic economy implies low trade barriers, complemented with the harmonization of the tax and regulatory policies, better infrastructure, more developed financial markets, and other reforms.

On whether NAFTA or Mercosur, NAFTA appears to be more favorable. It is a larger market, its macroeconomics is more stable (Mexico's crisis notwithstanding), and other favorable conditions discussed in the text. Moreover, eventually Mercosur would become subsumed under NAFTA if the agreement at the Summit of the Americas is implemented.

However, joining NAFTA does not necessarily rule out the possibility of an association with Mercosur, not as a member of the custom union (common external tariff but as an associated partner under preferential treatment.

From the perspective of this new potential partner in an RTA, ideally some harmonization between NAFTA and Mercosur would be desirable, in order to facilitate their implementation and to reduce conflicts. Especially critical is the need to avoid contradictory regulations regarding rules of origin, and harmonization of contingency protection (safeguards, anti-dumping and countervailing duties), government procurement, and technical norms and standards.

If our prototype country does join an existing RTA, the agriculture in this small open economy is inevitably going to be faced with the need for profound adjustments in its import-competing sector. Practically everywhere in the region, importables are protected. For example, were Chile to enter NAFTA, local producers of wheat, maize, and oil seeds would be faced with strong competition from the United States

and Canada, and the current scheme of price bands on wheat and sugar might come under fire. These same subsectors plus sugar, beef, and rice would be adversely affected in a negotiation with Mercosur. These are major sectors of the Chilean agricultural economy. The strategy for enhancing the competitiveness of these subsectors without postponing their reconversion to other activities for those segments that cannot compete is the major policy challenge ahead. Exchange rate management and reducing the cost of financial intermediation will be very influential factors in the agricultural adjustment of these countries.

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Learning to Make Markets Work in a Newly Opened Economy: The Mexican Experience

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Mexico has been a pioneer in a mostly unexplored field of Economics: the formation of markets. Since Adam Smith we tend to think that once you liberalize a market, the "invisible hand" will automatically begin to work, and presto ! the market is born, which is a costly mistake indeed. You can ask the Russians about that when they decided to end with Communism.

There should be four basic axioms in the theory of market formation. First, free markets are no panacea for the Economic diseases and uncertainty. Even when you have a free market, something can go wrong, since many agents will not be accustomed to work in this free environment. You must help them to understand that you have to learn to live with risk as part of their lives, and that they can use the market to reduce risks. But again, in a world with uncertainty, you can never win them all. Second, in order to emerge, there is a lot of hard and dirty work to do in order to create the conditions for a stable market to operate. Markets do not grow like mushrooms once the State has decided to reduce its intervention. You have to create the conditions so that the economic agents can freely interact, and you also have to teach these agents how to use market mechanisms in order to manage their risk. Third, the transition to a free market economy should be as gradual as possible, but not so gradual or slow so as to permit the creation of antibodies to the process. And fourth, as a Government you must have the willingness to change an economy that has been unchanged for years, no matter what interests you might hurt.

All these may sound like commonplaces to many of you, but believe me, in Mexico we have discovered all these things by ourselves, by trial and error, and it has not been an easy job. But as athletes say "no pain, no gain". in these lecture I would like to share some of the Mexican Government experiences with you. In order to talk about risk management in a newly opened economy, first you will have to follow me through the jungle of changes that have occurred in the last years in our country. As you will see, risk management is the culmination of a process leading to a free market economy.

The Situation of Mexican Agriculture

In the last 10 years Mexico has undergone one of the most ambitious reform programs of its economy in general, and specifically of its agricultural sector, since the Mexican Revolution in 1910. In fact, Mexico's reform is ambitious not only by Mexican standards, but by international standards too.

For about seventy years the Mexican agricultural sector was one of the most protected. Trade and non-trade barriers, guarantee prices, direct and indirect subsidies and the presence of the Mexican Government as the main buyer of grains and oilseeds, combined with a legal framework in which the State was the owner of all natural resources, and the referee in every dispute on land or resource tenancy were factors that contributed to the stability of the Mexican Agricultural System. In the early years of our Revolution all these things made sense, since the Mexican peasants had been the losers of the old Regime.

Such protection had a cost, a cost that had to be burdened by the consumer, the Government, and at the end by the producers, the same individuals that the system tried to protect. The State bought grains and oilseeds at a price that was two, three and sometimes four times the international reference price of that

product. The consumer did not have access to grains and oilseeds at international prices. In order to prevent inflationary impacts on the economy, the Government implemented a sophisticated indirect subsidy scheme to consumption which led to a conflict of interests in policy design. On one hand, the Government tried to keep the producer's income using guarantee prices, and on the other hand it tried to maintain inflation leashed, using a system of indirect subsidies and price controls.

But there was also an important efficiency cost involved. With the government as owner of the land and natural resources and ill-defined property rights in the rural sector, uncertainty was the name of the game. Private investment in the Agricultural sector declined dramatically, and since peasants were not allowed to rent or sell their lands, they were forced to produce grains and oilseeds with low aggregate value, and with less and less opportunities to increase their production scales or incomes.

As a result, the GDP and income distribution of the Mexican Agricultural sector became more erratic. For example, the Agricultural per capita GDP has been consistently equivalent to one third of the national per capita GDP, nevertheless Agriculture contributes with 8 percent of the total GDP. And the growth rates of the Agricultural GDP has been changing from minus 8 percent to 6 percent and then to almost zero in the last 20 years.

In part, this was due to the fact that only a minimal part of producers, about 10 percent, benefited from the guarantee prices, and produced about 50 percent of all grains and oilseeds. Many of them were competitive at international prices and could be producing vegetables or fruits, but decided to stay in grains because they had the marketing of their products assured. Only about 2 or 3 percent of all producers were growing more internationally demanded products, which accounted for more than 50 percent of the value of all agricultural exports. The rest of producers (about 50 percent of them) were dedicated to self consumption of their crops, or were trying to improve their competitiveness mostly in grains.

Something had to be done, in order to improve the efficiency of the agricultural sector, and it was agreed that the liberalization of the market could be of great help. In 1988, The National Plan for the Modernization of Agriculture 1989-1994 was published. In it, the Mexican government stated its compromise to improve the quality of life in the Agricultural Sector through several policy guidelines that later became reforms, which will be described in the next section.

The Mexican Change of the Agricultural Sector at a Glimpse

How to create a free market where there has been State intervention for the last 70 or 80 years? There are several issues that must be addressed in order to answer that question:

1 Once that you begin with the reforms, you must be consistent. Either you liberalize all the economy or you don't.

2 The liberalization process should be gradual, in order to let the participants get accustomed to the new environment, and at the same time to create a market culture among them.

3 Do not expect that markets will be created by themselves. State intervention substitutes market rules and specifications with artificial norms, and the private sector is not accustomed to participate in a free economy. So you have to create rules and incentives, and above all, you must create an environment of certainty and definition of property rights in order to foster the capital flow to your agriculture.

4 Once that you liberalize, be sure to give the participants the opportunity to manage their risk and protect their income. If you don't, sooner or later you will have to intervene again with higher costs.

Bearing all these points in mind, the reforms began. I will describe them briefly in order, emphasizing their effects. We must think of all reforms in the

a) Reform of the Legal Framework, including agrarian, water and forestry Laws. The first thing to be done was to give clear rules of the game to all participants. With reforms to article 27 of the Mexican Constitution, peasants became the legal owners of the land, and selling, renting and even associating with other producers became legal. The distribution of land finally came to an end. In the case of water and forestry Laws, they define the property rights of the resources, creating incentives to prevent the over exploitation of natural resources.

b) NAFTA, GATT and free trade. Once that the legal framework defines the rules of the game for the efficient use of natural resources in the Agricultural sector, you must define the rules that will level the playground in international trade. The North American Free Trade Agreement (NAFTA) gives Mexico the opportunity to link the producer's decisions to clear market signals, those of international markets. At the same time, you gradually eliminate trade distortions in a clear, certain and transparent way in time. All trade barriers are going to disappear in a maximum of 15 years, and all import permits will be substituted by gradually decreasing tariffs and gradually increasing zero-tariff quotas.

c) Gradual substitution of indirect, trade-distorting subsidies be delinked, direct income support payments. One important step towards market liberalization was taken by the Federal Government in 1991. With the creation of Federal Government, a state owned enterprise that has the mandate of marketing all the wheat, all soybeans, and the sorghum from the Northeast state of Tamaulipas, these products substituted its guarantee price with an "indifference price". Federal Government cannot buy or sell any product. The institution just pays the subsidies required to maintain competitive prices for buyers and a certain level of income for producers. linking their national markets with the international ones.

The support scheme implemented by the Federal Government for wheat, soybeans and sorghum is based on the difference between the agreed price that is paid to the producer by national consumers and the price at which the national consumer is indifferent between buying national or imported crops (indifference price). This difference is the support paid by Federal Government, that is, Agreed Price - Indifference Price = Support.
The indifference price is calculated as follows:

International Price
+ International Basis
+ Handling Costs
+ National transportation costs from the border to the consumption zone of grain

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= International Price in Consumption Zone (IPZC)

To this international price in consumption zone you subtract all the cost that the consumer of national crops would have to absorb if he wanted to be indifferent between buying national or imported Crops:

International Price in Consumption Zone
- National Financial Costs
- National Storage Costs
- Transportation Costs from producing zones in Mexico to consumption zones

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= Indifference Price

The international price of grains, on which all calculations are based, changes on a daily basis for cash operations and varies according to the relevant reference price considered. In the case of forward operations the relevant future reference is taken. This means that international basis, tariffs and other costs are also changing on a daily basis.

The marketing support paid by the Federal Government is the difference between the agreed price and the indifference price. If the international price falls, the indifference price decreases, and since the agreed price is a fixed reference all through the year the marketing support increases to compensate the producer for such reduction. On the contrary, if the international price rises, the marketing support is reduced.

This scheme allows to link the marketing support with international prices, but it also exposes the Mexican Government to price fluctuations.

It is a very innovative program, and as such, another step was taken toward freeing up the agricultural markets of the country. The PROCAMPO program is viewed very favorably by the majority of the producers of the country. At the same time, the processors, or users, of agricultural products are now free to purchase their needed products in the world marketplace. This means that they will realistically have to compete with processors in other parts of the world in order to remain competitive in the Mexican marketplace.

Realizing that this policy shift could be a difficult burden to bear all at once by the agricultural product processors of the country, the Mexican Ministry of Agriculture assisted them through the creation of the agricultural product marketing subsidy. In effect, this subsidy helps to balance the costs of locally produced agricultural products with the lower cost raw materials available in the world marketplace.

Budgetary Implications

The linking of the agricultural product marketing subsidy to the prices of the Futures Contracts in for example, the Chicago Board of Trade created a risk situation for the government of Mexico. The budgetary allocations for the merchandising subsidy were based on specific futures contract values for the products involved. While a rise in prices meant lower subsidy payments to the Mexican processors, a fall in prices could easily mean a budgetary shortfall for ASERCA, the government organization charged with paying the subsidy.

The NAFINSA - ASERCA Hedge Program For Agricultural Products

To help offset this budgetary risk, ASERCA, together with NAFINSA acting as financing agent for the government of Mexico, were authorized by a mandate of the federal government to enter into a hedge program in the international derivatives markets. Working closely with an international broker, NAFINSA

opened a futures and options trading account on behalf of ASERCA, and also signed the ISDA documents authorizing them to enter into a hedge program using over-the-counter derivative instruments.

A hedging strategy had to be designed to cover the risk of falling prices for the estimated crop of wheat, sorghum, soybeans and cotton during the present crop year. Given the price levels, futures price volatility and volume of operations to be conducted, the strategy that was ultimately chosen included price risk protection through the sales of futures contracts at/or above the futures price levels used to allocate the merchandising subsidy budget.

Hedge Implementation

Sorghum

The Tamaulipas sorghum crop was crosshedged through the sale of CBOT corn futures contracts. Several futures contracts in different delivery months were sold, all above the price level used to allocate the merchandising subsidy budget. As the crop was sold in the cash market in Mexico, the crosshedge was liquidated. The fall in CBOT corn futures prices meant that this hedge was liquidated at a profit, thus assisting ASERCA with its subsidy payments to the Mexican animal feed industry.

Wheat

In order to protect the budgetary allocations for the merchandising subsidy to the wheat milling industry, the Federal Government sold Chicago wheat futures contracts on the CBOT, in different delivery months. All contracts were sold at prices that equated or surpassed the futures price level used to allocate the initial budget subsidy payments. At the start of the harvest, Mexican wheat sales were made into the local market and part of the hedge was canceled. Later, when the wheat subsidy program was changed, the balance of the hedge was lifted, with all positions benefiting ASERCA in its budgetary position.

Soybeans

Similar to the sorghum and wheat hedge programs, The Federal Government sold soybean futures contracts in different months on the CBOT to protect its budgetary allocations. Again, all positions were sold at price level used to allocate the subsidy budget. Part of the soybean hedge was lifted when it was determined that the production of soybeans in Mexico would be lower than originally anticipated.

The open hedge position is liquidated as the local Mexican crop is sold.

Procampo, or How to Become a Real Market Economy

As we have seen, this program is great step towards market liberalization, but it is not sustainable in the long run, considering that the Mexican Agricultural Sector will be completely liberated in a maximum span of 15 years. Besides, even though these programs are relatively transparent, they still distort trade by linking production decisions to the payments given by the government, thus generating productive distortions.

The Mexican Government decided to go a step forward by delinking the support schemes from the productions decisions, through a program called PROCAMPO. PROCAMPO is a direct payment support scheme based on a fixed per hectare payment.

Since the grain and oilseed producers are going to be the most affected by the opening of the economy, PROCAMPO focuses on them and compensates them for their average income loss. The Ministry of Agriculture made a census of all eligible lands that were historically cultivated with maize, beans, wheat, soybeans, sorghum, rice, cotton, barley and sunflower seed, and calculated a fixed per-hectare payment based on historical yields of maize and the difference between guarantee and international prices of maize. Since the price differences in maize are the biggest of all products, the support calculated on maize data will be enough to cover the loss of the rest of the products. This payment is calculated according to regions, taking into account productivity and agroclimatic factors. The program will have a duration of 15 years, in which the payment will grow in real terms during the first ten years, and then it will decrease during the last five years of the program .

The agreed and guarantee prices program will be phased out gradually in a transitional period that began in 1994 and is expected to end in 1996. During the transition period, guarantee prices for maize and beans, agreed prices and marketing support will decrease, at the same time that per hectare payments are increased. In this way, the producer will not suffer a meaningful decrease in their income. and a market economy will be reached in a reasonable time.

PROCAMPO will allow the elimination of prices fixed by the government. So, in the future the income of producers will be the sum of the market price that they get for the sale of their crop, plus a fixed payment per hectare. This means that the producer will guide its production decisions according to market signals. But it also means that producers will have to face all market and price fluctuations. That is why we need to foster a market culture among producers, teach them how to use the market in order to protect their incomes. This is the reason why the Mexican Government, through ASERCA. has implemented pilot hedging programs for cotton producers.

Cotton

In an effort to assist the cotton producers in Mexico by protecting the sales price of their product against a fall in prices, Federal Government put together a hedge program using cotton put options in the New York Cotton Exchange. The strike prices of these options depending upon the particular needs of the producers involved in the program. ASERCA acts as a broker without charging in this year any commissions to the producer. The producer pays the premium, entrance and exit commissions ASERCA advises on questions and possible strategies, and they decide when to sell or buy in the cash market. This costs are paid using the PROCAMPO money that they receive, using it also as a collateral for other activities.

It must be emphasized that this is not a speculative program. Only the producers that demonstrate that have the cotton are eligible for participating in the program. The open hedge position is liquidated as the local Mexican crop is sold.

As the price of the cotton futures has fallen in the past 10 weeks, these options have risen in value, and the Mexican producers have had the sales price of their cotton protected. As the cotton is sold into the national

or international markets, and before the expiration of these options, the hedge will be lifted by the respective producing groups by passing their orders to the broker house through ASERCA.

Coffee

On several occasions The Federal Government has analyzed the possibility of establishing a hedge in the coffee markets similar to that which is being used to protect the Mexican cotton producers. The purchase of out-of-the-money coffee puts in the New York Coffee, Sugar and Cocoa Exchange would offer the Mexican coffee producers an excellent means of protecting themselves from any unexpected fall in the incredibly volatile world coffee prices.

Conclusions for the Near Future

The Mexican economy is currently undergoing profound changes. From December 1994 to May 1995, the exchange rate depreciated more than 80%, interest rates soared from 10-15% levels up to 60-80% levels, and the Stock Exchange Index fell 25%.

From the producer's, and thus from the Mexican Ministry of Agriculture's perspective, the devaluation offers an opportunity to speed the liberalization process. On the production side, the devaluation has, by itself, eliminated most distortions in the grains (especially maize) and oilseeds markets, since national prices have adjusted to its international references. Reform needs to focus on the consumption side where distortions, with concomitant opportunities for fraud being alarmingly large.

On the other hand, devaluation means more competitive Mexican exports (for example vegetables and livestock), and a reduction of trade deficits. Incentives for maize production post-devaluation have fallen relatively to those for other field crops. This should lead to a reduction in maize production, which is expected to be more pronounced in irrigated regions than in rained zones.

Assuming that markets are liberated and prices reflect international parities, producers will move into crops with higher economic profitability. It is expected that this may include cotton, sorghum fruits and vegetables, continued cultivations of cereals and oilseed crops in high productivity irrigated zones is also likely.

Unchanged consumer price have dramatically increased the subsidy burden on the Government budget since the devaluation. Rectifying these distortions will substantially increase price to consumers, however.

Assuming that trade is liberalized (i.e. that maize imports above the quota will be permitted duty-free) much more extensive use will be made of imports from the USA, particularly given the much lower cost of storage (due to much lower interest rates) in the USA compared with Mexico. Under certain scenarios white maize could be exported from Mexico post-harvest and reimported in September-October, prior the next Spring-Summer harvest.

As we have seen, creating the conditions for an efficient open agricultural economy in Mexico is no easy business, but we still have to face the ultimate challenge: to create an Agricultural Commodity Exchange, which again involves defining the rules for participants. Regulations on quality, warehouse operations and adequate liaisons with the financial sector are still among the things to come. But believe, we have done things that looked like impossible in the past and we are thinking to make the same in the future.

SESSION 2. WESTERN HEMISPHERIC INTEGRATION AND THE WORLD TRADING SYSTEM

Regionalism versus Multilateralism in the World Trading System

David Blandford, Organization for Economic Cooperation and Development[1]

The formation of regional groupings to promote freer trade between groups of countries has been common in recent decades. A total of 108 regional agreements have been notified to the GATT since its inception. The 1990s have been a particularly active time for regional initiatives; 33 have been signaled to the GATT since 1990.

The growing interest in such arrangements, naturally raises questions about their relationship to multilateralism, which has been the cornerstone of international economic relations in the post-war period. This paper addresses the implications for the world trading system of the apparently growing trend towards regionalism. It focuses on general issues, but also makes a few remarks specific to agriculture and agricultural trade.

Multilateralism and Regionalism

Few would argue that the signing of the General Agreement on Tariffs and Trade on October 30, 1947 and the series of rounds of multilateral trade negotiations that subsequently took place had a major impact on the post-war international economic environment. The signing of the Uruguay Round Final Act at the end of the eighth round of negotiations in 1994, and the establishment of the World Trade Organization represent milestones in the post-war history of international economic relations. Following the divisive and destructive experiences of economic nationalism in the pre-war period, these relations have been founded on multilateralism -- the use of a cooperative multicountry approach to economic problems and issues, including agreed procedures and disciplines. The International Monetary Fund, the World Bank, and indeed the organization for which I work, the OECD, all have their origins in this multilateral approach.

At the same time, however, there has been an important parallel development of regional economic arrangements. Following the establishment of the European Coal and Steel Community in 1952, the Treaty of Rome in 1957 launched the European Economic Community, which has since grown from six to fifteen members. The Single European Act, the creation of the European Union through the Maastricht Treaty, and EU agreements with the central and eastern European countries have contributed to a major development of economic relationships throughout Europe. In North America, closer economic ties between Canada and the United States were heralded by the signing of the Canada-United States Free

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Trade Agreement (CUFTA) in 1988. Ties between these two countries and Mexico were expanded with the entry into force of the North American Free Trade Agreement (NAFTA) in 1994. Elsewhere, a major expansion of interest in regionalism has led to other arrangements, such as MERCOSUR in Latin America, and APEC in Asia.

It is important to consider the reasons for the expanding and deepening interest in regional integration and the impact this has on participating countries, on outsiders, and on the multilateral trading system.

Reasons for Regional Integration

No single factor explains the drive for regional integration. Typically, both political and economic considerations play a part. Political motivation has clearly been an important driving force in Europe. In the aftermath of the Second World War, a prosperous Europe was seen as necessary to create a bulwark against the threat of Soviet communism in the East. The establishment of the European Coal and Steel Community had political and strategic objectives in bringing under one supra-national authority the coal and steel industries of France and Germany. The establishment of the European Economic Community had a more clear economic motivation to promote expanded trade and the economic growth that this would bring, but was still understood by most to be part of a political process of European integration. Both political and economic factors have continued to play a role in the subsequent enlargements of the Community and its development into the European Union.

Both economic and political factors played a role in the formation of the North American Free Trade Area, Canada and Mexico saw commercial advantages for their economies from an agreement with the United States. For Mexico there was a desire to ensure that the process of economic liberalization was anchored in an international treaty. NAFTA provided a further opportunity following Mexico's accession to the GATT in 1986, to show it was ready to graduate to the status of an industrialised country. This was confirmed by Mexico's subsequent membership of the OECD in 1994.

Several other considerations, ranging from the promotion of democracy to the control of pressures for migration have had an impact on trends towards regional integration. In several instances, accession to a regional agreement has been stimulated by the aim of securing a privileged trading relationship with a large trading partner in order to eliminate the threat of contingent protections such as antidumping and countervailing duties. This is illustrated by the European Economic Area. Some countries may wish to go faster and deeper in an integration process than possible at the time under multilateral trade disciplines. Deeper integration through regional and multilateral integration is increasingly perceived as a policy response to the desire to sustain economic growth and prosperity.

To sum up, it is important to view regional agreements in terms of their political and strategic importance, as well as their impact on the multilateral trading system. However, it is also important to initiatives, as illustrated by growing regional economic integration in the Asia-Pacific region where no formal agreement exists. Policy initiatives to promote regional integration are unlikely to succeed if they are not supported by fundamental economic forces.

Impact of Regional Integration

The areas of economic relations that are covered by regional agreements vary substantially. Such variations reflect differences in the objectives of agreements and in their approaches to integration. There are several

free trade agreements between two countries which involve the gradual elimination of tariffs on bilateral trade but each country maintains its separate customs tariff for trade with third parties. In contrast, the arrangements underpinning the European Communities provide for a common market and, more recently, foresee full economic union. They address such areas as tariffs and non-tariff measures, as well as structural and regulatory impediments to trade. In effect the Treaty of Rome provides for a common market in goods, services, labor and capital, known as the "four freedoms". The EU adopts an approach which intrudes into national sovereignty in a significant manner through the adoption of common policies or mutual recognition of national policies. It has supra-national enforcement mechanisms. Some more recent free trade agreements have tended to be even more comprehensive in scope. For example, in NAFTA, additional areas of obligation include financial services, intellectual property protection and national treatment to services. Such differences among agreements make it difficult to make a detailed assessment of their effects. However, it is possible to make some generalizations.

Because a regional trade agreement provides preferential market access for its participating countries, it is inherently discriminatory for third parties. With the large number of these agreements, there are some who fear that regional arrangements may lead to increased regionalization of the international economy, in other words that they may stimulate growth in trade and investment within regions at the expense of trade and investment between regions.

Experience with the European Union, and more recently with NAFTA, suggests that trade between members in indeed stimulated by regional arrangements. In fact, if this were not the case, it would be difficult to argue that such arrangements have a positive effect on economic activity. The proportion of intra-regional trade in total trade tends to increase, al least initially. Various studies of the European Union have shown that the accession of new members has resulted in a rise in the share of intra-trade which subsequently declined as trade with the rest of the world expanded. With the important exception of agriculture, expansion of the Union has not prevented the growth in imports from non-member countries. Although empirical studies have their limitations, most seem to indicate that countries outside regional arrangements are likely to experience small welfare gains from the effect of such arrangements on overall trade volumes. The welfare gains will depend on the trade composition of particular countries outside the agreement and the extent to which the agreement stimulates growth in the member countries. It has been estimated that the EU's Single Market program will boost its GDP by 0.6 percent annually as a result of the associated efficiency gains from increased competition.

Trade, of course, represents only one part of the picture. Investment flows are also influenced by regionalization. The evidence from Europe tends to suggest that investment is accelerated by regional arrangements, but that both investment inside and outside the region are affected positively. Thus, for example, investment in the EU quadrupled between 1985 and 1989, largely due to the single market program, but European investment in North America also quadrupled, and investment in Asia grew strongly. The evidence of the impact of regionalization on investment flows in North America is less clear, and intra-regional investment has grown rapidly in East Asia despite the lack of any formal arrangement in the area.

What is clear is that the strategies of businesses are an important element in determining effect of regional arrangements on investment. Corporate strategies have become global and this is reflected in investment figures. Many firms no longer have a national or regional strategy, but aspire to a global presence. Many firms in Europe, for example, have viewed cross-border mergers and acquisitions within Europe as a first step towards a global strategy rather than the last step in a regional strategy.

To conclude, on balance, there is little evidence from trade and investment flows that the regionalization of the world economy is occurring. There has been an increase in regional trade and investment but this has gone hand in hand with international increases. Consequently, it is not possible to conclude that regional growth would not have occurred without regional integration. Greater intra-regional trade is often a product of economic growth, and the continuing trend for production to shift from high cost to low cost countries.

Regionalism and Multilateralism: Competition or Coherence?

Whatever their impact on economic activity, a number of important questions are raised by regional agreements. Are such agreements a distraction at the expense of multilateral negotiations or is there synergy between them? Do regional agreements contribute to liberalization by removing national barriers? Is regional integration resulting in aggressive blocs ready to abuse enhanced market power, or do they contribute to a more predictable environment than one in which national policies prevail?

Regional Agreements and Multilateral Negotiations

Experience thus far seems to suggest that there is a high degree of synergy between regional and multilateral processes. In fact, both regional and multilateral initiatives share a similar objective of trade liberalization through the reduction in tariffs and other barriers to trade, within their respective spheres of application. Let me briefly highlight, five major dimensions to such synergy.

First, regional integration contributes to an *acceptance of the need for international rules* on the part of national governments and interest groups. The distinction between trade and domestic policy is becoming increasingly blurred, and an awareness of interdependence is a precondition to finding ways to accommodate divergent national approaches in areas such as competition policy, product standards, labor policies and environmental policies.

Second, regional integration has *contributed to a learning process* in international policy formulation for governments, regulators and interest groups. Regional agreements have provided and opportunity for these players to come to terms with the kind of tradeoffs that may have to be made when trade and domestic policies clash. The experience and expertise gained may ten be employed in wider multilateral negotiations.

Third, regional agreements serve as *"test beds" for approaches* which enable trade diplomacy to deal with the new complexities of international interdependence. Services, intellectual property protections competition policy, and the treatment of technical barriers to trade are all areas which have benefited from approaches pioneered in various regional agreements.

Fourth, negotiations on regional agreements often generate a *cross fertilization of ideas* with multilateral negotiations. Work on the Uruguay Round agreement benefited from work underway regionally in such areas as government procurement, capital controls, and trade in services.

Fifth, with the conclusion of the Uruguay Round and the establishment of the WTO, the multilateral negotiations have gone further than regional integration agreements by *extending multilateral trade disciplines* in a number of areas across all WTO members. Under the GATT, some disciplines were unevenly applied since membership of the various Tokyo Round Codes, such as those for subsidies and antidumping, was voluntary. The WTO has also been provided with a strengthened dispute settlement

system as well as a monitoring function which together will bring increased transparency and predictability to trade and economic policies.

Regional Agreements and Liberalization

A central question for countries outside a regional agreement is what impact it has on access to markets. Advocates tend to argue that agreements allow concrete measures to be taken among like-minded countries and thus promote the removal of trade barriers. Opponents stress the potential for trade diversion and the shifting of adjustment costs to countries outside an agreement.

There are many examples in which regional agreements have resulted in concrete liberalization, particularly of non-tariff barriers to trade. The harmonization of national policies and practices affecting the trade in goods and services, and investment flows within regions reduce the protection of national markets previously provided by national policies. However, there are two potential difficulties.

First, regional agreements inevitably result in liberalization from members which exceeds that achieved multilaterally. The degree of *regional preference*, and how this is maintained, can raise concerns in third countries. Transparency in the provisions implementing regional agreements is important to ensure that the interests of third countries or parties are respected.

Second, regional agreements may contribute to the creation of *market power*. If this simply balances the power of countries with very large markets, then regionalism may not pose a particular problem. Indeed a balance of market power can be used in a positive way to liberalize trade multilaterally. However, there is more scope for protectionist measures in regional entities with important markets. The Common Agricultural Policy of the European Union provides one example in which regional integration has been accompanied by protectionist policies. Beyond such specific cases, it cannot be said that regional entities are fundamentally more protectionist than large national economies. But there would be a real danger to multilateralism if large entities (national or regional) were to direct their attention to concluding preferential agreements which best fit their trading relations, rather than contributing to more broadly-based trade liberalization.

While regional preferences and enhanced market power may be potentially negative implications of regional agreements for multilateral liberalization, there are a number of potentially positive factors.

Regional agreements appear to result in a net reduction in the *degree of political discretion* in the application of trade policy instruments. Increased codification at the national level reduces uncertainty and contributes to more competitive markets by reducing the scope for national and sub-national intervention. This benefits local industry and third countries alike. Particular progress in this regard has been made in the development of regional competition policies and the harmonization of technical regulations.

Regional agreements appear to have contributed to a convergence on the need for *more adjudication* rather than negotiation in the settlement of trade disputes. This helps to streamline the settlement of disputes. Greater acceptance of adjudicative means in Europe has contributed to a multilateral consensus on more effective dispute settlement procedures in the GATTS and the WTO Regional integration agreements have also expanded the remedies available to private parties in Europe and North America.

The establishment of regional agreements does not happen in isolation from multilateral disciplines. Article XXIV of the GATT, in effect, provides for the creation of customs unions and free trade agreements since it is recognised that these can contribute to trade liberalization and benefit the world community without necessarily adversely affecting the interest of third countries. Under the GATT, regional agreements were subject to certain requirements, including notification; that they should not raise trade barriers in the whole to other members; and that they should cover substantially all trade between members.

Multilateral disciplines dealing with regional agreements were reinforced with the conclusion of the Uruguay Round. The Understanding on Article XXIV clarifies Several aspects which, in the past, had been the cause of tension. The General Agreement on Trade in Services (GATS) has provisions for regional agreements which are in certain ways similar to those for goods. The Agreement on rules of origin also provides for enhanced transparency of rules of origin for free trade areas.

Agriculture in the context of regionalism and multilateralism. Despite progress made in other areas, such as tariffs on industrial products, until very recently multilateral trade agreements had little impact on reducing barriers to trade in agricultural products. Until the conclusion of the Uruguay Round of negotiations under the GATT, agriculture was largely left untouched by multilateral efforts to liberalise trade. Similarly, regional agreements either focused on maintaining the protection ofagriculture at a regional level, as in the case of the European Community, or largely exempted agriculture form reductions in tariff and non-tariff barriers to trade, as was the case for the Canada-United States Free Trade Agreement. Little progress was achieved in reducing agricultural support and protection.

More recently, developments at both the regional and multilateral levels have begun to show more promise. The NAFTA agreement, for example, includes far more reductions in barriers to agricultural trade, than its predecessor, CUFTA. Moves to expand the membership of this and other regional groupings, may lead to greater reduction of a wider range of agricultural trade barriers, and may promote adjustments in the domestic agricultural policies that are the underlying cause of trade distortions.

In this regard, the signing of the Uruguay Round Agreement makes a major contribution by bringing domestic agricultural policies and export subsidies under multilateral disciplines and in capping tariffs on agricultural products. Although impacts on trade and policy may be limited, particularly during the early years of its implementation, the Agreement incorporates a number of highly significant and beneficial systematic changes to the trading system for agricultural products. In the longer run, these changes promise to make a significant contribution to the reform of domestic agricultural policies, reductions in barriers to trade, which in turn will lead to improved resource allocation and efficiency gains. In the specific context of regional groupings, the binding of national agricultural tariffs under the Uruguay Round Agreement should contribute to the application of lower common external tariffs by some countries in future regional arrangements.

Conclusions

In the last five years, some 33 regional agreements were notified to the GATT. Given the inherent discriminatory nature of these agreements, it is legitimate for countries who are not party to such agreements to raise concerns about the potential weakening of the multilateral trading system. However, the most ambitious round of multilateral trade negotiations has also been concludes recently, which considerably strengthens multilateral trading rulez and disciplines over a wide range of issues and sectors,

including the disciplines concerning the establishment and enlargement of free trade agreements and customs unions.

Under the GATT and the WTO, free trade agreements and customs unions are a permitted exception to the principle of non-discrimination because it is recognised that such agreements have similar trade liberalisation objectives, and have the potential for further economic integration without necessarily adversely affecting the interests of third countries.

The evidence and experience thus far with regional agreements suggest that there is a considerable degree of synergy and complementary between regional and multilateral approaches to trade and investment liberalisation. With the possible exception of agriculture, there is little evidence that regional agreements have contributed to protectionism. Regional agreements have often liberalized faster and deeper than would have been possible at the multilateral level. In several cases, regional agreements have been laboratories for approaches and techniques which have subsequently found application in multilateral negotiations. Conversely, multilateral disciplines have gone further than most regional agreements in a number of areas, complementing the process of regional liberalisation and extending disciplines across current and future trading partners on a global basis.

This does not mean that more should not be done to improve the functioning of multilateral rules and procedures on regional integration agreements. A number of possible measures which could be used to achieve this include; review by WTO members of such agreements before they enter into force; improved transparency through an enhanced system of WTO surveillance of performance and effects; and the introduction of new provisions to increase the protection of third country interests. There is still room for further strengthening of multilateral trade disciplines in order to ensure the full compatibility of free trade agreements and customs unions with multilateral principles.

SESSION 3. INTEGRATION, ECONOMIC DEVELOPMENT, AND AGRICULTURAL POLICY REFORM

Structural Adjustment, Integration and Agricultural Policy Reform: Lessons from Jamaica's Agricultural Sector

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Introduction

Jamaica's experience of radical policy changes over the past two decades is fertile ground to yield lessons for agricultural policy reform in the region. The years 1972 to 1980 saw the ideals of socialism shape much of government policy, including agricultural strategy. Over the period since 1980 free enterprise has been allowed to blossom, and Jamaica's economic policies have been shaped by a series of World Bank and IMF programs. This paper briefly reviews the policies and performance of the agricultural sector during these two periods, paying particular attention to the impact of the policies of the latter period, with their implications for agricultural development in Jamaica. It then looks at the changes in trade policies which accompanied these developments and puts the trade policy experience in the context of multilateral and regional integration. Finally, some lessons from the Jamaican experience are formulated which may have relevance for other countries in the region.

Macroeconomic Policy and Agriculture in the 1970's: "Internal Designs"

The Jamaican economy experienced considerable growth in the post World War II period. From the late 1940's until Independence in 1962 Jamaica moved from being primarily an agricultural based economy to one based on minerals (bauxite) and tourism as well as agriculture. Between 1950 and 1962 nominal GDP grew or average by five percent per year. The extent of the diversification is indicated by the fact that in the 1940's more than 90 percent of Jamaica's foreign earnings came from the agricultural sector (mainly sugar and bananas), while by the mid 1960's less than 40 percent of export revenue was accounted for by agriculture.

After independence in 1962 the predominant concern was that development was not sufficiently improving the life of the average Jamaican. Complete foreign ownership of the bauxite industry, and foreign domination of the manufacturing, financial, and transport sectors, together with the fact that 40% of the sugar sector was in foreign hands was singled out as a major cause. Furthermore, between 1962 and 1972 unemployment rose from 13 to 24 percent of the labor force. This situation led to the policy known as

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"Internal Designs" of the People's National Party (PNP) that won a landslide victory, under Norman Manley, in the 1972 general elections.

The economic policies of this period of moved steadily toward socialism, and were intended to reduce the dependence on foreign ownership and control, and to distribute the benefits of development more evenly. Nationalization and taxation were the policies used to promote change in the foreign dominated sectors. The state formed corporations that took over large parts of the bauxite, tourism and agricultural sectors. Taxation of the bauxite industry led to increased government earnings from an average of US$30 million during 1970 to 1973 to an average of US$164 million during 1974 to 1977. Minimum wage legislation was introduced for certain categories of workers and maximum hours were instituted for some manufacturing enterprises.

Agricultural structures were also affected by these policies. A land distribution program with an associated subsidized credit scheme was implemented for small farmers. Much of this land was obtained by the government through a policy of repossessing any parcels in excess of 100 acres that were kept idle.

Trade policy emphasized the diversification of markets, away from Europe and North America. Although by 1980 these two regions still accounted for about 60 percent of merchandise trade, this was down from 90 percent at the beginning of the 1970's. The increased trade was with other Caricom countries, Latin America, Japan and the rest of Europe.

By 1980 these policies had led to a considerable change in the economy in general and in the agricultural sector in particular. The structure of output of the agricultural sector had changed significantly. The economic policies that emphasized self-reliance and import substitution led to modest growth of the domestic crop sector. During the period 1972 to 1980 the domestic crop sector grew by some 16 percent. At the same time the government's increasing control of the export sector led to a sharp contraction in output. Table 1 shows the decline in export crop output. Aiding this decline was the fall in commodity prices from their high levels of the early 1970s.

Table 1: Change in Agricultural Export Crop Output in Jamaica, 1972 and 1980

Crop	1972 (Tons)	1980 (Tons)	% Decline
Bananas	127.000	33,000	74
Citrus	13,867	7,406	47
Cocoa	2,333	1,368	41
Sugar	373,000	247,000	34
Pimento	2,032	1928	5

Source: Economic and Social Survey, PIOJ, Jamaica.

However, the general uncertainty introduced by the nationalizations undoubtedly contributed to the poor performance of the export sector. As a result, there was a significant relative decline of the export crop subsector share and an increase in the domestic crop share of agricultural GDP (Table 2).

Table 2: Agricultural Production as a Percentage of Agricultural GDP

Year	Export Crops	Domestic Crops	Livestock	Forestry and Fisheries	Total
			Percentage of Agricultural GDP		
1970-1974	24.7	47.4	21.4	6.5	100
1975-1979	17.2	51.7	24.5	6.6	100
1980-1984	18.6	50	24.4	7	100
1985-1989	19.4	52.7	19.1	8.8	100
1990-1992	14.6	60	18.6	6.8	100

Source: World Bank, Agricultural Support Services Report.

The "Internal designs" program of the 1970's resulted in considerable macroeconomic imbalances in the economy and increasing instability. The sharp decline in net capital inflows was both a major cause and a direct effect of the instability, economic imbalance and political uncertainty, along with the declining fortunes of the agricultural export sector, changes in the operations of the bauxite sector, escalating oil prices, rising real wages, fiscal laxity and monetary expansion. In order to restore both external and internal balance the structure of the economy needed to adjust. This led, amid much political soul-searching, to the opening of discussions between the Manley government and the IMF and the World Bank toward the end of the 1970's.

The IMF/WB Programs and Jamaica's Agricultural Sector: External Designs

The Structural Adjustment Program

In Jamaica, as across the developing world, the importance of the crucial linkages between macroeconomic balance, economic growth and socioeconomic development came to be accepted by the end of the 1970's, replacing the earlier developmental emphasis on projects and programs based of foreign loans.

Two sets of policies came to dominate Jamaican economic strategy. The IMF insisted on macroeconomic adjustment and stabilization measures to achieve internal and external balances over the short to medium term. From the World Bank perspective, the need was for structural and sectoral adjustment for longer term sustained growth and development. The justification was that the climate for investment needed to be recreated by correcting the wrong signals being sent to entrepreneurs and by enhancing the stability of key economic indicators that influence investment decisions. Critical among these were lower inflation and interest rates and a more realistic and sustainable exchange rate.

The 1980 elections in Jamaica were seen as a referendum on the IMF/WB policies. The country endorsed the program but decided that the opposition party was more likely to be able to implement it. The Manley government was voted out of power and the new government of Edward Seaga and the Jamaica Labour Party (JLP) was charged with changing the economic policy. The orientation of the country's development

strategy shifted from import substitution under high levels of protection to a liberalized, competitive and export-led economy. Foreign investment was given a more prominent role, divesting and privatizing state enterprises was undertaken, and the balance was shifted from self reliance to export promotion and competitiveness. The succession of programs that made up this new strategy is given in Table 3.

The first priority was to get the balance of payments under control. The early stages of the Structural Adjustment Program addressed this through devaluation, liberalization of financial markets, deregulation of business and the promotion of exports. The process of devaluation and financial market liberalization was supported by three general Structural Adjustment Loans (SALs I -III,1982-1984). Given the unimpressive performance of the economy, the strategy shifted in the late 1980's from an economy-wide focus to emphasize a sectoral approach. This led to several new programs, including the Public Enterprise Sector Adjustment Loan (PESAL,1987), two Trade and Financial Sector Adjustment Loans (TFSAL I-II, 1988-1991), the Agricultural Sector Adjustment Loan (ASAL, 1990) and the Private Sector Development Adjustment Loan (PSDAL,1992).

Table 3: Selected Loans and Grants, Jamaica, 1977-1992

Date	Institution	Title	Type/Identifier	Amount
1977	IBRD	Public Sector Investment	Program Loan	$30 mill
1979	IBRD	Manufactured Exports	Program Loan	$31.5 mill
April 1981	IMF	Extended Fund Facility		
1982-84	IBRD	Structural Adjustment Loans I, II, and III	2315-JM, 2478-JM	$191.4 mill
July 1986	IMF	Standby Agreement Canceled		
Jan 1987	IMF	Standby Agreement Reinstated		
1987	IBRD	Public Enterprise Sector Adjustment Loan (PSAL)	2489-JM	$20 mill
1987	IBRD	Trade and Financial Sector Adjustment Loan (TFSAL)	2448-JM	$40 mill
March 1990	IMF	Standby Agreement		
March 1990	IBRD	Ag Sector Adjust. Loan in Jamaica (ASAL) 1st tranche, 3/30/90, $12.5m 2nd tranche, 3/26/91, $12.5 m closed 3/30/91	Loan 3174-JM	$25 mill
	OECF (Japan) KFW (Germany IDB Netherlands		Co-financing Loans	$25 mill DM 25 mill $50 mill NLG 20 mill
March 1991	IBRD	Jamaica Second Trade and Financial Sector Adjustment Loan (TFSAL II)	Loan 3303-JM	$30 mill
1992	IBRD	Jamaica Private Sector Adjustment Loan (PSDAL)		$60 mill

The policy change met with mixed success. Table 4 shows the exchange rate, the nominal loan rate, the growth rate of GDP and the current account balance of payments over the period 1980 to 1993. Growth returned to the economy in the early 1980s; faltered by mid-decade and then returned at the end of the decade. While the growth rate has been positive since 1990 it has been far from impressive and the balance of payments remained stubbornly negative for much of this period.

Table 4: Exchange Rate, Loan Rate, GDP Growth and Balance of Payments, 1980-1993

Year	Exchange Rate (JS/USS)	Nominal Loan Rate	GDP Growth	Balance of Payments (USS/MN)
1980	1.7	13.00	-5.8	-170.9
1981	1.7	13.00	2.5	-286.2
1982	1.7	13.00	1.1	-374.5
1983	3.2	13.00	2.1	-440.5
1984	4.9	15.90	-0.9	-343.4
1085	5.4	21.90	-4.6	-353.2
1986	5.4	23.00	1.7	-90.1
1987	5.5	23.00	6.2	-214.9
1988	5.4	23.00	1.5	-20.7
1989	6.4	25.60	4.5	-425.5
1990	8.0	34.10	3.8	-357
1991	21.4	35.60	0.6	
1992	22.1	53.40	1.9	
1993	32.4	50.10	0.7	

Source: IMF, International Financial Statistics; Bank of Jamaica Statistical Digest, and IBRD, Caribbean Region, Current Economic Situation, Regional Issues, and Capital Flows, 1992.

The change in orientation was notable in the area of agricultural policy. The SAP's of the 1980's generally emphasized the large scale commercial sector as a way of spearheading the agricultural recovery and downplayed the role of the small farmer. The result was a significant change in agricultural policy from the previous period. The main features of agricultural sector policy in the 1980s were:

- Reform of Export Marketing Organizations (EMO's) to allow private companies the opportunity to export traditional crops. Deregulation for the EMO's began in 1983.
- Government sale and lease of idle and under-utilized agricultural lands. Some 9,000 acres were targeted for sale and lease during 1983.
- Establishment of an Agricultural Credit Bank in 1982 in an effort to increase the efficiency of agricultural credit markets.

- The creation in 1983 of Agro 21 Corporation Limited, an agricultural company with wide responsibility for promoting private sector agricultural development.
- The reorganization of the Ministry of Agriculture, emphasizing downsizing, integration and privatizing of functions
- Under a USAID project, Producer Marketing Organizations (PMO's) were established.
- With the support of the InterAmerican Development Bank (ID8) an Agricultural Research project sought to upgrade the Bodies Research Station with the objective of centralizing agricultural research (including the traditional export crops).

There was, however, little in the SAP to influence domestic price policy or trade policy in agricultural products. Imports continued to be allowed in under license, with many of the major products being imported soled by the state monopoly, the Jamaica Commodity Trading Corporation (JCTC).

The agricultural sector performed poorly in the 1 980's under the general structural adjustment programs. Table 5 shows development of the crop production index, indicating the general decline in output from both the export and domestic crop subsectors. Not all of the poor performance was due to policy. The export crops, in particular, were hard hit by Hurricane Gilbert in 1988. But the stagnation was pervasive. By 1989 the general agricultural production index had actually declined by 4 percent, relative to 1981. This decline would have been even more pronounced but for the growth that took place in the livestock and fisheries subsectors.

Table 5: Crop and Total Agricultural Production index, 1981 - 1989

Year	Export Crop Subsector	Domestic Crop Subsector	Total Agriculture
1981	100.00	100.00	100.00
1982	97.59	85.21	91.10
1983	102.53	95.40	99.10
1984	91.10	115.54	110.30
1985	94.31	109.52	106.20
1986	96.05	103.04	102.60
1987	100.87	106.15	103.50
1988	80.86	93.75	95.40
1989	85.96	91.72	95.70

Source: Economic and Social Survey of Jamaica - 1981 - 1989

The Agricultural Sector Adjustment Loan (ASAL)

The reform of the agricultural sector started under the structural adjustment programs of the 1980's was given a new impetus at the end of the decade. In an effort to address the specific constraints to growth and development in the agricultural sector the Government of Jamaica negotiated an Agricultural Sector Loan (ASAL) with the World Bank in March 1990. The goals of the ASAL mirrored those of the earlier structural adjustment reforms. At a general level the ASAL sought to develop an agricultural sector that was internationally competitive and fiscally sound. At a more specific level, the ASAL was accompanied by a series of policy changes and a detailed timetable on which loan disbursement by the World Bank was conditioned. It was the ASAL of 1990 that came to characterize the new government policy for the agricultural sector. These policies are outlined in Table 6. Together they represent a radically different policy for agriculture from that of earlier years.

This new policy was based on the provision of market incentives to domestic and export agriculture through a process of deregulation of markets, increased competition from imports and the removal of subsidies. The notion was to complete the privatization of the sector started under the SAP, by further reducing the role of the EMOs and by removing the monopoly import status of the JCTC. The trade liberalization package for the first time introduced a measure of competition on the domestic market for the output from Jamaican farms. Quantitative restrictions on imports were replaced by tariffs, and a schedule for their reduction was established (see below). The credit policy aimed to remove subsidies that had been introduced through low interest rates, though it allowed a policy which differentiated these rates by size of farm. The divestment of land and of public enterprises was also taken further than before. The agricultural sector is still in the process of adjusting to this significant shift in policy.

Impact of Policy Reform on the Performance of the Agricultural Sector

The performance of the agricultural sector as a whole has been positive in response to the policy reforms of the ASAL, in combination with the continued macroeconomic changes introduced under the World Bank and IMF programs. Total agricultural production has increased by over one-quarter since 1990, as a result of increases in yields across both domestic and export crops. Export crops increased production by 30 percent from the low point of their production in 1988 until 1992, though there has since been some retrenchment of this growth. Livestock output also climbed, but by a more modest rate and has also declined in the past two years. The driving force behind the output growth has been the domestic crop sector, which has expanded by over 40 percent since 1990, and ways still expanding in 1993.

The links between the policy reforms and the renewed growth in agriculture are in large part sector-specific. No two commodities have reacted alike. The traditional export crops - sugar, bananas, coffee, cocoa, citrus and pimento - have shown this variation in their performance. While the volume of exports of bananas, coffee an citrus have shown a clear upward trend, sugar, pimento and cocoa exports remain sluggish, increasing in some years and declining others. Table 7 shows the export volume in recent years for traditional export crops.

Table 6: Conditions of the Agricultural Sector Adjustment Loan {1990)

– Within a framework of macroeconomic policies
- ♦ Correct policy-induced price distortions
- ♦ Improve incentive framework in Jamaican agriculture.
- ♦ Assist in divestment of state-owned enterprises
- ♦ Assist in divestment of government land

– Agricultural Pricing
- ♦ Eliminate all quantitative-import restrictions and the us of reference prices.
- ♦ Adjust nominal protection to make protection specific with no tariff to exceed 100% after reductions)
- ♦ Reduce tariff rates over 3-7-year Period to the CET of CARICOM

– Food Subsidies
- ♦ Eliminate subsidies to the Jamaica Commodity Trading Corporation
- ♦ Eliminate General Food Subsidy program financed by JCTC

– Agricultural Credit
- ♦ Remove credit subsidies.
- ♦ Adopt market-related credit terms, differentiated by farm size

– Deregulate Cocoa Marketing:
- ♦ Eliminate minimum production limit for application for export license.
- ♦ Allow anyone to become an exporter
- ♦ Eliminate all restrictions on private transactions and on location of exporters
- ♦ Eliminate restriction that negotiation for marketing must pass through COIB agents
- ♦ COIB to retain quality control function;
- ♦ make membership of COIB voluntary and levy no cess on non-members

– Deregulate Citrus Marketing:
- ♦ Specify circumstances for denial of export license
- ♦ Eliminate minimum production/planting limit for exporter
- ♦ Allow anyone to become an exporter
- ♦ Cess on farmers to CGA made voluntary

– Public Divestment
- ♦ Issuance of at least 2,000 titles during FY 89

– Land Divestment
- ♦ Sale of-at least 7,000 acres to small farmers in FY 89

– Enterprise Divestment
- ♦Divestment of at least 5 small agricultural and agro-industrial enterprises worth up to $2 mill (US) each and one larger enterprise

Table 7: Volume of Major Agricultural Exports
1989 - 1993
Tonnes

	1989	1990	1991	1992	1993
Sugar	132,332	146,359	151,181	139,362	149,519
Bananas	41,628	61,066	75,290	76,723	76,777
Citrus	5,676	11,918	9,985	12,515	11,675
Pimento	1,932	2,518	1,752	2,280	2,187
Cocoa	1,104	1,900	1,490	1,791	1,580
Coffee	827	771	912	1,325	1,402
Non Trad.	12,242	15,149	18,015	21,233	24,513

Source:Economic and Social Survey 1989 - 1993

The sugar industry is the third largest earner of foreign exchange in the Jamaican economy after bauxite and tourism. While production and exports have increased only marginally in recent years, foreign exchange earnings have grown substantially, by 52% from 1989 to 1993. More than 80% of Jamaica's sugar exports are marketed under the preferential arrangements of the Sugar Protocol of the Lome Convention with the European Union (EU). Devaluation would not be expected to have much effect on the dollar value of exports under such circumstances, but prices have been stronger as a result of the appreciation of the European currencies. Privatization of the sector is now almost complete, with the sale of the remaining sugar estates that were in government hands. New institutional arrangements have handed over to growers the responsibility for fulfilling export quotas. The domestic market for sugar has also been liberalized, though imports of raw sugar are still controlled by the government. While the SAP changes have undoubtedly been beneficial for the sugar sector, the policy reform also has imposed some costs on the sector. Higher prices of inputs and poor maintenance of farm roads (associated with cutbacks in government expenditure) are the most prominent negative impacts.

The banana industry has expanded considerably in the past five years and is now the fourth largest earner of foreign exchange in the economy. The partial deregulation of the sector has been accompanied by some significant structural changes. New firms have entered the sector, and adopted more productive technology. Growers returns have increased. Between 1985 and 1995 average yields in the industry have soared from 10 tons per hectare to 25 tons; while exports have increased from 12,000 tons to 76,000 tons. Banana exports go almost exclusively to the UK, under a quota tied to historical sales. The banana quota also has a preferential price, maintained by a tariff on the relatively cheaper exports from Central America. The revitalization of this industry is therefore a combination of internal reorganization stimulated by structural adjustment and preferences in the main export market.

Another sector that has benefitted from the reorganization as a result of structural adjustment is Coffee. The average total coffee production over the period 1984 to 1988 was 1,576 tonnes per anum. This average increased to 8,217 tonnes per anum for the 1989-1993 period. This expansion has been concentrated among large scale producers, including new entrants into the coffee industry. Some of this expansion is accounted

for by increased yields which moved from 398 to 529 boxes per hectare in 1985 and 1994 respectively. Production has historically been in the hands of small farmers with 85 percent of total production in the 1960's and 1970's coming from farms under 0.5 hectare. As a result of recent structural changes, including the ability of private firms to export under license from the Coffee Industry Board, medium and large farms now account for approximately 55 percent of total production. This change has been mainly in the "Blue Mountain Coffee" areas where acreages that were formerly forests and pine plantation have been brought under cultivation.

By contrast; Cocoa production and exports show a marginal but inconsistent increase. Deregulation of the cocoa marketing system was explicitly included in the ASAL, but so far no private firms have taken up the challenge. The sector has experienced relatively little structural shift, as deregulation has yet to yield fruit.

The citrus industry has changed and expanded considerably during the structural adjustment period. Production increased from 23,448 tons in 1989 to 47,609 tons in 1992, an increase of 103 percent. Exports have doubled since 1989 and the industry continues to grow. Since deregulation several large farms have been established and they have changed to nature of the industry. The ability to export fruit without going through the Citrus Growers Association has been attractive to large producers and they are now active participants in the processing and marketing of the product. The greater importance of large farmers who average 3 to 5 boxes per tree compared to small farmers that average 1 box per tree, has led to yield increases for the citrus sector as a whole to move from 289 in 1985 to 541 in 1994.

Despite the gains of the citrus industry in recent times a number of formidable constraints still remain, with some old ones exacerbated. Inadequate extension services is foremost among these problems. While farmers need more knowledge regarding fertilizer use, insect and disease control and nursery practices, the capacity of the traditional provider of these services, the Citrus Growers Association (CGA), has been reduced. The CGA has suffered as a result of declining cess levels. as it no longer controls the marketing of citrus. Further, the CGA's commercial processing operations are at risk because of the smaller volumes marketed through their facilities since deregulation.

The growth in the non-traditional export crops has been the most dynamic segment of the agricultural export sector in recent years. Many of these products, such as yams have not traditionally had large export sales. Others are new opportunities that are being exploited, papaya is one example of this. Production of these "non-traditionals" have doubled over the period 1989 to 1993. Table 8 shows the growth in volume of exports of the most important of these products. The trade is in response to a growing demand for tropical fruits and vegetables in US markets. The key to the expansion of the trade, however, seems to have been the opening up of the foreign exchange regulations. Exporters were in 1991 allowed to open foreign bank accounts and thus use the export earnings to import on their own account. Import volumes reflect this increased ability for firms to trade in foodstuffs, particularly with the US.

The non-traditional export crops are classified as domestic crops in Jamaican production statistics. As a result of the booming market for these products. the domestic food crops sector as a whole has expanded rapidly. In 1993 production reached approximately 583,000 tonnes. The domestic food crop subsector is comprised of over 40 crops in the following food groups - legumes, vegetables, condiments, fruits, cereals and root crops. Besides the export boom, the growing demand for these crops in the tourist sector and the

Table 8: Volume of selected non-traditional Agricultural Export, 1989 -1993 '000 kgs

Commodity	1989	1990	1991	1992	1993
Tubers	8,931	11,236	11,520	13,282	14,930
Yams	6,207	8,286	9,130	10,330	11,352
Sweet Potato	878	758	704	1,079	1,282
Dasheen/Eddoes	1,618	2,191	1,681	1,873	2,296
Other tubers	224	5	-	-	-
Vegetables	1,592	1,781	2,052	2,653	2,301
Pumpkins	1,130	1,155	1,442	2,010	1,485
Cucumber	90	120	102	160	217
Tomato		2	1	12	
Other Veg.	370	504	502	470	597
Fruits	1,114	1,320	2,689	3,327	4,246
Avocadoes	16	50	73	128	166
Mangoes	416	599	1,382	1,031	679
Melons		30	47	52	7
Papaya				2,007	3,276
Other fruits	792	641	1,187	109	118
Ornamental					
Horticulture	326	396	365	251	478
Cut Flowers	295	359	270	194	202
Foliage	31	37	95	57	276
Fresh/Lobster	297	816	1,389	1,720	2,558
Crustaceans					
TOTAL	12,242	15,549	18,015	21,231	24,513

Source: Economic and Social Survey 1993

ability of farmers to develop more reliable relationships to supply this demand have also been important. The government's incentive of duty concession on farm vehicles has been important in improving the marketing of crops.[2]

The livestock industry has also experienced some growth in recent years, but the main subsectors remain vulnerable to competition from cheaper imports. Structural adjustment policies have provided opportunities to increase productivity through improvements on both the input purchasing and marketing side. However, it has also introduced uncertainties which work against the pursuit of opportunities created. The two parts of the livestock sector that have been affected most by these uncertainties have been dairy and poultry.

The domestic milk supply sector supplies 30 percent of the domestic demand. The remaining 70 percent is imported. A number of factors related to the policy reforms have recently affected the composition of these imports and thereby the competition faced by the domestic producing sector. Exchange rate devaluation and import deregulation have dramatically affected the import of basic food items.

One recent example of this is the increased importation of whole milk powder imports have exceeded those of skim milk powder (traditionally used to make condensed milk for home consumption), with a significant amount of the whole milk powder being repackaged into household sized sachets (80 gms) and marketed directly to consumers. The domestic milk processing industry has lost market share and in 1994 shifted some of the adjustment on to milk producers by not purchasing their milk.

Poultry production in Jamaica has increased substantially, from 29,360 tons in 1981 to 53,436 tons in 1991. Since 1992 there has been considerable variability in production. Higher prices of production inputs limited the expansion of the poultry industry in the early 1980's, as there were price controls on broiler meat. In 1990, with the removal of the price controls, product prices increased. In turn, the ending of JCTC's monopoly on feed imports meant that greater amounts of higher quality feed were imported, As a result, production of chicken meat increased dramatically. Consumption of poultry meat has also increased steadily over the period, from 24.6 kgs/person in 1981 to 33.6 kgs/person in 1994. Despite a tradition of buying whole broilers (more than 50 percent of broiler meat has been sold in this way) more Jamaicans are now consuming chicken parts. This change reflects both the recent availability of cheaper imported poultry parts (mainly chicken leg quarters from the US) and the growth of the chicken-based fast food sector.

Agricultural Sector Institutions

Among the significant indirect impacts on agriculture of structural adjustment is the impact on institutions. The SAP in general and the ASAL in particular has affected the operations of the Ministry of Agriculture in no small way. Some divisions have been given greater autonomy (agricultural extension), some have been privatized (clinical veterinary services), and almost all have been downsized from a budgetary and human resource standpoint. The functioning of the Ministry of Agriculture has been greatly changed by the general efforts to reduce the fiscal deficit. The general pattern has been to reduce the role of public sector organizations by transferring their duties to more private sector oriented organizations.

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[2] An important dimension of the growth taking place has been the increasing geographical concentration of agricultural production. This is most apparent in the parish of St. Elizabeth which accounts for approximately 25 percent of the area harvested in 1994 and 18 percent of the domestic crop production. Four parishes, St Elizabeth, Trelawny, St. Ann and Manchester account for 63 percent of the area harvested and 59 percent of the production.

The SAP process has tended also to reduce research and development capacity in Jamaican agriculture. In the case of the research carried out within the Ministry of Agriculture the situation has become critical. For the Commodity Boards, deregulation has reduced the capacity of Coffee and Citrus to conduct research though it has increased the research capacity of the Sugar and Banana Boards. The research system in Jamaica is still in urgent need of rehabilitation.

The early SAP had a profound impact on the extension service, cutting 33 percent of its posts as a part of the 1982 Administrative Reform program. Recognition of the critical importance of the extension service to exploiting opportunities derived from changes under the SAP led to the creation in 1990 of the Rural Agricultural Authority (RADA). This was an effort to breathe new life into the governmental extension system. However, it too was a casualty of austerity. In the 1992 public sector downsizing a further 50% of the extension officers were made redundant. Table 9 shows RADA's initial staff complement and organizational structure 1990-1992 and its present staff complement and structure 1992-1994. RADA's effectiveness is constrained by the fact that it's budget is used primarily for recurrent administrative expenditures, leaving a negligible amount for assistance to farmers. Perhaps more importantly, it is not adequately supported by a technology development and problem-solving arm.

Table 9: Rural Agricultural Development Authority Personnel: Number of Persons and Mimes

Title	No.of Persons	
	1990-1992	1992- 1994
Senior Management Head Office and Zones	24	15
Management-Field	26	19
Specialists/ Agricultural Extension	221	104
Agricultural/Home Economic Assistants	219	87
Support Staff (Accounting and Clerical)	552	287

A summary of the impacts of the SAP and the ASAL is presented in Table 10.

Table 10:. Impacts of Structural Adjustment Policies on Jamaican Agriculture

Overall Summary of the Impact on the Sector

a) Production has achieved a rate of growth of 5 percent over the period 1989 to 1995.

b) Since 1990 there has been a positive balance of trade between agricultural exports and imports

c) Many new entrepreneurs have entered the sector as producers and marketers of agricultural crops.

d) Crop yields increased substantially for the main export and domestic crops.

e) Capacity in the critical areas of research and extension has declined.

f) Large scale farms have tended to account for the growth in production. Crop subsector output has become more concentrated at the expense of the small farm sector .

g) Crop production by parish has become more concentrated, and four parishes now account for 60 percent of the production.

h) Commodity Boards have relinquished their market power, and some have lost their capacity to provide services for growers.

i) Domestic producers generally face more competition from import substitutes.

j) More credit has gone to large farmers than to small farmers.

k) The amount of credit going to the agricultural sector has declined.

Trade Liberalization and the Agricultural Sector

Tariff Reform under Structural Adjustment

Structural adjustment in Jamaica called for the removal of high levels of protection in the economy, to allow sectors to develop competitive strengths and to relieve consumers (and other sectors) of the burden of high costs. But the process of trade liberalization had been a hesitant one for agriculture. The problem of integrating the agricultural sector into the trade regime had proved difficult. Jamaican farmers relied on the assurances that governments had given over the years, that imported products would not be allowed to disrupt the domestic market. Structural adjustment, and the trade liberalization that came with it, changed the rules of the game. Domestic agricultural sectors were asked to earn their keep under this new policy, by competing for the consumers' dollar with imports from other countries.

Not all the impacts of trade liberalization disadvantaged the Jamaican producer. The effect of trade liberalization on the agricultural sector included the indirect impact through the reduction of trade barriers in other sectors. Jamaica liberalized import access for non-agricultural goods at an earlier stage of the process of structural adjustment than in the case of agricultural imports. This gave agriculture a temporary benefit from the cheaper price of imported inputs and the general reduction (in relative terms) of the cost of living. This has not reduced the controversy or significance of the various moves toward trade liberalization in agricultural markets, including the unilateral tariff reforms undertaken as part of structural adjustment, the multilateral trade negotiations as they impact on Jamaican agriculture, and the regional initiatives which have also significant implications for agricultural trade prospects.

Prior to the tariff reform embodied in the ASAL. imported agricultural goods were subject to a number of trade restrictions, including import licenses, reference prices, stamp duties (additional import levies) and quantitative restrictions. The task of tariff reform was the removal of all non-tariff barriers and the adoption of tariffs as the only method of protection.

The programme of unilateral trade liberalization undertaken as a part the TFSAL and the ASAL is summarized in Table 11. Agricultural commodities have been classified into groups, originally reflecting their domestic sensitivity and the extent to which they were produced by small farmers. Under the first TFSAL, market access for the goods in Group Vl was liberalized, whilst for Group V the Reference Price system was relaxed and the stamp duties were removed on products in Group IV. This left the majority of farm products, including all major vegetable and livestock commodities with import regimes involving import licenses, reference prices and stamp duties.

Table 11: Synopsis of Jamaican Tariff Reform

Status of Trade Regime 1986	Reform under TFSAL I 1986-1990		Reform under ASAL 1990 onwards
Goods subject to:	Policy Change	No Policy Change	Conversion to tariff equivalent
	Goods liberalized:	Goods still subject to:	
a) Import license requirements	a)Removed from Import license requirements (Group VI)	a) Import license requirements (Group I)	a) Group I: tariffs to be reduced to CET in 5 to 7 years
b) Reference pries and protective stamp duties	b) Removed from Reference prices system but maintaining protective stamp duties (Group V)	Reference prices plus protective stamp duties (Group II)	b) Group II: tariffs to be reduced to CET in 5 to 7 years
c) Reference prices and ordinary stamp duties		c) Reference prices and ordinary stamp duties Group III)	c) Group III: tariffs to be reduced to CET in 3 years
d) System of reference prices and protective stamp duties	C) Removed from system of protective stamp duties (Group IV)		
e) Quantitative Restrictions (QRs)	d) QRs changed to reference prices and protective stamp duties		

Note: Group I. Goods Requiring Import Licensing for Small Farmer Protection
potatoes, carrots, peanuts, apples, tomatoes, peppers, vegetable, oil, onions, cabbage, tomato sauce, beans, lettuce, peas
Group II. Goods Subject to Reference Prices and Protection Stamp Duties
beef, eggs, citrus pulp, pork, grapes, orange juice, poultry meal, pineapple juice, bacon, canned ham, grains (not wheat, oats)
Group III. Goods Subject to Reference Prices and Regular Stamp Duties
cucumbers, other vegetables
Group IV. Items Removed from Protective Stamp Duties
garlic, tomato juice, lima beans, canned corn, navy beans, frozen corn
Group VI. Items Removed from Import License Requirements
garlic, peanut butter

The ASAL addressed directly the import regimes for the Groups I, II and III. In each case the non-tariff barriers were converted to tariffs. For Group III the tariffs were reduced over a period of three years to the level of the CARICOM Common External Tariff (CET). For Groups I and 11 the tariffs were to be removed over a period of 5-7 years. As a part of the PSDAL, however, the seven-year timetable was shortened somewhat. The remaining stamp duties were to be removed in three steps, in March 1993, 1994 and 1995. However, in 1994 the Government decided to delay the abolition of stamp duties due in March of that year to allow time to study the impact of their removal. The final steps in this process, including the removal of the last of the stamp duties, were therefore due this year.

The ASAL trade policy reform in effect gave the agricultural sector some breathing space. The combination of the CET, of about 40 percent for most agricultural products. and the additional stamp duties, provides a level of nominal protection of up to 90 percent for many products in Group I and 11. Though still significant, the level of duty has come down markedly since 1990. The result of these specific reductions in tariffs has been to reduce both the average weighted commodity tariff in each of the Groups and also the dispersion of these tariffs.

Trade Agreements and the Trading Environment

To the opportunities and pressures on the Jamaican agricultural sector arising from structural adjustment have been added another set of changes in the nature of the world trade system. These included the GATT Uruguay Round of trade negotiations and the various regional trade negotiations, particularly within CARICOM .

The Uruguay Round

The Government of Jamaica took an active role in the Uruguay Round negotiations on agricultural products. Of interest to Jamaica was the extent to which access into developed country markets for temperate zone agricultural products would be eased as a result of the Round. Other issues, such as the use of sanitary and phytosanitary standards as disguised barriers to trade were also on the agenda. Many of the food exporting developing countries used the Cairns Group to press their concerns on export subsidies and developed country protection. Jamaica was more closely associated with the concern that was voiced often in the talks about the problems which would face food-deficit importing countries in the event that world prices were to increase markedly.

The outcome of the Uruguay Round negotiations on agriculture was to adopt a new set of rules on agricultural trade and to begin a process of reduction of some of the major impediments to the rational growth of world trade, namely high barriers to market access, disruptive export subsidies and domestic policies which distort international markets through the encouragement of excess production. The degree of liberalization in the markets and products of interest to Jamaica was limited. In part this was a result of the fact that raw material exports already face low tariffs into the industrial countries. The best outcome in such circumstances would have been a reduction in the tariffs for the processed products, which in effect would have removed some of the protection on the "value added" industries in the exporting country. There is reason to believe that this reduction in the effective protection took place, as tariffs in general were reduced by up to 40 percent. That more direct help from reduction in export subsidies for sugar, and in improved market access, is unlikely to be significant. The US already ran a tariff rate quota on sugar, and

it was relatively straightforward to modify the EU's sugar regime into a GATT compatible tariff-rate quota system.[3]

The reduction in import barriers agreed in the Uruguay Round was defined by the submission of "schedules" by each participant in the negotiations. For the developed countries, these schedules included bindings for the new tariffs created as a result of "tariffication of non-tariff border measures, reductions in the level of these bound tariffs along with pre-existing tariffs, guarantees of market access for particular quantities of products, schedules for the reductions in export subsidies, and limits on the level of domestic subsidies. Not all countries to submit such detailed schedules. Jamaica, in common with many developing countries, submitted a schedule of ceiling tariff bindings in accordance with the procedures laid down in the negotiations. These bindings are intentionally set above the level currently imposed. The Jamaican schedule thus reserves as a ceiling binding a tariff of 100 percent for all agricultural products (except for the ceiling of 200 percent on sugar) along with the right to impose up to 80 percent other charges (such as the stamp duties). Moreover, this ceiling is not scheduled to be reduced over the next few years. To all intents and purposes, the GATT schedule will have no practical impact on access to the Jamaican market for agricultural products.

Regional Integration

Regional Trade Arrangements (RTAs) have become an important part of trade policy for most countries in the western hemisphere. Jamaica is a member of the Caribbean Economic Community, or CARICOM. As a trade bloc, CARICOM has at times had difficulty in finding the political will needed for the pursuit of internal trade liberalization and its market integration efforts have often been in vain. In part this reflects the fears of the smallest economies about the possibility of being swamped by the larger members. In part it is accounted for by the lack of consistent leadership by the largest countries, including Jamaica, which has intensified links with the US in recent years. In part it is an inevitable consequence of the small size of the market, the European orientation of trade, and the similarity of trade patterns. Despite the relatively weak trade ties within CARICOM, the process of trade liberalization has proceeded at the regional level. Most goods flow without tariffs between CARICOM members. In 1991 the CARICOM countries established a Common External Tariff (CET), and a schedule for reduction of this level in the next few years. This schedule provides for a 40 percent tariff on agricultural commodities, as compared with a 25-30 percent tariff on manufactured goods. For goods which are not produced in the region, the member states can apply reduced levels of tariff. Under a convention agreed by CARICOM ministers, agricultural imports can under certain circumstances be protected by additional duties. Jamaican stamp duties are thus accepted by CARICOM as an addition to the CET.

The impact of regional trade liberalization on Jamaican trade patterns is not pronounced. Most countries in the region export similar goods, and most concentrate on overseas markets. However, there is some growth in intra-regional trade arising from the CARICOM agreement, and from the attempt by entrepreneurs to search out regional markets. As more countries in the region open up their markets, whether as a part of structural adjustment or for other reasons, such regional trade is bound to increase. The size of the CARICOM market is however rather limited. The wider region, including Venezuela, Mexico, Colombia and the Central American Common Market, offers more promise. More particularly

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[3] The Uruguay Round did have the effect of locking in these preferential access quantities, though not the degree of preference.

of interest to Jamaica are the non-CARICOM islands, Cuba and in Hispaniola, which have sizable populations and a close geographical proximity. Open economic policies in those islands could make a significant impact on Jamaican agriculture.

Lessons from Jamaica's Experience

The structural adjustment program and more general macroeconomic policies have been important to the agricultural sector in correcting the signals sent to agricultural producers and processors. The traditional agricultural sector was being penalized by the overvalued exchange rate; Marketing Boards were operating inefficiently and as a result paying growers too low a price; and inefficiencies in the nontraditional crop and agro-processing sector were protected by import regulations. The program of structural adjustment generally changed this situation and has had positive impacts in terms of the improved performance of the sector. The lower inflation and interest rates and the more stable exchange rate associated with general macroeconomic policy were also critical in this regard.

While these programs appear very beneficial there are a number of concerns regarding the long run sustainability of the changes and the short run impacts on particular farming communities. The lessons that could be derived from the Jamaica experience are as follows.

1) Correction of macroeconomic imbalances balances, both internal and external, is not an option; it is an essential. Fiscal and balance of payments deficits introduce instability and uncertainty that result in economic and social crisis. Policy to correct those problems must however incorporate mechanisms and programs for technology development and the promotion of equitable access to economic opportunities. Otherwise poverty and maldistribution of income may result from macro adjustments. The balance and timing of the macroeconomic policies and programs is significant in determining the performance of the sector and the impacts on particular groups.

2) The development of public and private sector partnerships, in the widest sense, is necessary for the transition to and sustainability of the models of production and distribution. Internal policies and programs must make the strategy and assumptions regarding the external environment very transparent for producers and consumers. The promotion of the private sector should not proceed without addressing the very reasons that gave rise to the development of public policies in me first place. Market deregulation should be supported by positive policies for the farm sector in order to promote equitable development across different economic groupings and regional areas.

3) Small farmers need more assistance from public institutions in exploiting opportunities that arise from deregulation and trade liberalization. Information services regarding new opportunities, both for markets and investment, are critical to new opportunities being exploited. The role of public institutions responsible for promoting agricultural development needs to be clearly articulated. Resources should be allocated to agencies in keeping with expectations for their output.

4) Trade liberalization, particularly the removal of protection for import substitutes, should be tied closely to programs promoting greater competitiveness in the import substitute sectors and a transition to more competitive activities. Mechanisms to protect domestic agriculture from import surges and products dumped should be in place before removal of import restrictions. Transparency of trade policies is important to allow for investment patterns to respond to trade opportunities.

5) Regional economic integration and trade liberalization can be a useful adjunct to domestic structural adjustment and policy reform. New markets for local goods can supplement and in time replace some of the overseas export flows. In turn, domestic production "learns" to compete with regional produce while still being sheltered from direct competition from third countries. So long as this preference is not permanently built into cost structures, the result could be the development of internationally-competitive agricultural sectors. Improvements in transportation and infrastructure could increase the competitiveness of local production to where the preferences were not required (or not used). If the present move toward the agglomeration of trade agreements continues, these regional free-trade agreement! will be a useful proving ground for the greater challenge of pan-continental or transcontinental trade pacts.

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SESSION 4. LESSONS FROM TRADE NEGOTIATIONS IN THE WESTERN HEMISPHERE

Lessons Learned From the NAFTA: A U.S. Perspective

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The lessons gleaned from the North America Free Trade Agreement, commonly known as NAFTA can best be analyzed if the NAFTA is viewed as a process, which began roughly in 1990 and is still only in the beginning stage of a long transition period. This process can be divided into three phases: negotiation, legislation, and implementation. Regarding the first and third phases, Mexico's and Canada's lessons learned are likely similar to those in the United States. The second phase, more so than the other two, reflects the unique U.S. political system and was quite different in Canada and Mexico, as it would be in other countries in the Western Hemisphere.

At the beginning, I note that my perspective is one of an economist who, in an earlier capacity was charged with attempting to analyze, understand, and forecast agricultural production, trade, and policies, suddenly found herself thrust into the midst of a difficult and contentious agricultural trade negotiation. Since this meeting is a gathering of economists, I will attempt to make my comments and observations relevant to economists and what we do.

Negotiation Phase

The negotiation phase can be further divided into two categories of problems: substantive and practical. The main substantive issue can be summarized as the process of reaching agreement on the long-term goals and objectives of the negotiations, and then working out a transition path to achieve the objectives with respect to specific commodity concerns and other trade sensitivities. The NAFTA agricultural provisions well illustrate the different objectives of the NAFTA parties.

Substantive Issues

Going back to de negotiation of the U.S. Canada Free Trade Agreement (CFTA) during 1986-87, both countries agreed to defer addressing the sensitive issues concerning nontariff barriers (NTB's) pending the completion of the Uruguay Round. Thus, the agreement on agriculture was limited in scope and effect. When the NAFTA negotiations began, the Uruguay Round negotiations were languishing. Canada insisted that it still could not address NTB's in the NAFTA context, whereas the United States was willing to put NTB's on the table for discussion. Thus, the issue of the treatment of NTB's between the United States and Canada was still unresolvable in 1992. The United States and Canada maintauned their differences with respect to the objectives for the agricultural provisions, and the CFTA was simply rolled over into the NAFTA with no further liberalization specified.

Partly as a result of the limited agreement on agriculture, the United States and Canada continue to have contentious, unresolved agricultural trade issues. Foremost is the question of the consistency between the tariffs created in the Uruguay Round to replace NTB's and the obligations stated in the NAFTA to not impose new tariffs or raise existing ones. Secondly, there has been a long running dispute over grain trade, which reached crisis proportions in 1994 in the United States as a result of a large surge in U. S. imports

of Canadian wheat and barley. Whatever one has to say about the dispute, most can agree that as tariffs and other border measures come down, the trade effects of incompatible domestic policies become more apparent and can have significant economic and political repercussions. The U.S. Canadian agricultural trade disputes illustrate this finding all too well.

In contrast, the United States and Mexico were able to agree on an ultimate goal of complete elimination of tariff and nontariff barriers on agricultural trade at the end of a transition period. Thus, once that objective was agreed upon (about 6 months into the formal negotiations in February 1992), it took another 6 months to work out the transition arrangements to address the key market access problems and other sensitive issues.

Likewise, Canada could not agree to a goal of complete liberalization with Mexico, and worked out yet another set of transition arrangements, with some commodities given
more liberal treatment than U.S. commodities and some exempt entirely from liberalization.

Although some NAFTA provisions are trilateral-internal support, export subsidies, and sanitary and phytosanitary measures - because there was no trilateral agreement on the ultimate objective for market access in agriculture, the result was an odd, triangular structure of agricultural provisions on market access. The process of adding Chile to the NAFTA, to which the NAFTA partners agreed at the Miami Summit last December, will have to wrestle with this question of ultimate objectives and structure of the agreement as well.

Practical Negotiating Problems

Substantive negotiating objectives are ultimately decided by policymakers at the highest levels. Practical negotiating problems are handled by people like you and me. The data and analysis that support a trade negotiation are quite different from what economists might do in universities and government agencies to test a trade theory or evaluate potential impacts of a particular trade agreement. The stuff of negotiations is extremely detailed, commodity specific, and oriented to solving very specific product sensitivities, both on the import and export side.

Data Requirements

For example, going back to the CFTA, we had a major headache with trade data. Beginning in the 1980's, it became apparent that U.S. trade data were significantly undercounting U.S. exports to Canada. One positive outcome of the a CFTA was an agreement to use each other's import data to represent exports. This data difficulty between two large, wealthy countries with a common border should make all trade economists pause to reflect as they load data in their computers to do sophisticated trade analysis!

The practical problems were compounded when negotiations with Mexico began. A major one was addressing differences in each country's tariff schedules and trade data. Simply trying to figure out what each country was exporting to each other, by tariff line, consumed enormous amounts of time. For example, economists may simply analyze production and trade of poultry and eggs as an aggregate quantity, but trade negotiations require closely examining 20 to 30 different tariff lines for poultry and eggs to evaluate what level of trade is occurring at what rate of duty for which type of poultry.

The reliability and accuracy of data was a major problem in constructing the tariff-rate quotas (TRQ's), which are the chief tool to achieve free trade over the transition period. These data problems will likely be compounded if the NAFTA enlarges to include other countries in Latin Arneriea, where data and other information may not be readily available or well documented.

Another problem was gathering the necessary data and information on Mexico's policies and programs in order to understand those aspects of Mexican agriculture that would be affected by a free trade agreement. This was complicated by the fact that Mexico was in the midst of changing its entire agricultural policy, and it was not clear what sort of policies would emerge after the transition. Again, such uncertainty is likely to be even more prevalent if the NAFTA is extended to other countries, because the general economic situation in many Latin American countries, as well as post-Uruguay Round agricultural policy, is likely to continue to undergo significant change.

Impact of the Uruguay Round

One Practical negotiating problem may have been solved by the Uruguay Round. Future negotiations on market access will begin at a much different place than did the NAFTA, which was the first trade agreement to use the tariffication concepts and practice. During the NAFTA, once Mexico and the United States agreed on the objective of free trade, a key aspect of the negotiation was establishing the various tariff-rate quotas and tariff equivalents to replace the NTB's. Much time was spent gathering and evaluating data, such as domestic and international prices, consumption, and government support payments. But now, at least in theory, for all GATT/WTO members there are no more NTB's - only tariffs - which should greatly simplify future negotiations. Simple tariffs are fast becoming irrelevant as trade barriers, and NTB's, having been converted to tariffs, are now in a form to be phased out as part of the next round of bilateral or multilateral agreements.

Any new negotiations will begin where the Uruguay Round leaves off. The Uruguay Round allows countries to establish "ceiling bindings." That is, previously unbound tariffs are all now bound, meaning they cannot be exceeded without providing compensation to trading partners. But most Latin American countries have ceiling bindings that greatly exceed the tariffs that are actually applied in daily commerce. This situation existed in Mexico at the beginning of the NAFTA negotiations, but the negotiators agreed that the starting point would be the duty applied on bilateral trade. One question for future negotiations is whether the phaseout of tariffs begins from bound or applied rates.

Just as the Uruguay Round may have helped solve one problem, it may have inadvertently helped to create another. Sanitary and phytosanitary (SPS) measures and technical barriers to trade, such as standards for food labeling, grading, or pesticide tolerances, are fast becoming, if they are not already, the most contentious issue in international trade policy. Both the NAFTA and the WTO have ground-breaking provisions addressing the transparency and use of SPS and standards. But the implementation of these new provisions to address a particular measure or practice is relatively new, and we are on the beginning of the learning cube. Just as the NAFTA and WTO have hopefully made future market access negotiations simpler, addressing technical barriers to trade will become even more important and subject to closer negotiating scrutiny.

Other Negotiating Areas

Another key area of the negotiations was constructing the rules of origin-the rules that determine which goods are eligible for the NAFTA tariff preferences. Many of these rules for agriculture were carefully developed to address economic - and political - sensitivities with respect to Mexico and Canada. How long these rules can remain in place as the NAFTA enlarges is an open question. They were designed for the North American market, but may not be as appropriate in a larger Western Hemisphere context. A free trade area with many countries becomes increasingly difficult to hold together with complicated rules of origin. A common market does not have this difficulty, but requires a different political commitment in terms of integration and harmonization of policies. A common market in the Western Hemisphere is not currently being contemplated, but it may look more attractive from a purely technical and administrative sense if the NAFTA enlarges much beyond its current members.

In addition to SPS and standards, other areas for negotiation may also loom larger in terms of their potential effects on agriculture and trade as traditional market access issues become less significant in affecting trade. For example, intellectual property rights, investment, and transportation are all key areas of interest for agricultural trade. As with technical barriers to trade, these areas will likely become even more important for agricultural trade negotiators.

Legislative Phase

This phase is unique to the United States, because neither Canada nor Mexico had to deal in the same way with a recalcitrant and often unfriendly legislature. The domestic opposition to NAFTA may have been unparalleled in the annals of U.S. trade agreements. After numerous supplemental agreements were struck to help ensure NAFTA's passage, one lesson may have been quickly learned. The passage of the NAFTA implementing legislation helped pave the way for the staffing and passage of the Uruguay Round legislation. The Uruguay Round implementing legislation was much less encumbered with additional provisions that were not, in a strict sense, necessary to implement the agreement. Much more so than the NAFTA, the Uruguay Round legislation changed only those laws that had to be changed to make U.S. legislation consistent with the new agreement.

With respect to future trade negotiations, the key issue for the United States is securing so-called fast track legislation from the Congress. Again, this type of legislation is peculiar to the U.S. because of our political system. Legislation is not necessary to negotiate a trade agreement, but the Congress must authorize tariff changes through legislation. To ensure that the Congress does not substantially change an agreement negotiated by the executive branch, the fast track approach was developed so that the Congress would pass the necessary legislation to implement a trade agreement expeditiously and as negotiated. Such legislation is considered necessary to pursue future free trade agreements, including additions to the NAFTA.

Implementation Phase

We are at the year-and-a-half mark for the NAFTA. Tariffs have begun to be cut, and all NTB's between the U.S. and Mexico are gone. Total and agricultural trade rose significantly in the first year of NAFTA. We also know that the second year, which started off with Mexico's peso devaluation and resulting economic slump, will be significantly different prom the first year. For agricultural trade, 1995 will mean more balanced bilateral trade with Mexico.

The road between what is negotiated on paper or laid out in a tariff schedule and what actually happens between trade partners as they attempt to implement an agreement is long and rocky. Implementation issues often occur at the intersection of the official text with domestic legislation and political interests. The first year and a half of the NAFTA has been-full of challenges. These challenges have been of two kinds: implementing what is actually in the agreement and addressing what is not in the agreement - the unfinished business that did not get resolved during the negotation phase. A good example of the latter has been the on-going difficulties between the United States and Canada.

A example of the first kind of implementation issue has been the administration of the TRQ's. The proliferation of TRQ's as a mechanism for removing NTB's, both in the NAFTA and the World Trade Organization (WTO), has spawned a whole set of implementation questions; for example, who has the right to import and under what terms and conditions. Under the NAFTA, the United States has opted for a first come, first-served approach, while Mexico and Canada have chosen to administer closely the right to import under the TRQ's. Dealing with the practical aspects of Mexico's administration of the TRQ's, which were not spelled out in the agreement, has been a significant problem for the U.S. Govermnent and exporters.

Another key area has been the implementation of the SPS provisions - the first of its kind in any trade agreement. As both countries, but especially Mexico, have made changes in domestic procedures and practices, the guidelines and rules in the NAFTA for SPS, as well as standards, have been called upon often. These measures, as well as the dispute settlement provisions, will continue to be tested during the implementation of the NAFTA.

With respect to unfinished business, one very contentious issue during the negotiations was the use of export subsidies among the NAFTA partners. Both Mexico and Canada wanted to bar the use of export subsidies on agricultural products in the North American market. The United States could not agree, both because Mexico could not commit to forego receiving subsidized imports from the European Union, as well as long-standing U.S. concerns about the operation of the Canadian Wheat Board as a state-trading entity in the Mexican and other markets.

Failure to completely resolve the treatment of export subsidies in the NAFTA negotiations has left us with on-going issues on Mexico's countervailing duty (CVD) investigation on U.S. and Canadian wheat exports and Mexico's potential CVD investigation against U.S. exports of vegetable oils. Work on this issue will continue in the NAFTA Working Group on Agricultural Subsidies. This issue will remain an important one in the context of Western Hemisphere free trade as some countries, notably Argentina and Canada will continue to press for a hemisphere free of export subsidies. But other countries in the hermisphere may face an equally difficult choice of not importing suidized product from outside the hemisphere. U.S. concerns about export practices not currently disciplined by the WTO will continue.

What Countries Can Do To Prepare for Trade Negotiations

Based on the NAFTA experience, coupled with the years spent completing the Uruguay Round with its very detailed negotiations on agriculture, trade negotiators should begin to have an understanding of the basic elements necessary to achieve a successful negotiating outcome. Here, I am not addressing the "big picture" questions of eligibility requirements or preconditions for joining the NAFTA, but rather some of the more practical aspects of a trade negotiation.

Most Western Hemisphere countries were engaged during the Uruguay Round negotiations and are members of the GATT/WTO. But countries should be aware that there are still numerous technical and practical requirements of a NAFTA-type negotiation that must be met to achieve a successful negotiated outcome. Some of these have been mentioned as part of the practical negotiating problems - for example, having reliable, current, detailed tariff schedules and trade data (in an electronic, user-friendly form). Another very useful item would be good, up-to-date, detailed analytical reports on country policies and programs.

Concerning the up and coming trade barriers of the 21st century - SPS measures and technical barriers to trade-it is necessary to understand how a country's regulatory process works. To this end, it would be most useful to have organizational charts and descriptions of which agencies in the government have responsibility for developing and administering SPS measures and standards for food and agricultural products. For example, are regulations done through legislation or through an administrative process? What is the relationship between federal state, and local laws? The whole issue of the transparency in the promulgation or modification of SPS measures or technical standards has been a significant implementation issue, and will only become more important. Countries should be aware of the increased importance of these technical issues and be prepared to address such questions.

The Role of Economists

The role of economists in trade negotiations also varies with the different phases I have described. Generally, economists don't like to think of themselves as "hunters and gatherers" of data or information. Economists often want to test hypotheses with complex methods, but in fact during the NAFTA negotiations what was most needed and useful were good data and practical explanations of the effect of country policies on patterns of production and trade.

At different times during the NAFTA negotiations, we would be asked to assess the implications of different liberalization scenarios. Another question that was often posed by our chief negotiators was whether the two sides had achieved a balance in concessions. It was next to impossible to develop a framework that could encompass the phasing out of hundreds of tariff lines, and the conversion of NTB's to tariffs and their lengthy phaseouts, not to mention the non-agricultural portions of the NAFTA that could have significant impacts on trade. As one more experienced trade negotiator explained it to me, "if you can't tell which side has the best deal you know you've got a good deal." These more practical aspects of evaluating progress and potential impacts during the negotiation phase pose a tough challenge for economists.

During the legislative phase, it was imperative to have credible, valid, and explainable analysis to assess the impact of the agreement on the U.S. agricultural sector. Having good economic analysis that explains the benefits of an agreement may not win any votes in the U.S. Congress, but not having such analysis would leave an Administration naked and open to charges that it did not understand what its own negotiators had done.

During the debate over the NAFTA in the legislative phase, tremendous attention was paid to potential job loss as a result of the NAFTA. The political debate required that economists (supporters) come up with estimates of specific trade benefits and job creation. What was perhaps more important for the United States, but not subject to easy quantification, were the benefits obtained from domestic policy reforms in Mexico, which were undertaken and locked in as a result of the disciplines imposed by the NAFTA. In the

rush to produce large estimates of job creation, the long term benefits of a more open, liberal economic regime in Mexico, prompted and ensured by the NAFTA, may have been overlooked in the analysis.

Now that we are in the implementation phase, it is likewise imperative to maintain on-going analysis of the impacts of the NAFTA on the U.S. economy. This is needed not only to address potential criticism of what the Administration has already negotiated, but to help provide proof of the benefits of trade agreements to the U.S. economy to justify future policy actions such as the creation of the Free Trade Area of the Americas.

After NAFTA?

The Administration is committed to pursuing further hemispheric trade liberalization on two fronts: through the accession of Chile to the NAFTA and through a process of consultation and negotiation with other regional trade groups in the hemisphere to create the Free Trade Area of the Americas by the year 2005. Preliminary discussions with Chile have already begun. In theory, the process of adding Chile to the NAFTA should be easier than the negotiations that created the NAFTA, because the goals and objectives are already contained within the NAFTA. But agriculture is likely to be a difficult area in the negotiations, precisely because of the complicated structure of the NAFTA agricultural provisions. Perhaps in a short time, we will be engaged in another negotating process, and we will have an opportunity to see whether in fact we have learned any lessons from the NAFTA.

SESSION 5A. PATTERNS OF TRADE FOR AGRICULTURAL PRODUCTS IN THE WESTERN HEMISPHERE

Patterns of Chilean Agricultural Trade in the Context of NAFTA and MERCOSUR

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Economic Reforms and Agriculture in Chile

The Chilean economy has been characterized as one of the most open free market economies of the Western Hemisphere; the agricultural sector is also one of the least protected or intervened by government. After the major economic crisis of 1981-82, Chile introduced some adjustments of a more interventionist nature in its economic policies, but by 1985 the major elements of its previous economic model were put back in place. This meant returning to a low uniform external tariff of 11%, except for the implementation since 1984 of a price band mechanism for wheat, sugar and oil, more recently incorporating wheat flour as well. A public procurement agency has also operated, mostly in the wheat market, both to prevent millers from oligopolistic practices at harvest time and to support prices at the level of the floor price of the band when production is specially large.

The structure of agricultural production has been reshaped and its pace of growth has increased as a result of the unilateral trade liberalization policy introduced in the mid-1970s. Agricultural GDP grew at a much more rapid rate after the reforms except for the years of the crisis (Table l), and important shifts occurred in terms of the allocation of land and others resources within the sector (Table 2). There was an important increase in the area planted to fruit trees, in forest plantations and more recently in improved pastures, and a decline in both the area devoted to annual crops, particularly cereals and oilseeds, and to vineyards for wine production; the latter has recently reversed. The decline in the area sown to annual crops for domestic Consumption particularly in cereals, has been significant (Figure 1). Yet, total production either declined much less or increased due to large increments in average yields per unit of land (Venezian and Muchnik,1994). Agricultural and agroindustrial exports have expanded at a very rapid rate, increasing its share in the sector's GDP and also in total exports (Table 3).

Notwithstanding the changes described above in terms of resource allocation among subsectors, the traditional sector remains a very important component of agriculture. It comprises 14 annual crops, including all the cereals, oilseeds, legumes, sugarbeet and tobacco, most of which are importables, produced for the domestic market. The area sown with these crops still represent an area 4,7 times larger than fruit plantations, and contribute with 1/3 of the Gross Value of Agricultural Production (GVAP). Livestock and animal products, continue to be the largest subsector, representing another 40 t of GVAP.

The Second Phase of Trade Liberalization

In 1990, Chile initiated a new phase of trade liberalization, deliberately chasing to continue promoting export-based development, by way of bilateral trade negotiations. These included in 1991 a temporary restricted agreement with Argentina, which expires this year, and a FTA with Mexico; in 1993, bilateral agreements were signed with Venezuela, Bolivia and Colombia, and in 1994 one with Ecuador. During

1995, an agreement with Peru will most probably be finalized. MERCOSUR and NAFTA follow in the pipeline.

The bilateral agreements have been conducted within the regulatory and institutional framework of ALADI; they include different forms and degrees of integration, the most common being the complementary economic agreements. The more traditional form of integration, consisting of a defined set of mutual preferential tariffs is today obsolete, to judge from the lack of recent rounds of negotiations.

But the most "sensitive" agricultural products for Chile, cereals, sugar, oil, beef and milk, have so far been explicitly excluded. The agreements which have been signed in the region have not seriously jeopardized the more traditional components of the agricultural sector, which have to compete with imports in the local markets. Several of these commodities benefit from additional protection beyond the 118 ad-valorem uniform tariff, through the application either of a price band mechanism (sugar, wheat and wheat flour, and edible oils) or from temporary surcharges or minimum customs values, applied to offset subsidized exports abroad. The latter have been used at some point in time in maize, milk, sugar, and rice. Price bands have yielded variable levels of protection over time. Nevertheless, comparative Producer Subsidy Equivalent estimates for wheat (USDA/ERS) indicate that protection levels in Chile are considerably lower than for NAFTA members.

With this policy of bilateral trade agreements, Chile has tried to restore political relations in Latin America, which had suffered a setback, taking advantage of the trade liberalization reforms of the other countries. It also shares the continental vision of an economic integration of the Western Hemisphere, actively seeking membership in NAFTA since 1992.

With respect to MERCOSUR, by far the most important existing multilateral integration mechanism in South America, Chile was invited to join in early in the formation process, but declined, for reasons that will be described below. Current negotiations between Chile and MERCOSUR seek to establish a free trade agreement instead of including Chile as a new member, in addition to Argentina, Brazil, Paraguay, and Uruguay.

Arguments in Favor of Free Trade Agreements

During the early 1990's, there was the expectation in Chile and abroad that trade reforms within the GATT negotiations under the Uruguay Round would be very slow to achieve and would not reach the desired targets of those countries which voted for the elimination of agricultural protection. Even if the GATT negotiations came to a satisfactory end, it was suspected that the results in terms of trade liberalization would be very modest. Because of this belief, Chile as many other countries in the region, initiated bilateral trade negotiations.

For many of the countries, FTAs have also been viewed as a mechanism of assuring that liberalization reforms are of a permanent nature, since it would make it very difficult to revert these policies as a result of domestic pressures, a highly likely event in the following years due to pressures from groups that are hurt by the reforms. This is the case for example of Mexico with NAFTA. This statement is not applicable however to Chile, where trade reforms were implemented 15 years earlier.

Moreover, the formation of several important trading blocks have adverse consequences for the countries being left out. In the case of NAFTA, both Canada and Mexico are important competitors for Chile as

suppliers of goods to USA based on natural resources. The same applies to Argentina as a supplier to Brazil in MERCOSUR. In addition, there is the danger that these blocks resort increasingly to Non-tariff barriers (NTBs), or to the more frequent use of anti-dumping devices to protect their agriculture sector from foreign competition.

If the current trend of bilateral and multilateral FTAs were to continue, one could expect to find in the near future a well defined pattern for agricultural trade in the western hemisphere a trend towards greater specialization and thus of trade based a the agroclimatic characteristics of each country or region. In very broad terms, it is possible to identify four major types of region in the Western Hemisphere tropical areas, with land-intensive crop production, such as sugar cane and soybean production, found for example in USA, Central and South America; labor-intensive tropical production such as banana and coffee, typically found in Central and South America; temperate land-intensive crop production such as wheat, maize, and beef, in large areas of Argentina, the Midwest of USA, and southern Chile; and labor-intensive dry summer temperate zones producing fruits and vegetables, such as California in the USA, certain regions in Mexico, Argentina, Brazil and Central Chile. In general, it is unusual that a given country will fall only in one of the above categories, so that conflicts arise in the trade negotiations due to the competition between imports and domestic production. For example, in this respect, Chile has less conflicts in dealing with Colombia or Brazil than with Argentina.

Chile and Free Trade Agreements

Chile is a net exporter of agricultural products. The agricultural balance of trade with the rest of the world has been for many years favorable to Chile. In 1994, total agricultural exports reached US$ 1,824 million and imports amounted to US$ 780 million (Table 4). These flows correspond to 16% of total Chilean exports, and 7% of total imports (Figure 2). If trade flows for the forestry sector are included in the above figures, total exports of agricultural and forest products add up to US$ 3,275 million, that is 28% of total Chilean exports, and total imports only increase by US$ 28 million to US$ 807 million (Table 4).

Agricultural exports are concentrated in a reduced number of fresh markets and some processed fruits and vegetables, (Table 5), particularly in temperate zone fresh fruits, (Table 5). In 1994 fresh fruits accounted for 52% of total agricultural and agroindustrial exports. On the other hand, industrial goods based on primary agricultural raw materials accounted for 36% of total agricultural exports. The most important agroindustrial exports are processed fruits and vegetables and wines.

With respect to agricultural imports, these are also highly concentrated. In 1994, only four products: beef, oil and oilseeds, wheat and maize, explained 50% of total agricultural imports. Another 30 % of imports are other Products which also compete with domestic production, and the remaining 20 % is made up of products from tropical origin, such as coffee, cacao, pineapples and bananas, which are not produced in the country (Table 6).

Primary export products, particularly fresh fruits, face nil or very low protection in Western Hemisphere markets. FTAs with NAFTA and MERCOSUR, both important markets for Chilean agroindustrial products, would apparently offer good prospects for further expansion of this type of exports, due to the characteristic of their tariff systems, which escalate according to the degree of food processing (Tables 7, 8 and 9).

In addition to the arguments indicated above in favor of FTAs, it is considered by many economists in Chile that the gains in efficiency from unilateral trade liberalization have already been achieved, and in this context not much more could be gained from further unilateral reduction of tariffs. Average tariffs in Chile are lower than in the rest of the region.

On the other hand, a FTA with NAFTA or MERCOSUR, also commits Chile to reduce and eventually eliminate all tariffs and NTBs for agricultural imports into Chile. Given that imports from these markets of sensitive commodities, particularly from MERCOSUR, are a significant fraction of total imports and of domestic consumption (Table 10), and that tariff equivalents in Chile for imports of these commodities are 11% and above (such as in wheat, oil, and sugar), internal prices are expected to fall as a result of the discriminatory tariff liberalization involved with either NAFTA or MERCOSUR. Domestic consumption may rise or not, depending on the price elasticity of demand, but domestic production will definitely fall in response to lower prices. Beyond the question whether Chile's welfare as a whole will increase or not (Panagariya,1995), these FTAs will have an adverse effect on the domestic production of basic commodities. The expected consequences for the traditional subsectors of agriculture would be quite serious under present conditions, unless the reduction of tariffs could be stretched over a lengthy period of time. The Chilean agricultural sector is suffering from what has been labelled as "a crisis of profitability". In the last four years, the sector has experienced a reduction in the pace of GDP growth, and in investment. After a previous decade of rapid growth, the slowdown in agricultural growth (Table 1) is notably in contrast with the positive behavior of the remainder of the economy. The loss of profitability is uneven among subsectors, but it affects many of the main crops and subsectors such as cereals, beef and fruits, that, as indicated earlier, represent an important share of total agricultural production. The main underlying causes for the observed decline in growth have been attributed to the significant appreciation of the real exchange rate that has taken place, and the persistent increases in labor costs (The World Bank, 1994). The ratio between the Chilean peso and the US dollar has declined more than 1/3 since the peak values of 1987. The prospects for the immediate future do not look much different, as current trends in terms of real exchange rates and labor costs are not expected to change.

The obvious winners and losers from FTAs with NAFTA or MERCOSUR, within the Chilean agricultural sector, are located in different regions of the country. The producers of fruits and vegetables for processing, that would benefit the most from these agreements are located mostly in the northern and central regions. Instead, most of the production of cereals, oilseeds, livestock, and sugarbeet originate in southern Chile. Many small farmers are involved in the production of these traditional products. This imposes an additional dilemma for policy makers.

Chile and Nafta

Current Patterns of Agricultural Trade

The bilateral agreements signed by Chile in the region are not considered to be an obstacle to a FTA with NAFTA. The latter, because of its size and income level, is a very important market for Chile's agricultural exports (Table 11). It is also the supplier of a significant fraction of inputs used in Chilean agriculture, such as fertilizers, pesticides and machinery, but not very important in terms of agricultural imports.

Although Chile's total trade balance with NAFTA is negative, the balance of agricultural trade is highly favorable (Figure 3). In 1994, Chile's agricultural exports (excluding forest products) to NAFTA totalled

US$ 740 million, out of total exports to NAFTA, which amounted to US$ 2,294,7 million. Agricultural imports from NAFTA reached US$ 161 million, out of total imports from NAFTA for US$ 3,166.5 million. It is worth noting that although 20 % of total Chilean exports were supplied to NAFTA members (Figure 4), the share of NAFTA in agricultural exports was as high as 40,5 %. This NAFTA is the number one destination of Chilean agricultural exports, followed in importance only by the European Union. It may also be noticed that although Japan is the third largest trading partner for Chile, agricultural exports to that country are still very limited. In 1994, 29% of total Chilean imports and 21% of agricultural imports came from NAFTA countries (Figure 5 and Table 11).

Within NAFTA, the U.S. is by far the most important destination for Chilean agricultural exports (88%), although the participation of Mexico has increased (Table 12). This is a result both of trade liberalization in Mexico and of the FTA signed between Mexico and Chile back in 1991. The 4% participation of Canada in total agricultural exports to NAFTA may be underestimated if Chilean agricultural products enter Canada through the U.S.A., but this information is not available.

Chilean agricultural exports to NAFTA consist mainly of fresh fruits, particularly grapes (Table 13). Other relatively important items are processed fruits (e.g. apple juice), processed vegetables (e.g. tomato paste) and maize seed. Wine is the only important agricultural export to Canada. Mexico has very recently become an important market for Chilean fruits after the trade reforms introduced, and with the FTA signed with Chile, but current events in Mexico have resulted in a sharp decline of Chilean exports to that market.

Chilean agricultural imports from NAFTA consist mainly of primary commodities, wheat being the main import, followed closely by Maize (Table 14). Two other sensitive products imported by Chile from NAFTA, although in small volumes, are sugar and milk, both of which involve public support schemes in the U.S., the country of. In recent years, the participation of Canada as a supplier of agricultural products to Chile has increased, mainly in durum wheat, which is used for production of pastas (Table 15).

Expected Outcome of a FTA between Chile and USA

A study in 1992 (Muchnik, Figueroa et.al. 1994), requested by the Chilean Confederation of Production and Trade, made some ex-ante estimates of trade creation and Trade Diversion effects, and on employment, that would result FTA between Chile and the United States. At the time of the study, Mexico had not yet formally joined NAFTA. The study assumed instant elimination of all trade barriers between the two potential partners. These results are still considered relevant, given the relatively small magnitude of trade flows between Chile and Canada and Mexico, the two other member countries of NAFTA.

According to this study, Chilean exports of primary agricultural products, basically fruits, would increase in the most optimistic scenario by only 6% per year, due to the very low existing trade barriers in the U.S., under the GSP scheme. The expected impact in agroindustrial exports would be considerably larger and could reach 43% in the most optimistic of the scenarios. Yet, the absolute increase in exports, at least in the initial midyears, would still be modest, due to very low initial base. This estimate could be biased downward, because the methodology used did not include estimates for other potential Chilean exports, which are not traded with U.S.A. due to existing high tariffs or STBs. With respect to Chilean imports from U.S.A., these would increase as a result of both trade creation and trade diversion. The impact would be particularly large in wheat, but also significant in maize, oil and sugar. The estimate for sugar has probably been overestimated given how sugar has been dealt with in the NAFTA agreement between USA and Mexico.

The net expected impact of a FTA with USA in terms of rural employment would be marginally positive. The increase in production and employment in the more labor-intensive food processing industries would more than offset the reduced employment in cereals and other annual crops.

One of the most revealing results of the study was the regional impact in terms of production and employment. The benefits from agricultural export expansion would take place in Central Chile, but the costs in terms of reduced production and employment would occur in the South, which is typically rural and with few alternative opportunities for income generation, except perhaps for forestry activities and livestock production, which would not be affected by this particular FTA.

Chile and MERCOSUR

The Asuncion Treaty of March 1991 signed by the governments of Argentina, Brazil, Paraguay and Uruguay established for January 1995 onwards a common market, based on a free-trade area among the four countries and a common external tariff (CET). The formation of MERCOSUR was facilitated by unilateral trade liberalization by all four countries: in Argentina effectively since 1989, in Brazil since 1990, and Paraguay and Uruguay since the beginning of this decade.

Trade barriers between MERCOSUR and the rest of the world which now rest on the CET, imply an important reduction in average tariff levels, more so for Argentina than for Brazil. Average tariffs in Argentina decreased from 19% to 12%, and from 14% to 12% in the case of Brazil. The CET includes eleven tariff levels with a minimum of 0% and a maximum at 20% (Table 8). In the transition period up to the year 2000, member countries are allowed to exempt from the CET up to 300 tariff lines. Most of the go exemptions applied by Argentina so far will have tariffs that exceed the CET (including food products and paper), while Brazil designated only 3 products for higher tariffs (fuel, natural rubber and milk); the rest of the exceptions (including agricultural inputs) have tariffs below the CET.

This process of trade liberalization has taken place amidst pervasive macroeconomic instability, especially in Argentina and Brazil (Bouzas, 1995), but recently, the "Plan Real" introduced in Brazil in 1994) has brought some degree of convergence between the two largest partners.

Since its inception, MERCOSUR welcomed the incorporation of Chile. Yet, Chile has declined the offer, on grounds of divergent trade policies and because of the poor record of MERCOSUR in terms of macroeconomic stability. The CET implies trade barriers to third countries above current tariff levels in Chile, which would result in important trade diversion, given the magnitude of Chilean trade flows with other regions and countries, specially Japan and the EU. Moreover, joining MERCOSUR would make it very difficult if not impossible for Chile to join NAFTA, unless a FTA was negotiated between MERCOSUR and NAFTA. This possibility is not considered feasible in the short run due to a number of existing conflicts and issues (see Bouzas,1995). NAFTA is a relatively more important trading partner for Chile, both in terms of exports and imports. On the other hand, USA has not been considered by MERCOSUR as a "natural trade partner", although it is an important outlet market for Brazilian exports, particularly of manufactured-goods. But it is considered that access to NAFTA is a more important consideration for the two small partners of MERCOSUR and perhaps for Argentina, than for Brazil, for which supply considerations seem to play a larger role in the access to NAFTA (Barboza, Bouzas and Tussie, 1994).

Current Patterns of Agricultural Trade

Chile's trade balance with MERCOSUR is negative, both in terms of total trade and agricultural trade (Figure 6). In 1994, Chile exported agricultural products to MERCOSUR member countries for US$ 243 million, out of total exports to that market of US$ 1,352 million, and imported goods for USS 2,054 million out of which US$ 412 million are agricultural products (Table 11). MERCOSUR is in place four as an export market for Chile, after EU, NAFTA and Japan (Figure 4). It is in place three in terms of Chilean imports, after EU and NAFTA (Figure 5).

In 1994, only 13,3% of total Chilean agricultural exports were embarked to MERCOSUR, but 538 of total agricultural imports originated in that region. This is explained by the comparative advantages held by MERCOSUR member countries in most of the basic commodities that are imported by Chile, situation which is enhanced by the geographic proximity between the two. On the other hand, Chilean agricultural exports compete with many similar export products from Argentina. Nevertheless, the share of agricultural exports going to Argentina are marginally larger than those to Brazil (52% and 41% respectively during 1992-1994), in spite of the fact that Chilean products would complement rather than compete with the local products of Brazil (Table 16). Part of the explanation for this apparent contradiction seems to rest on the negative evolution of the bilateral exchange rate parity with Brazil after 1990; also on probable trade diversion in the Brazilian market in favor of Argentinean products after the initiation of trade liberalization within MERCOSUR. It is also a consequence of the existing tariff structure and NTBs. Finally, Paraguay and Uruguay are very minor markets for Chilean products.

In contrast to the trade pattern observed in agricultural products with either NAFTA or the rest of the world, most of Chilean exports to MERCOSUR consist of agroindustrial products, which make up 67% of total sector experts to that market (Table 17). The most important export products to this market are tomato paste (mostly to Brazil), processed fruits (both to Argentina and Brazil), wine (to Paraguay and Argentina), candies Mostly to Argentina), and pork meat (mostly to Argentina).

In terms of Chilean imports of agricultural products, in 1994 Argentina supplied the largest share within the MERCOSUR region, with 66% of the total (Table 18). The participation of Paraguay and Uruguay are relatively larger as exporters to Chile (11% and 8% respectively) than as importers of Chilean agricultural exports.

Agricultural imports from MERCOSUR are highly concentrated in the following products: oil and oilseeds (32%), beef (24%), wheat (10%), maize (7%) and beverages, such as tea and mate, coffee and cacao (Table 19). Beef is imported from Argentina, Uruguay and Paraguay, edible oil from Argentina, oilseeds from Paraguay and Argentina, cereals from Argentina as well as mate, and coffee and cacao from Brazil.

Expected Outcome of FTA with MERCOSUR

A FTA with MERCOSUR which would include all agricultural products, would have a substantive impact in terms of trade creation and some impact in trade diversion. In 1992, at the request of FIEL, Argentina, a study was undertaken to analyze the viability of an integration in agriculture and agroindustry between Argentina and Chile (Muchnik, Errazuriz and Vargas, 1994; Muchnik, 1993).

The main conclusion of the study was that the once-and-for-all elimination of all trade barriers with Argentina would result in an aggregate increase of at least 20% in total Chilean imports of each of the basic

commodities traded with Argentina white wheat, maize, rice, oil, sugar, beef and milk. Imports from Argentina would increase further due to trade diversion. The largest impact would take Place in maize, wheat, milk and rice.

If the analysis was repeated today to include the other member countries of MERCOSUR, the results in terms of increased imports, and the resulting decline in domestic prices and production would be larger than that provided by the study, in oil, beef and rice, given the additional imports of these products that originate in Paraguay and Uruguay.

Given the geographic composition of agricultural production, the South of Chile would be the region most hurt by a FTA with MERCOSUR. In fact, probably the forestry and dairy production activities would be the only ones unharmed.

The study did not look into the potential increase of Chilean exports to Argentina, but it was considered at that time that this impact would be negligible, considering the reduced opportunities in that market , and the already low preferential tariffs negotiated with Argentina.

The conclusions would be different, naturally, if we compare the existing situation with an alternative scenario where Chilean exports would have to face the new CET structure imposed by MERCOSUR since January 1995, not yet enforced on Chilean exports. In 1992-1994, 60% and 90% of Chilean agricultural exports to Argentina and Brazil respectively received preferential tariff treatment (Tables 20 and 21 respectively). The weighted average tariff in Argentina for Chilean agricultural exports was about 8% assuming an average tariff of 10% for Chilean exports that did not receive preferential treatment. With the same composition of exports, the average weighted tariff of the CET scheme is 12 % (Table 18). Similarly, the average tariff in Brazil for Chilean agricultural exports, when taking into consideration the preferential treatment under ALADI, was 3.6%. The corresponding figure with the CET of MERCOSUR would increase to 12%, with the existing export composition (Table 19).

If negotiating a FTA with MERCOSUR can be extremely harmful for the traditional sectors of Chilean agriculture, the alternative of not doing so is also damaging for the export-oriented sectors within agriculture, because of the resulting increase in trade barriers involved in the CET scheme set by MERCOSUR since 1995. Moreover, trade diversion against Chilean products within MERCOSUR, and particularly in Brazil, would become more pronounced, as Chile would have to face higher external tariffs, competing with free trade within the region.

Territorial Integration of Chile and MERCOSUR

As mentioned earlier, most agricultural products imported to Chile from Argentina enter the Chilean market without preferential treatment. Thus, it is not surprising that the main apparent interest in MERCOSUR and more specifically for Argentina in a trade negotiation with Chile, is to agree on a much greater physical integration with Chile, rather than to benefit from tariff reductions. The transit through Chilean territory and ports in the Pacific would report significant benefits to MERCOSUR, and particularly to certain regions of Argentina, in terms of lower marketing costs and greater access to some of the more dynamic external markets in the Pacific rim. This interest has been explicitly addressed in the on- going negotiations between Chile and MERCOSUR, and by Argentinean diplomats.

There is strong opposition from the farming sector in Chile to provide transit permit to Argentinean products through Chilean ports. In the first place, because Argentina is a strong present and potential competitor in the Pacific Rim, competing in many of the products that Chile exports to these markets. For e.g. in fresh fruits, particularly apples and pears; fruit juices, canned fruit, dried fruits, tomato paste, fresh vegetables. Presently, exports to South-East Asia are small both from Chile and Argentina, but the competition from Argentinean exports could become stronger in Western Europe and the East Coast of North America. Secondly, there is the problem of sanitary risk. Chile has benefitted from the advantages of a natural geographic isolation, that has made the country free of a number of pests and diseases. This is an advantage that explains the success of the country as a net exporter of many different types of seeds, and in exports of fresh fruit to developed countries, because it has been free of the fruit fly. In the case of beef, Chile is the only country south of Panama which is free of Foot and Mouth Disease, which is a major trade barrier in fresh or frozen beef. Therefore, the traffic through Chile of considerable volumes of vegetable find animal materials from neighboring countries where several pests and diseases are endemic, would significantly increase the risk of introducing any of these which are endemic in the border countries.

Final Comments

The expected impact on the agricultural sector of Chile of an integration with NAFTA or MERCOSUR, is highly dependent on the structure of production and trade, and on the change in the levels of protection which would result from these agreements. Most traditional crops would face increased competition, given the strong comparative advantages in these products from the prospective partners. The negative impact on Chilean agriculture would be particularly strong in a FTA with MERCOSUR, given that it would involve not only wheat and maize, as in the case of NAFTA, but also beef, oil, rice and perhaps sugar(depending on the policies adopted by Brazil). The latter products would be less affected in the case of NAFTA, because imports from this origin are considerably less important than those originated in MERCOSUR. This competition would come at a time when agriculture is undergoing slack growth.

On the other hand,the U.S., main trading partner of Chile within the NAFTA group, already extends tariff preferences to Chile under the GSP systems and in general charges low import tariffs, particularly to fresh fruits and vegetables, which make up for the bulk of Chilean exports. Thus, the main benefit to Chile from joining NAFTA would arise mainly from the elimination of the higher tariffs which are imposed on agroindustrial products, and from the elimination of non-tariff barriers, which are being increasingly used. Similarly, a FTA with MERCOSUR would provide greater access to both fresh and specially processed products to that region, given the relatively high common external tariffs that have been imposed by that common market to third parties. The relative gains should be much larger in the case of NAFTA, given the relatively larger volume of agricultural exports traded than with MERCOSUR.

Therefore, the way in which these future FTAs with both NAFTA and MERCOSUR are handled, and the timing established for tariff reductions, will be very decisive for the future development of the Chilean agricultural sector. At present, farmers are exerting all available forms of pressure to minimize the exposure of the sector to potential low cost imports that would originate in either NAFTA or in MERCOSUR.

There are at least four important issues that will have to be dealt as part of the negotiations with NAFTA and at least one of them also in the context of MERCOSUR. These are:

* existing measures for internal support to farmers
* export subsidies among partners and to third countries
* environmental issues
* labor regulations

The discussion of these topics are considered to lie beyond the scope of this paper.

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Table 1: Chile Average Annual Rates of Growth

	Agricultural GDP %	Total GDP %
1960-70	2.2	4.2
1971-73	-6.5	0.7
1974-81	5.8	5.0
1982-83	-2.9	-7.4
1984-90	5.7	5.7
1991-94	3.6	6.7

Source: Banco Central de Chile. National Accounts
Note: Figures represent averages of annual rates of growth

Table 2: Land Use in Chile. 1965-94

	1974-86	1987-91	1965-73
Fruits (ha)	56.876	86.201	165.390
Wine vineyards (ha)	108.500	98.400	59.661
(Annual crops) ('000 ha)	1226,0	1134,9	1105,1
Annual Forest Plantations (ha)	24.733	79.625	67.425
Cattle Stock			
Bovines (mill. heads)	2.933	3.562	3.408
Ovines (mill. heads)	6.257	5.785	4.787

Source: ODEPA

Table 3: Chile: Evolution of Agricultural Exports. Total Exports and Agricultural Exports as a Proportion of Ag. GDP.

Selected Years	Total Exports(TE) (Mill.US$)	Agricultural Exports(AE) (Mill. US$)	(%) of AE in TE (%)	% of AE in Agric. GDP (%)
1970	1,121	31	2.8	6.1
1975	1,540	80	5.2	7.7
1980	3,934	283	7.2	17.2
1985	3,295	519	15.8	37.1
1990	8,600	1,276	14.8	37.4
1994	11,845	1,824	15.7	n.a

Note: Share of exports in Agricultural GDP is taken from two different sources which are not directly comparable.

Source: 1970-1980: Hunado. Muchnik. and Valdés (1989)
1985-1990: Venezlan and Muchnik (1994)

Table 4: Chile: Trade Balance with the Rest of the World. 1990-1994 (Thousand US$)

	1990	1991	1992	1993	1994
Total Exports	8.580.301	9.048.415	10.125.452	9.416.218	11.645.058
Total Imports	7.023.405	7.453.010	9.533.073	10.629.623	11.275.320
Trade Balance	1.556.896	1.595.405	592.379	-1.213.405	369.738
Agricultural Exports	1.222.441	1.579.694	1.729.628	1.605.973	1.823.936
Forestry Exports	807.124	838.428	1.038.678	1.096.748	1.450.587
Total Sector Exp.	2.029.565	2.418.122	2.768.306	2.702.721	3.274.523
% of Total Exports	24%	27%	27%	29%	28%
Agricultural Imports	345.761	494.704	638.369	662.284	779.745
Forestry Imports	9.349	11.073	13.592	21.239	27.724
Total Sector Imports	355.110	505.777	651.961	683.523	807.469
% of total Imports	5%	7%	7%	6%	7%

Source: ODEPA (1995)

Table 5: Chile: Main Agricultural Exports 1994 (Million USS)

Product	Value	%
Total Agricultural Exports	1,824	100%
1. Primary Products	1,166	63.9%
Fruits	950	52.1
Vegetables	180	9.9
Livestock	36	2.0
2. Agroindustrial Products	658	36.1
Processed Vegetables and Crops	287.5	15.8
Processed Fruns	192.1	10.5
Wine	137.8	7.6
Livestock Products	40.6	2.2

Table 6: Chile: Main Agricultural Imports 1994 (Million USS)

Product	Value	%
Total Agricultural Exports	780	100.0
1. Primary Products	344	44.1%
White Wheat	109.1	14.0%
Maize	66.8	8.6%
Rice	15.8	2.0%
Coffee	24.7	3.2%
Tea	18.2	2.3%
Mate	9.4	1.2%
Bananas	33.8	5.4%
Other	66.2	7.4%
2. Industrial Products	436	55.9%
Oil and Oilseeds	127.4	16.3%
Beef	88.8	11.4%
Sugar	24.9	3.2%
Powdered Milk	27.2	3.5%
Cacao	15.1	1.9%
Other	152.8	19.6%

Source: Banco Central de Chile. ODEPA

Table 7:
(Available from Author)

Table 8: Tariff Escalation in the Common External Tariff. Scheme of MERCOSUR

Range	Product
2-6%	Breed Cattle Stock
	Eggs for incubation
	Seeds (legumes. vegetables. etc.)
	Vegetable materials for Industrial use
	Animal oils/fat
8-10%	Eggs
	Animal products for industrial use
	Flowers. fruits. fresh and dried
	Coffee. tea. mate
	Starches
	Juices and vegetable extracts
	Cacao in grain
12-14%	Milk. honey.
	Wheat flour. potato flour
	Fish preparations
	Powdered cacao
	Prepared legumes and vegetables
15-20%	Butter. cheese
	Sugar. candies. chocolates
	Pastas. bakery goods
	Food preparations
	Alcoholic beverages

Table 9: Tariff Escalation in Canada. 1994

Fresh tomatoes (out of M. Order)	Free
Canned tomatoes	13.6%
Grapes (out of M. Order)	Free
Raisins	Free
Grape Juice	15%
Plums (out of M. Order)	Free
Prunes	Free
Plum jam	10%
Apples	Free
Dried apples	10%

Source: Canadian Embassy in Chile (1994).

Table 10: Chile:Share of NAFTA and MERCOSUR in Total Imports of Main Commodities. 1994 (mill.USS)

	TOTAL	NAFTA		MERCOSUR		IMPORTS AS %
	Value	Value	%	Value	%	OF CONSUMPTION
Wheat	109.1	61.3	56.2%	37.4	34.2%	28%
Maze	61.9	29.2	47.1%	25.4	41 1%	28%
Rice	15.8	0.0	0.0%	9.3	58.5%	21%
Sugar	24.9	5.3	21.3%	13.0	52.3%	4%
Milk	27.6	4.7	17.1%	2.2	7.8%	21%
Oil	98.1	1.9	2.0%	85.0	86.7%	92%
Beef	88.8	0.0	0.0%	88.7	99.9%	7%

Source: Banco Central de Chile. ODEPA. INE

Table 11:
(Available from Author)

Table 12: Chile: Agricultural Exports to NAFTA by country of Destination

	NAFTA (Mill.US$)	U.S.A	Mexico	Canada
Grapes	307.4	92.7%	7.3%	0.0%
Wine	49.9	62.5%	2.5%	35.1%
Plums	27.9	85.0%	14.8%	0.2%
Apple juice	27.8	96.1%	06%	3.2%
Nectarines	22.4	92.9%	7.0%	0.1%
Pears	19.4	96.8%	3.1%	0.1%
Avocado	19.3	100.0%	0.0%	0.0%
Maize seed	19.2	93.7%	0.0%	6.3%
Peaches	19.1	75.6%	24 2%	0.2%
Processed tomatoes	14.8	87.5%	9 7%	2.8%
Kiwis	14.7	97.2%	1.6%	1.2%
Apples	12.9	83.4%	14.0%	2.7%
Raspberries	11.5	98.9%	0.3%	0.8%
Tobacco	11.1	100.0%	0.0%	0.0%
Dried Capsicum	9.8	95.3%	0.7%	4.0%
Prunes	9.8	20.1%	79.4%	0.5%
Other Fruit Juices	8.7	98.6%	0.8%	0.6%
Dried Mixes	7.4	80.3%	16.7%	3.0%
Seeds leg/vegetables	7.1	100.0%	0.0%	0.0%
Candies	6.4	88.8%	0.0%	11.2%
Cooked mushrooms	6.3	99.2%	0.8%	0.0%
Cherries	5.3	78.6%	18.4%	3.0%
Canned peaches	5.1	17.2%	74.8%	8.0%
Raisins	4.4	41.1%	47.1%	11.7%
Fresh asparagus	4.3	95.7%	0.6%	3.7%
Fresh onions	4.3	94.3%	0.0%	5.7%
Grape juice	4.2	55.0%	22.1%	23.0%
Seeds melon/watermelon	3.8	100.0%	0.0%	0.0%
Frozen raspberries	3.2	82.2%	0.0%	17.8%
Jam	2.3	9.9%	89.4%	0.8
Tomato seed	2.3	100.0%	0.0%	0.0%
Apricots	2.1	65.0%	33.7%	1.2%
Dried apples	2.0	98.1%	1.8%	0.0%
Chicory	1.9	100.0%	0.0%	0.0%
Flower seeds	1.7	100.0%	0.0%	0.0%
Other frozen fruits	1.6	85.1%	0.9%	14.0%
Cranberry	1.4	99.4%	0.6%	0.1%
Garlic	1.4	100.0%	0.0%	0.0%
Lemon	1.3	100.0%	0.0%	0.0%
Musk-rose	1.3	98.9%	0.0%	1.1%
Canned mixes	1.2	0.7%	83.1%	16.2%
Pastas	1.1	94.8%	5.2%	0.0%
Subtotal	688.9	87.7%	8.6%	3.7
Total	737.0			
% Selected products	93.5%			0.82

Source Banco Central de Chile

Table 13: Chile: Agricultural Exports to NAFTA. Average 1992-1994 (Million US$)

Total Agricultural Exports	688.9	
1. Primary Products	485.6	70.5%
Crops	11.1	
Tobacco	11.1	
Fruits	466.0	67.6%
Grapes	307.4	
Plums	27.9	
Nectarines	22.4	
Pears	19.4	
Avocados	19.3	
Peaches	19.1	
Kiwis	14.7	
Apples	12.9	
Raspberries	11.5	
Cherries	5.3	
Vegetables	8.6	1.2%
Fresh Asparagus	4.3	
Fresh Onions	4.3	
Livestock	0.0	0.0
2. Agroindustrial Products	200.1	29%
Processed Crops	20.2	2.9%
Maize seed	19.2	
Pastas	1.1	
Processed Fruits	70.4	10.2%
Apple Juice	27.8	
Dried Plums	9.8	
Other Fruit Juice (1)	8.7	
Canned Peaches	5.1	
Raisins	4.4	
Grape Juice	4.2	
Wine	49.9	7.2%
Processed Vegetables	51.4	7.5%
Processed Tomatoes	14.8	
Dried Capsicum	9.8	
Dried nuxis	7.4	
Seeds	7.1	
Cooked musk rooms	6.3	
Others	8.0	1.2%
Candies	6.4	

Source: Banco Central de Chile

Table 14: Chile: Main Agricultural Imports from NAFTA 1992-1994 (Millions US$)

Agricultural Imports	118.5	
1. Primary Products	95.1	80.3%
Crops	92.23	77.8%
White Wheat	40.1	
Maze	29.2	
Durum wheat	21.2	
Lentils	1.8	
Livestock	2.9	2.4%
Bovine semen	1.5	
Live chicken	1.3	
2. Industrial Products	23.4	19.7%
Processed Crops	8.2	8.9%
Sugar	4.7	
Modified fats/oils	1.3	
Soybean cake	1.1	
Hop extract	1.1	
Animal Products	6.6	5.6%
Powdered milk	4.7	
Animal fats	1.9	
Other	8.5	7.2%
Beverage preparations	3.0	
Other food preparations	1.7	
Protein concentrate	1.6	
Chewing gum	1.2	
Dog food	1.0	

Source: Banco Central de Chile

Table 15: Chile: Main Imports from NAFTA by Country of Origin. 1992-1994

	NAFTA (Mill.USS)	U.S.A.	Mexico	Canada
White Wheat	40.1	28.4%	0.0%	71.6%
Maize	29.2	100.0%	0.0%	0.0%
Durum wheat	21.2	0.0%	0.0%	100.0%
Sugar	47	100.0%	0.0%	0.0%
Beverage preparations	3.0	100.0%	0.0%	0.0%
Powdered Milk	4.7	100.0%	0.0%	0.0%
Animal fats	1.9	100.0%	0.0%	0.0%
Lentils	1.8	0.0%	0.0%	100.0%
Other food preparations	1.7	98.0%	1.0%	1.0%
Protein Concentrates	1.6	100.0%	0.0%	0.1%
Bovine semen	1.5	92.2%	0.0%	7.8%
Live chicken	1.3	98.0%	0.0%	1.9%
Chewing gum	1.3	8.2%	0.4%	91.3%
Fat/modified offs	1.3	100.0%	0.0%	0.0%
Soybean cakes	1.1	100.0%	0.0%	0.0%
Hop extracts	1.1	100.0%	0.0%	0.0%
Dog Food	1.0	100.0%	0.0%	0.0%
Subtotal	118.6	55.2%	0.0%	44.7%
Other	42.4			
% of Total	73.7%			

Source: Banco Central de Chile

Table 16: Chile: Agricultural Exports to MERCOSUR. 1992-1994 ('000 US$)

	Argentina	Brazil	Paraguay	Uruguay	MERCOSUR
Processed tomatoes	26.3	71.7	0.2	1.8	33432.0
Wine	44.0	19.9	30.8	5.2	14313.3
Candies	84.1	0.6	9.8	5.4	13046.0
Chestnuts	46.9	47.4	0.3	5.4	11627.0
Kiwis	65.3	29.8	0.0	4.9	10150.7
Pork meat	98.5	0.2	0.0	1.3	7984.3
Dried grapes	1.4	93.2	0.7	4.7	6421.3
Beans	0.2	99.2	0.0	0.7	5878.7
Peaches and nectarines	60.4	38.3	0.0	1.3	5606.0
Canned peaches	84.4	8.4	2.7	4.5	5071.7
Food preparations	82.2	1.0	12.2	4.6	4705.3
Apples	36.9	54.0	0.4	8.7	4339.0
Cherries	41.6	53.8	0.0	4.6	4326.3
Grapes	18.1	80.2	0.0	1.6	4267.7
Plums	35.6	63.7	0.1	0.6	4210.0
Milk	12.0	87.7	0.0	0.3	3987.7
Prunes	1.7	97.5	0.2	0.7	3774.7
Roasted malt	9.4	76.1	14.6	0.0	3729.7
Marjoram	55.2	38.3	1.4	5.0	3623.7
Almonds	61.7	34.6	0.7	3.0	3521.3
Yeast	23.5	75.9	0.0	0.6	3227.3
Seeds of forage plants	95.6	4.0	0.0	0.4	3087.7
Eggs	100.0	0.0	0.0	0.0	3052.7
Frozen potatoes	96.2	0.0	1.6	2.2	2980.3
Canned cherries	52.4	45.1	1.3	1.2	2956.0
Biscuits	82.6	0.0	11.4	6.0	2788.0
Pastas	90.3	0.5	4.2	4.9	2553.0
Ice cream	92.6	0.0	0.2	7.2	2441.7
Grape juice	98.4	1.5	0.0	0.0	2331.6
Waters except mineral	76.8	0.0	14.9	8.3	1947.3
Beverage preparations	27.8	0.3	62.1	9.7	1738.3
Olives	0.0	100.0	0.0	0.0	1657.7
Live chickens	99.9	0.0	0.1	0.0	1582.7
Mucilages and thickeners	53.9	41.4	1.6	3.1	1435.7
Fresh Tomatoes	99.4	0.1	0.0	0.5	1413.7
Sunflower seed	100.0	0.0	0.0	0.0	1411.7
Agar-agar	27.9	50.8	0.4	20.8	1357.7
Bananas	99.8	0.0	0.0	0.2	1195.3
Fowls cuts	99.6	0.0	0.0	0.4	1176.3
Ham	100.0	0.0	0.0	0.0	1171.7
Strawberries	98.9	0.5	0.0	0.6	1150.3
Pears	9.6	89.3	0.0	1.1	1040.7
fresh flowers	98.8	1.2	0.0	0.0	866.0
Lamb meat	100.0	0.0	0.0	0.0	848.0
Subtotal	51.5	40.7%	4.6%	3.2%	199427.7

Source Banco Central de Chile

Table 17: Chile: Main Agricultural Exports to Mercosur (1992-1994)

	('000 us$)	%
PRIMARY PRODUCTS	65886.3	33.0%
Crops	6744.7	3.4%
Beans	5878.7	2.9%
Fruits	53092.7	26.6%
Chestnuts	11627.0	5.8%
Kiwis	10150.7	5.1%
Peaches and Nectarines	5606.0	2.8%
Apples	4339.0	2.2%
Vegetables	1413.7	0.7%
Fresh tomatoes	1413.7	0.7%
Livestock	4635.3	2.3%
Eggs	3052.7	1.5%
INDUSTRIAL PRODUCTS	133554.0	67.0%
Processed Crops	8229.3	4.1%
Toasted malt	3729.7	1.9%
Forage seeds	3088.0	1.5%
Processed Fruits	20557.3	10.3%
Raisins	6421.3	3.2%
Canned peaches	5071.7	2.5%
Prunes	3774.7	1.9%
Wine	14313.3	7.2%
Processed Vegetables	40036.0	20.1%
Processed tomatoes	33432.0	16.8%
Animal Products	15168.0	7.6%
Pork/ham	9156.0	4.6%
Milk	3987.7	2.0%
Other	35240.0	17.7%
Candies	13045.7	6.5%
Prepared foods	4705.3	2.4%
SUBTOTAL	199430.3	100.0%
% del TOTAL	97.0%	

Source: Banco Central de Chile

Table 18: Chile: Main Agricultural Imports from Mercosur ('000 US$)

	Argentina	Brazil	Paraguay	Uruguay	MERCOSUR
Beef	53.2	0.0	21.2	25.6	74960.7
Oils	98.0	0.1	1.9	0.0	69299.3
Oilseed cake	43.4	2.3	54.3	0.0	30114.7
Wheat	100.0	0.0	0.0	0.0	29354.0
Corn	100.0	0.0	0.0	0.0	21647.0
Male	23.2	76.2	0.6	0.0	10287.3
Tea	81.4	18.6	0.0	0.0	10119.7
Coffee	0.1	99.9	0.0	0.0	9315.0
Cocoa products	0.0	100.0	0.0	0.0	9239.0
Rice	40.9	0.3	0.0	58.8	7982.0
Sugar	31.2	68.8	0.0	0.0	7758.0
Ethyl alcohol	68.4	31.6	0.0	0.0	3834.0
Peanuts	99.6	0.1	0.3	0.0	3104.0
Sorghum	100.0	0.0	0.0	0.0	3025.0
Candies	88.8	10.8	0.0	0.4	2749.7
Tobacco	8.8	91.2	0.0	0.0	2609.0
Cereal based products	6.0	94.0	0.0	0.0	2014.0
Milk powder	41.0	25.1	0.0	33.9	1691.0
Orange juice	0.1	99.9	0.0	0.0	1608.3
Chewing gum	44.4	54.7	0.0	0.9	1125.7
Meat Extracts and juices	74.2	10.7	14.7	0.5	1095.0
Bananas	1.0	90.0	0.0	0.0	1025.7
Vegetal wax	1.2	98.8	0.0	0.0	1017.3
Protein concentrates	2.2	97.8	0.0	0.0	984.0
Beverage preparations	0.3	0.9	0.0	98.8	947.0
Barley	1.9	0.0	0.0	98.1	841.0
Soya bean	100.0	0.0	0.0	0.0	616.7
Wheat flour	100.0	0.0	0.0	0.0	439.7
Subtotal	66.0%	15.0	11.0%	8.0%	308803.

Source: Banco Central de Chile

Table 19: Chile: Agricultural Imports from Mercosur (1992-1994)

	('000 US%)	%
PRIMARY PRODUCTS	67595.0	21.9%
Crops	66569.3	21.6%
Wheat	29354.0	9.5%
Maize	21647.0	7.0%
Rice	7982.0	2.6%
Fruits	1025.7	0.3%
Bananas	1025.7	0.3%
INDUSTRIAL PRODUCTS	241203.4	78.1%
Processed Crops	151195.7	49.0%
Oil	69299.3	22.4%
Oilseed cakes	30114.7	9.8%
Mate	10287.3	3.3%
Tea	10119.7	3.3%
Coffee	9315.0	3.0%
Preparation cont. cocoa	9239.0	3.0%
Sugar	7758.0	2.5%
Processed Fruits	1608.3	0.5%
Orange Juice	1608.3	0.5%
Animal Products	77746.7	25.2%
Beef	74960.7	24.3%
Milk	1691.0	0.5%
Other	10657.7	3.5%
SUBTOTAL	308803.4	100.0%
% del TOTAL	84%	

Source: Banco Central de Chile

Table 20: Chilean Agricultural Exports to Argentina: Current Preferential Tariff in Argentina and Forthcoming Common External Tariff Under MERCOSUR

Product	Value 92-94 (mill US$)	Preferential Tariff%)	CET of MERCOSUR(%)
Candies	11.0	10.0% wp	16.0%
Processed tomatoes	8.8	1.5%	14.0%
Pork meat	7.9	2.5%	10.0%
Kiwis	6.6	5.0% wp	10.0%
Wine	6.3	7.7%	20.0%
Chestnuts	5.5	0.7%	10.0%
Canned peaches	4.3	5.0%	14.0%
Cooked foods	3.9	3.8%	15.0%
Peaches/nect.	3.4	5.0% wp	10.0%
Eggs	3.1	0.5%	8%-10%
Forage seeds	2.9	0.0%	2.0%
frozen potatoes	2.9	5.0%	10.0%
Pastas	2.3	5.0%	16.0%
Biscuits	2.3	5.0%	18.0%
Grape juice	2.3	0.3%	14.0%
Ice-cream	2.3	5.0%	15.0%
Almonds	2.2	7.5% wp	10.0%
Marjoram	2.0	2.5% wp	10.0%
Cherries	1.8	1.3%	10.0%
Live chicken	1.6	0.0%	8.0%
Apples	1.6	5.0% wp	10.0%
Plums	1.5	5.0% wp	10.0%
Sum flower seeds	1.4	2.5% wp	8.0%
Fresh tomatoes	1.4	5.0%	10.0%
Sub-total	89.3		
Simple average (1)		2.1%	6.3%
Weighted average (1)		4.3%	12.2%
Range		0%-10%	2% - 209;

wp = without preferential tariff treatment

(l) A 3% Statistical tariff has to be added to all products

Source: Acuerdo de Complementacion Economica. num 16 Chile-Argentina. 7 Protocolo adicional. Julio 1993; MERCOSUR: Anexo (3). 1994.

Table 21: Chilean Agricultural Exports to Brazil: Current Preferential Tariffs in Brazil and Forthcoming Common External Tariff Under MERCOSUR

Product	Value 92-94	Preferential Tariff (%)	CET of MERCOSUR(%)
Processed tomatoes	24.0	6.0%	14.0%
Raisins	6.0	0.0%	10.0%
Beans	5.8	3.0%	10.0%
Chestnuts	5.5	1.0%	10.0%
Prunes	3.7	0.0%	10.0%
Milk	3.5	7.0%	12.0%
Grapes	3.4	0.0%	10.0%
Kiwis	3.0	0.0%	10.0%
Toasted malt	2.8	0.0%	12.0%
Plums	2.7	0.0%	10.0%
Wine	2.5	14.0%	20.0%
Yeast	2.4	11.2%	15.0%
Apples	2.3	0.0%	10.0%
Cherries	2.3	0.0%	10.0%
Olives	1.7	0.5%	10.0%
Nectarines	1.4	0.0%	10.0%
Marjoram	1.4	3.5%	8.0%
Canned cherries	1.3	2.5%	14.0%
Almonds	1.2	1.5%	10.0%
Subtotal	76.9		
Simple Average	2.6%		11.3%
Weighted average	3.4%		11.9%
Range	0%-14%		8%-20%

Source: "Tarifa Aduaneira do Brazil". Editorial Agenco. 1992. MERCOSUR. Anexo (3). 1994.

FIGURE 1. CHILE: EVOLUTION OF TOTAL AREA IN ANNUAL CROPS

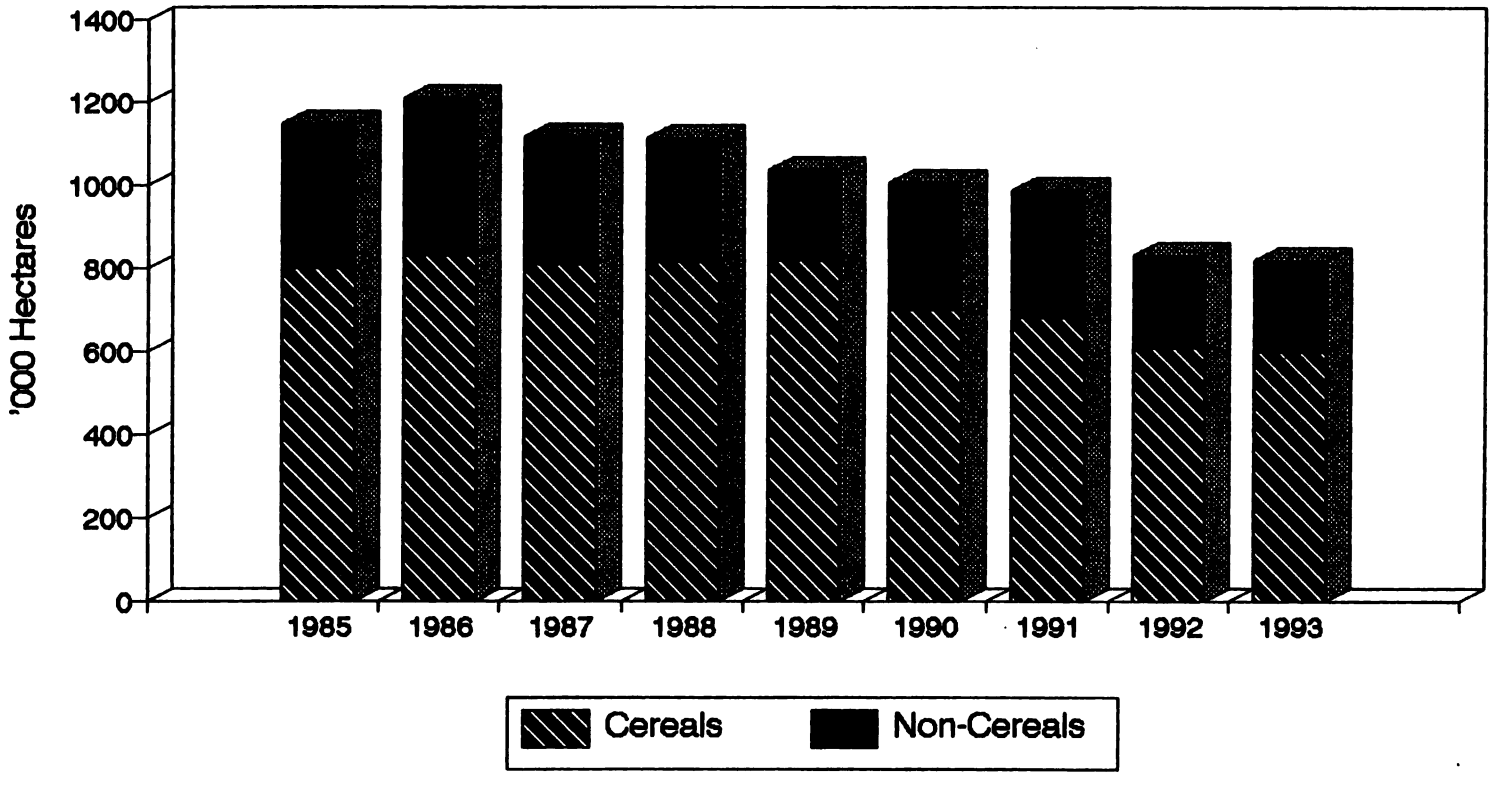


FIGURE 2. CHILE: TOTAL TRADE (1994)
Million US$

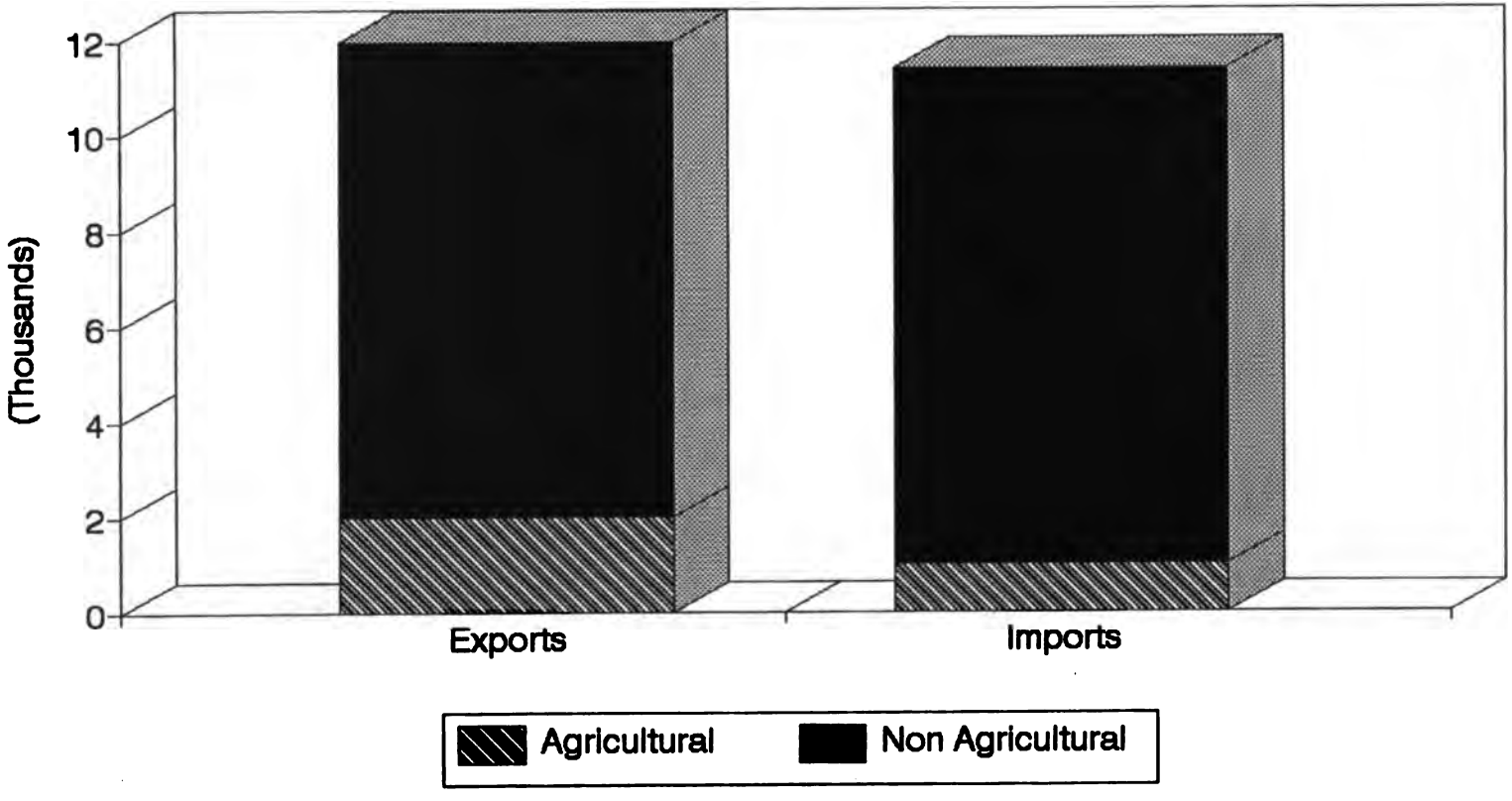


FIGURE 3. CHILE:TRADE WITH NAFTA (1994)
Million US$

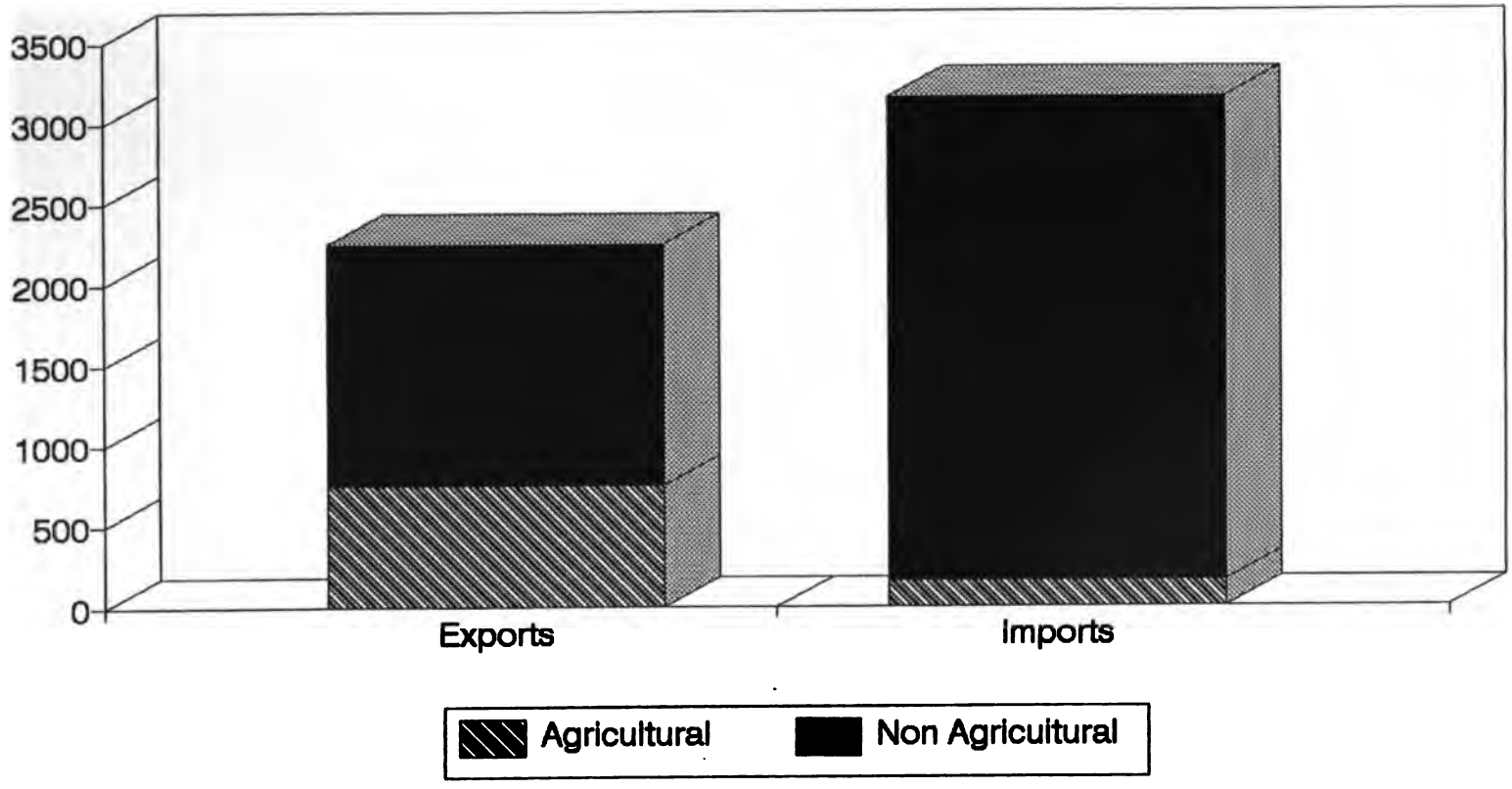


FIGURE 4. CHILE:TOTAL EXPORTS (1994)
US$ 11.645 million

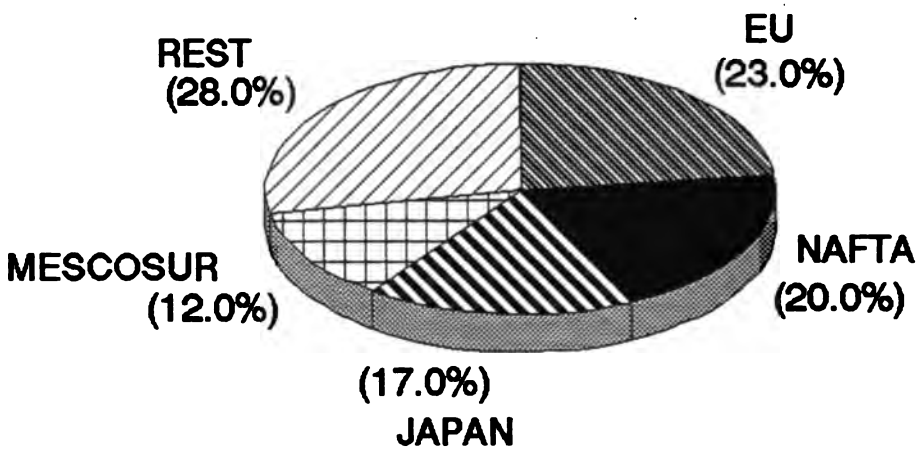


FIGURE 5. CHILE:TOTAL IMPORTS (1994)
US$ 11.275 million

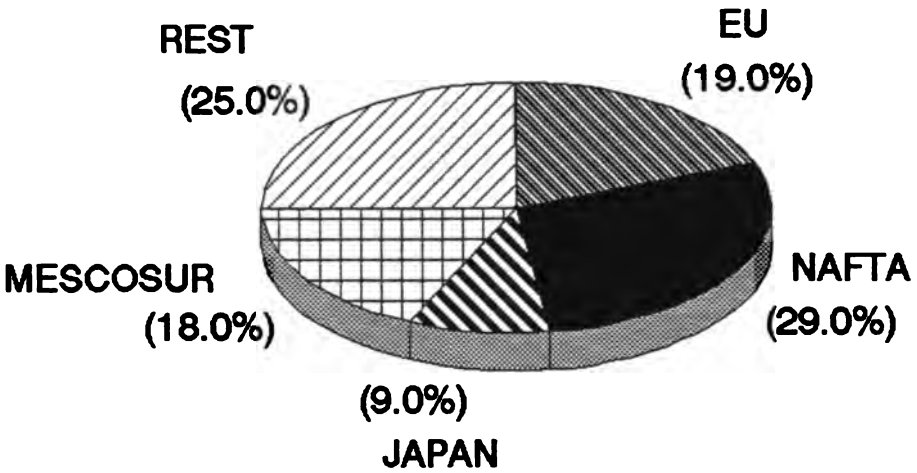
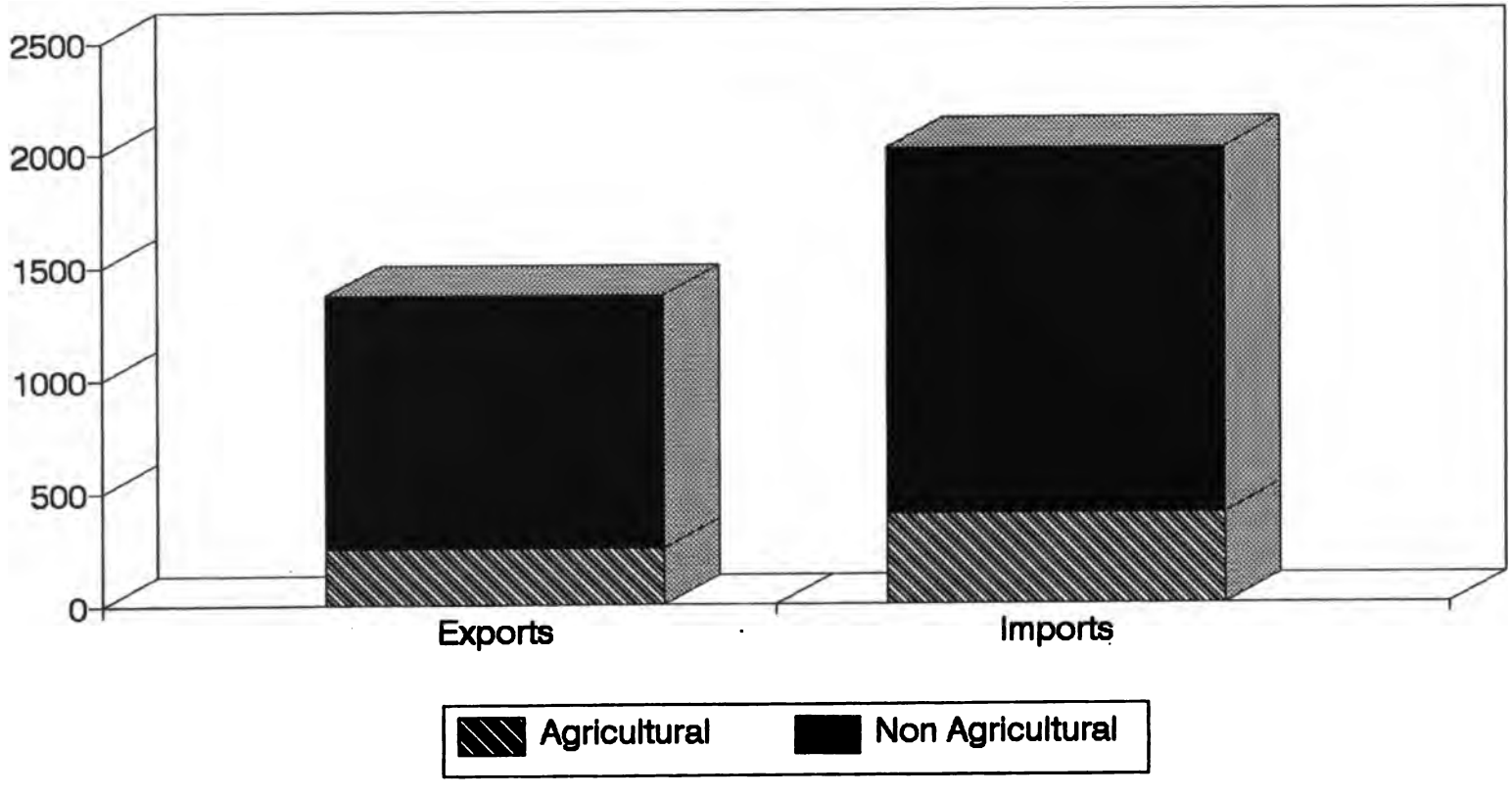


FIGURE 6.CHILE:TRADE WITH MERCOSUR 1994
Million US$



Agricultural Trade and Economic Integration in the Western Hemisphere: Current Status

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The recent Summit of the Americas, the implementation of NAFTA and other regional trade agreements, and the member government approval of the Uruguay Round of the GATT provided renewed interest in regional trading arrangements. Many countries in the region view economic integration as a preparatory step towards global competition and have as a priority to continue within the framework of market-oriented reform. This report focuses on the Western Hemisphere's growing interest in closer economic association and the patterns of trade for agricultural products including the characteristics of regional trade with the rest of the world, mutual trade within the region intra-American trade and an overview of U.S. agricultural trade with its neighbors in the hemisphere.

The United States and the rest of the WH are major agricultural net exporters, and on a similar scale. They ship between $25 and $30 billion annually in agricultural products to the rest of the world and between $10 and $15 billion to each other. Each represents about one-quarter of the other's export market and about half of the other's import supply. Recent economic and trade liberalization in Latin America has increased trade in the Hemisphere. New regional trading blocks are likely to have a similar effect of increasing overall trade volume, but specific impacts on individual countries and commodities are less certain.

The Western Hemisphere (WH) encompasses the U.S., Canada, and Latin America and the Caribbean (LAC). The WH is one of the largest regional markets, with a combined GDP of $7.1 trillion representing 31 percent of global wealth and 740 million consumers, representing 14 percent of the world's population. Over 60% of these consumers are in LAC.

Intra-regional trade appears as the engine of growth, for most of the expansion of Latin America's exports in recent years. Intra-American trade in 1994 was about $720 billion and is expected to grow 4.2 percent annually, in real terms, over the next decade [1].

Agricultural trade between the United States and the other Western Hemisphere countries is also significant, at $14 billion in 1994, representing close to 37 percent of total U.S. agricultural trade. The United States and the rest of the Western Hemisphere each represents over one quarter of the other's export market and about half of the other's import supply. U.S. agricultural exports to the hemisphere are growing faster than exports to the rest of the world. After Asia, LAC is the largest market for U.S. farm exports, and is the main source of U.S. agricultural imports.

WH economic integration is proceeding at a rapid pace. The U.S.-Canada Free Trade Agreement (CFTA) enacted in 1989, was expanded by the North America Free Trade Agreement (NAFTA) to include Mexico. The NAFTA agreement, which became effective on January 1, 1994, sets a maximum of 15 years to phase out barriers to agricultural trade. More dramatic than these U.S. initiatives is the pace of sub-regionalization within LAC, numerous trade accords have been signed, and more are under discussion.

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[1] DRI/McGraw-Hill, World Markets Focus, June 1992.

Many countries view sub-regional integration as a preparatory step towards global competition, essential to overcoming constraints posed by small domestic markets by allowing firms to realize the scale economies of expanded markets.

The United States has supported subregionalization and has expressed a clear preference for negotiating trade agreements multilaterally with groups of countries. The United States is also willing to negotiate bilaterally, signing "framework agreements" with numerous countries (Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Honduras, Venezuela and Perú). A U.S.- Mercosur framework agreement was signed in 1991, and other multilateral agreements are being discussed with the Caribbean Community and Guatemala, Nicaragua and Panamá.

More recently, the *December 1994, Summit of the Americas* -in which the United States and 33 other countries endorsed the goal of a hemispheric free trade area by the year 2005, provided renewed emphasis on regional integration. Negotiations leading to WH trade liberalization are aimed at creating a free trade zone with reduced or eliminated tariff and non-tariff barriers.

Sub-regional trade liberalization is being accompanied by market-oriented reforms in almost every LAC country in an effort to improve competitiveness, attract investment, and restore growth. While domestic growth is very slow in some countries, many reforms take time and in an increasing number of countries recovery is underway. Capital is returning to LAC, attracted by changes in investment rules, more stable political and economic situations and sounder policies. LAC exports are expanding, but imports are growing even faster and will accelerate as integration progresses. From 1989 to 1990, capital inflows increased from $4 billion to $14 billion. The Inter-American Development Bank projects that real growth could average 4.5% annually for LAC in the 1990's, if current reforms continue. This implies that LAC's demand for agricultural products could grow rapidly, perhaps faster than the sub-region can supply.

From the U. S. perspective, developing subregional groups can serve as a step towards a hemispheric trade accord by reducing the number of negotiating partners and advancing the harmonization of trade policies and practices. At the same time, the United States has an interest in further encouraging and locking in trade liberalization and market-oriented reforms in Latin America and the Caribbean.

For the Latin American countries, a hemispheric partnership means access to markets, particularly in the United States. A preferential trading agreement will also have macroeconomic implications, since the ability to attract investment capital will permit the restoration of rates of economic growth needed to guarantee the permanence of democracy and market-oriented systems.

Over the next decade, in the post NAFTA and GATT era, trade is expected to expand even further as member countries lower tariffs and expand minimum access. Some of the factors that could affect the potential outcome of trade include, among others, the 1995 U.S. farm bill, currently being debated, and any possible changes that might occur in LAC agricultural programs. Also, signicant is the likely expansion of NAFTA to include other countries in the Western Hemisphere. Negotiations with Chile on joining NAFTA are scheduled to begin in mid-1995. Integrating other Latin American countries with NAFTA will be a more complex task. For example, thhe technical aspects of negotiating with a group of countries could lengthen the timeframe for integration.

Progress in Economic and Trade Reforms in the LAC Region

Agricultural policies, and, more fundamentally, policy goals, have changed dramatically in Latin America over the past decade. For more than forty years several governments in Latin America relied on active government intervention in markets to execute an import substitution strategy to promote economic growth. The government maintained high tariffs, import licensing requirements, and official import reference prices on imports of agricultural goods; there were less restrictive import requirements for selected intermediate manufactured goods and capital goods used by the agricultural sector. These measures were accompanied by domestic subsidies and the establishment of public enterprises, to offer additional support to the farm sector.

The external debt crisis, the sharp decline in the international prices of the region's principal agricultural exports, and the high domestic inflation of the early 1980s forced most Latin American countries to adopt significant policy reforms and more market-oriented policies as the countries wanted to move toward economic integration and greater participation in world trade. Between 1980 and 1985, all countries in the region exhibited negative growth rates; by 1987, real incomes per capita declined to levels attained in the early 1970s or before. In addition, the region has been afflicted by serious political and social tensions, including armed conflicts in Colombia, Venezuela, Peru, Ecuador, Bolivia, El Salvador, Guatemala, and Nicaragua.

In recognition of the failure of this development strategy to achieve government objectives, several Latin American countries embarked on a campaign to deregulate and privatize the economy since the early 1980s. Several Latin American countries have since eliminated policies and institutions that were once used to transfer wealth from the agricultural sector to the industrial sectors.

Since the mid-1980's, **Mexico** has made key economic reforms. The government tightened fiscal and monetary policy, relaxed foreign investment regulations, eliminated foreign exchange controls, privatized public enterprises, deregulated the land tenure system, and substantially reduced agricultural subsidies. Consistent with domestic policy reforms, Mexico's trade regime was substantially liberalized. Mexico's joining the GATT in 1986 was a major move toward trade liberalization with significant reductions of trade restrictions; export subsidy programs and the official import and export reference prices were eliminated, overall tariff rates were reduced and the number of items subject to import licensing was cut. Since then, Mexico has taken additional steps to liberalize trade. The most significant step to date is the NAFTA.

Chile has one of the Western Hemisphere's most notable records of policy and trade reform, having adopted market-oriented economic policies for nearly two decades. In the mid-1970's, Chile embarked on a series of macroeconomic, sectoral and trade policy reforms to increase the market orientation of the economy, reduce the economic role of the central government, and stimulate private sector investment and export growth.

In early 1990, the demise of the International Coffee Agreement significantly reduced international coffee prices. The subsequent slowdown in economic growth and rising inflation in **Colombia** caused the government to adopt more market-oriented policies. The government introduced a comprehensive structural economic reform program "Programa de Modernización y Apertura Económica" (Economic Modernization and Market-Opening Program). The cornerstone of the Apertura program was accelerated trade liberalization. With trade reform, quantitative restrictions (quotas) on imports of selected commodities were replaced with variable tariffs (price bands), which were also lowered. Currently, the

variable tariff system is applied to imports of the basic commodities and their derivatives and substitutes. The price band system aims at maintaining the targeted level of domestic support prices. Under this system, the government establishes a minimum import price (price floor), based on costs of production, a carrying cost margin, and supply/demand conditions, and imposes a variable levy on the imported product in order to raise its price to the minimum level. The price ceiling is based on a five year international average price, adjusted every six-months.

Peru reduced tariffs to an average rate of 15 percent. **Venezuela** has made notable progress in lowering barriers to trade. **Bolivia** initiated a reform process in 1985 and eliminated the price controls on all traded commodities, except sugar. Currently, Bolivia's tariff duties are the lowest of any Andean Group country. **Brazil** has been eliminating restrictive import-licensing practices and nontariff barriers, such as import quotas, and privatizing its industries; however, progress is slow, in 1991, **Argentina** began its conversion to a free-market economy in order to expand production and export, after years of tight controls.

In 1986, the **CACM** members liberalized trade policies, including a revised common external tariff with reduced rates, elimination of specific tariffs, and, for some countries, additional reforms at the national levels. **Costa Rica** and **Guatemala** have progressed furthest in designing and implementing concrete trade liberalization measures. Both economies have implemented a flexible exchange rate program and rely least on foreign exchange controls. Costa Rica began a broad-based structural adjustment program in 1985, and is now reducing external tariff protection. Guatemala introduced a successful stabilization program in 1986, and is preparing to initiate trade reforms similar to the Costa Rican ones. **El Salvador** initiated a comprehensive adjustment program in 1989, including tax reforms, tariff reduction and unification, and a more flexible exchange rate management, designed to place the economy on an outward-oriented growth path.

Economic Integration, Preferential Markets and Bilateral Agreements in the WH

Numerous trade accords have been signed, and more are under discussion. Four of the initiatives involve the United States; NAFTA, the Enterprise for the Americas Initiative (EAI), the Caribbean Basin Initiative (CBI), and the Andean Trade Preference Act (ATPA). Several other integration initiatives include agreements between groupings of countries and bilateral arrangements (Appendix Tables 2 and 3).

Under **NAFTA**, the bilateral arrangements between Mexico and the United States and Mexico and Canada have removed or phased out tariffs on a broad range of agricultural products. Also, each country is permitting duty-free access to a portion of the market for certain highly sensitive commodities, including corn, dry beans, and poultry in Mexico; and fruits and vegetables in the United States. Under NAFTA, the import licensing restrictions have been replaced with either tariff-rate quotas or ordinary tariffs to be phased out within 5-15 years, depending on the product. During the transition period, each country may adopt or maintain special safeguard measures in the form of tariff quotas for certain products.

The **EAI**, still under development, is intended to encourage trade liberalization, reduce developing country debt, and increase foreign investment in developing countries. The trade proposal supports a Hemisphere-wide free trade zone. The relative size of the Latin American market is suggested by a population of about 440 million, and aggregate GDP of over $1.0 trillion.

The United States implemented two trade preference programs for the LAC region. The first, the **CBI**, was started in 1984 for 24 countries of the Caribbean and Central America regions. The second preference

program, the ATPA, was authorized in 1991 to help fight drug production in Latin America by increasing output of other crops. It was implemented in July 1992 for Bolivia and Colombia, and in August 1993 for Peru, and June 1994 for Ecuador. The ATPA expires in 2001.

There are several regional trading blocks not associated with the United States. The Canada-Caribbean Commonwealth program (**CARIBCAN**), maintained by Canada to provide duty-free access for commodities produced in 19 Commonwealth countries and territories. The Caribbean Community and Common Market (**CARICOM**), which consists of Caribbean countries formerly under British rule. The target date for a CARICOM single market is 1994. The region plans to reduce the common external tariff from a high 45 percent to 20 percent by 1998. **CARICOM and Venezuela** signed in 1993 a one-way free trade agreement, which permits the free importation of some CARICOM products into Venezuela, while other commodities are receiving gradual tariff reductions to be eliminated by 1996. Venezuelan goods are receiving MFN status in the CARICOM market.
Economic integration of several countries is not a new concept in Latin America. For more than forty years, as Latin America became increasingly aware that the creation of a common market was essential to economic development, the LAC countries attempted at various times to form an "economic block" either as a region or with the rest of the Western Hemisphere. The countries of Greater Colombia - Ecuador, Colombia and Venezuela implemented a customs union; Argentina signed trade treaties with Chile, Paraguay, Bolivia, and Perú; and the countries of Central America have negotiated several bilateral trade agreements. Although most of this arrangements have been short-lived, they served as precedents for later economic integration proposals.

Within the past decade, Latin America has developed a substantial number of regional trade blocks, multilateral trade agreements, and bilateral trade accords which promise various benefits (Tables 2 and 3). Some of the most significant subregional agreements in Latin America, in addition to CARICOM, include the Latin American Integration Asociation (ALADI), the Andean Group (also known as the Andean Pact), the Central American Common Market (CACM), the Common Market of the South (MERCOSUR), and the recently announced Group of Three (G3).

The **Latin American Integration Asociation, ALADI**, also known as the **Montevideo Treaty** include Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela. Formerly the "Latin American Free Trade Association" (LAFTA, 1961), ALADI was established in 1980 to promote freer regional trade with preferential tariffs. Although the ALADI's regulatory and institutional framework has facilitated subregional (e.g., the Andean Pact, MERCOSUR, G3) and bilateral (e.g., Mexico-Chile) agreements; sucesive conflicts between regional and individual country priorities have hampered global integration within the region.

The **Andean Pact** (initially Colombia, Venezuela, Bolivia, Ecuador and Perú) or "Cartagena Agreement" was formed in 1969. Due to political and economic problems, no significant progress was achieved, until its revival in the early 1990's. In 1993 the average external import tariff of all Andean Pact country members, including Perú, had been reduced by two-thirds to 13.6 percent (from a record level of 41 percent in 1990). As a result, Andean Group annual trade in 1992 increased by 18 percent, to US$2.1 billion, the largest increase since the group was formed in 1969 ?. Current discussions for the revival of the Andean Pact center around the establishement of a "common external tariff," tariff reductions, harmonization of the price band system, import policy among member countries, and Perú's reintegration into the Andean Pact, which it abandoned in 1992.

The **Central American Common Market, CACM** (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua) has set regional tariff preferences that range from 5 to 20 percent, with a 15 percent common external average tariff. A free trade agreement was signed by El Salvador, Guatemala, and Honduras in 1992 (the **Northern Commercial Triangle**, "Triángulo Comercial del Norte"), but has yet to be implemented. Nicaragua and Costa rica are expected to join this year. **Central America, Venezuela and Colombia** signed a free trade agreement in February 1993, giving many Central American products free access to the Venezuelan-Colombian market by 1996, and complete access by 1999. Venezuela and Colombia will receive the same duty free access to the Central American markets in five to ten years, depending on the product ?.

The complementary economic agreement signed by Argentina and Brazil in July 1986, was expanded to include Paraguay and Uruguay, resulting in the **The Common Market of the South, MERCOSUR**. This trade accord was signed in March 1991 and enacted in 1995 as a customs union and free trade. The largest regional trade agreement in LAC, MERCOSUR covers over two thirds of the regional area, involves 44 percent of the region's population and contributes with 51 percent of Latin America's GDP (2). Since its establishment, trade among memeber countries has increased to more than $9 billion, including a 25 percent increase in 1993.

The **Group of Three, G3** (Mexico, Colombia, and Venezuela) finalized negotiations for a trade agreement December 2, 1993, and began implementation in January 1995. The three countries agreed to phase-out tariffs for 60 percent of traded agricultural products within 10 years. Remaining more sensitive goods are being excluded from the agreement. The G3 is also negotiating separate trade agreements with Central America and CARICOM.

Several bilateral agreements have been signed, and more are under discussion. Bilateral trade accords country to country or within groupings of countries include different forms of the integration: the wider free trade agreements (Colombia-Venezuela, 1992); friendship treaties for trade cooperation (Chile-Argentina, 1984); sectoral agreements that make special reference to certain services (Mexico-Brazil, 1990); framework agreements; and the most common, the complementary economic agreements (CEA). Some bilateral agreements also include provisions on reciprocal investment and provisions for industrial cooperation (Argentina-Bolivia, 1989) (See Appendix Table 3).

Patterns of Trade for Agricultural Products in the Western Hemisphere

Promotion of economic cooperation among countries in the western hemisphere has received increasing attention by economists and policy makers in recent years as an instrument for increasing trade and income while bringing about more balanced and equitable regional economic development. While, with a few exceptions, the relative importance of agricultural products in the total trade of western hemisphere countries has declined in the last twenty years, expansion of this trade remains of critical importance to those countries in the region which still rely heavily on agricultural exports for their foreign exchange, income and employment. In 1992, 11 of the 22 countries in the region (those for which data was available) earned over 50 percent of their export earnings from primary commodities. Further, agriculture in about 40 percent of the region's countries still provides a significant share (over 20 percent) of GDP and/or employment. In this paper we focus on the flow of mutual agricultural trade within the hemisphere between 1981 and 1993 and attempt to explain the underlying factors which have led to either long standing patterns or recent structural changes in this trade.

The data used in this study comes from the U.N. trade database and is in current U.S. dollars. The definition of total agricultural trade is the standard employed by the USDA, which excludes trade in wood and wood products and in ocean-caught fish (except if processed into fish oil or fishmeal). This definition encompasses some 163 agricultural commodities at the SITC four-digit level, including products ranging from bulk raw materials to shelf-ready foods.

The individual items were first grouped into 68 categories to make the data set more manageable (i.e. for oilseeds we kept soybeans and cottonseed separate and gouped the rest into other oilseeds). A more general grouping was also made, based on whether each product fell into one of four broad categories: 1) bulk unprocessed products (grains, oilseeds, fibers, raw sugar), 2) bulk processed products (flour, oils and oilmeals, live animals, etc.), 3) consumer-ready unprocessed products (fresh fruits, vegetables and nuts, coffee, cocoa, fresh and frozen meats, etc.) and 4) consumer-ready processed products (breakfast cereals, pastas, processed meats and dairy products, processed fruits and vegetables, beverages, refined sugar etc.).[2] The latter three categories make up what is generally referred to as high-valued products.

The Importance of the Western Hemisphere in World Agricultural Trade

Trade among countries in the western hemisphere can be seen in its correct perspective only if their trade with the rest of the world is also taken into account. It is appropriate therefore to begin by summarizing the salient features of the overall performance of western hemisphere countries in world agricultural trade.

During the twenty year period from 1971-73 to 1991-93, the share of agricultural exports of western hemisphere countries in their total exports fell from 24 percent in 1971-73 to 19 percent in 1981-83 and 12 percent in 1991-93 (table 1). The share of agricultural imports in total imports also fell, from 10.5 percent in 1971-73 to 7.6 percent in 1981-83 and to 6.1 percent in 1991-93. While the western hemisphere has traditionally been a net exporter of agricultural products to the rest of the world the gap between exports and imports has recently begun to close. Between 1981-83 and 1991-93, the value of total western hemisphere agricultural exports to the rest of the world grew by less than one tenth of one percent per year, from $54.6 to $55.2 billion. By contrast, their imports grew by 3.9 percent per year, from $13.7 to $20.1 billion resulting in a 15 percent drop in their trade surplus with the rest of the world, from $41.0 to $35.1 billion.

The performance of countries in the western hemisphere in exporting agricultural products has lagged far behind that of the rest of the world, as reflected in their declining share of world agricultural exports. Between 1981-83 and 1991-93, the value of world agricultural exports increased by 4.6 percent per year, resulting in a sharp drop in the region's share of the global market from 35.0 to 26.2 percent. During the same period, the region's share of total world agricultural imports remained unchanged at 15.5 percent. As a result, the ratio of agricultural imports to exports for the region vis-a-vis the rest of the world increased from 25 to 36 percent.

The region's relative decline as an exporter of agricultural products is demonstrated by the fact that of the 68 agricultural items in our database composing total agricultural trade, the region's share of world exports

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[2] Appendix Table 4 contains a complete listing of the items contained in the database, divided into the four-way classification scheme listed above.

decreased for 37 of them between 1981-83 and 1991-93. During 1991-93, the region accounted for over half of the world's exports of 10 commodities, down from 12 in 1981-83.

During the last twenty years, several dramatic changes have taken place in the structure of agricultural trade both at the global and regional levels. As shown in table 2, the portion of the total value of global agricultural trade accounted for by bulk goods has dropped from 52 percent to just 41 percent, led by a drop in the trade of raw materials (bulk unprocessed goods). This category was the only one in which the total value of trade actually went down between 1981-83 and 1991-93. Perhaps the most eye-catching item in this table, however, is the impressive growth in the trade of consumer processed items, which increased in value by an average 7.8 percent per year to more than double its value of 1981-83. In fact, a ranking of the four categories in 1981-83 shows that they were almost equal in market share, with the most important being bulk unprocessed (26.8 percent), followed by bulk processed (25.3 percent), consumer unprocessed (24.4 percent) and consumer processed (23.5 percent). By 1991-93, the order had reversed itself, with consumer processed trade having jumped from number four to number one with 31.6 percent of the total while bulk unprocessed trade dropped to fourth with a market share of only 16.5 percent.

While somewhat similar changes in the structure of agricultural trade occurred at the regional level, the composition of trade is quite different between the world and the western hemisphere. While trade at the world level was split almost equally between bulk and consumer goods in 1981-83, table 2 shows that the western hemisphere is primarily exporting bulk products (77 percent of total exports) to the rest of the world while primarily importing consumer-ready products (70 percent).

Between 1981-83 and 1991-93, however, the value of bulk unprocessed exports from the region dropped dramatically as did its share of total value, from 55 to 39 percent. The value of western hemisphere exports of the other three categories all went up, although, as was true of global trade, the rate of gain was most impressive in the consumer processed category, where exports increased by over 6 percent per year to almost double in value during the period. Despite this impressive increase, this category of products remained as the only one where the western hemisphere countries ran a trade deficit with the rest of the world.

On the import side, the western hemisphere showed increases in the value of imports of all categories, even of bulk unprocessed commodities. In terms of the structure of imports, there was little change, with slight increases in the shares of the two bulk categories and the consumer processed one and a decrease in the share accounted for by consumer unprocessed imports. What stands out, however, is the portion of imports from the rest of the world that are accounted for by high value products (made up of bulk processed goods and the two consumer-ready sub-categories). In 1991-93, 94 percent of the region's agricultural imports fell into this category as opposed to only 61 percent of its exports. Clearly, the region either lags behind the rest of the world in the movement to upgrade its processing sector in order to capture the value added associated with importing raw materials and exporting finished or semi-finished agricultural products or there are some significant differences in the rate of tariff escalation between the region and the rest of the world that favor trade of raw materials in one direction and processed goods in the other.

A closer look at trade between the western hemisphere and the rest of the world reveals a high degree of concentration in both a few commodities and a few countries. Of the 60 commodities in our database, the top ten accounted for almost 53 percent of the region's exports to the rest of the world during 1991-93 down from 64 percent in 1981-83 (table 3). While on the import side the concentration was somewhat less, the top ten items still accounted for 40 percent of the total in 1991-93 as opposed to 45 percent in

1981-83. Not surprisingly, the top three and six of the top ten items on the export side were bulk items with the remaining four being from the consumer unprocessed category. On the import side six of the top ten were consumer-ready items including five which fell into the highest value-added category, consumer processed items.

While the United States accounts for a dominant share of the region's agricultural exports to and imports from the rest of the world, this share has decreased over time. In 1981-83 the United States accounted for 56 percent of the value of all agricultural exports from the region to the rest of the world while accounting for 74 percent of all imports (table 4). By 1991-93 the U.S.'s export market share had dropped to 55 percent as the value of its exports decreased from $30.7 to $30.3 billion. Despite the region's poor export performance during this period, three of the countries (Peru, Ecuador and Chile) saw their exports increase by over 10 percent per year during this period. Chile, in particular, experienced impressive growth as its exports increased by over $660 million to exceed $1 billion per year by 1990. As is evident in table 4, total exports are highly concentrated among the top four exporters (the U.S., Brazil, Canada and Argentina) with 89 percent of all exports in 1981-83 shared among this group. By 1991-93 this portion had dropped slightly, to 85 percent, due primarily to a decline of over $1 billion in the value of agricultural exports from Canada, which saw its trade balance with countries outside of the region go down by 40 percent during this period.

On the import side, the United States saw its share drop from 74 to 68 percent, as the region's imports from the rest of the world increased by an average of 4 percent per year versus 3 percent for the United States. Mexico, Brazil and Argentina each increased their imports from the rest of the world by over 10 percent per year during this period. This led to a drop in their combined trade balances with countries outside the region of almost $1.5 billion. In particular, Mexico's balance went from a surplus to one of the region's few and, in fact, largest trade deficits with the rest of the world. No country, however, saw its trade balance drop as sharply as the United States, which experienced a decline of over $4 billion.

Growth of Intraregional Trade in Agricultural Products

Despite the region's poor overall performance in exporting agricultural goods during the eighties, agricultural trade among countries in the western hemisphere, i.e. intraregional trade, turned out to be one of the more dynamic components of international agricultural trade during this period. Between 1981-83 and 1991-93 intraregional agricultural trade increased by 5.1 percent per year, from $18.8 to $31.0 billion (table 5) and currently accounts for almost 10 percent of the value of world trade. There has also been a sharp increase in the portion of the region's total agricultural exports that are destined for regional trading partners, from 26 in 1981-83 to 36 percent in 1991-93. In recent years, mutual trade among western hemisphere countries has also tended to form an increasing proportion of the region's total agricultural imports, growing from 54 percent in 1986-88 to 61 percent in 1991-93.

While several changes have occurred in the commodity structure of intraregional trade, none are quite as pronounced as what has occurred at the global level. Currently, raw material trade (bulk unprocessed) constitutes less than 20 percent of intraregional trade, having shown little growth in value between 1981-83 and 1991-93 and thus dropping from being the second most important category to fourth during this period. By contrast, trade in high value products grew by 6.3 percent per year, increasing in market share from 72 to 81 percent over the same period. Within this grouping, the fastest growth has been in trade of bulk processed items, which increased by an impressive 8.1 percent over the period studied.

A closer look at the commodity structure of intraregional trade shows the extent to which this trade has diversified over the last ten years. The top ten commodities in terms of export value accounted for only 40 percent of intraregional trade in 1991-93 versus 50 percent in 1981-83 (table 6). While the top two items traded, coffee and wheat, remained in the same position between the beginning and end of the period, both were down in value. Three new items were in the top ten by 1991-93, live cattle, grain-based foods and fresh fruit, having replaced refined sugar, soybeans and other grains. The commodities that suffered the greatest drop in value traded between 1981-83 and 1991-93 were refined sugar ($1 billion to $300 million), leguminous vegetables ($330 to $223 million) and cocoa beans ($176 to $154 million). On the plus side, the three commodities which gained the most in value of trade were grain-based foods ($284 million to $1.2 billion), fresh fruit ($256 to $941 million) and preserved vegetables ($41 to $439 million).

With the exception of Ecuador and Argentina, all of the countries in the region showed a decrease between 1981-93 and 1991-93 in the percentage of their total export value that was due to the top ten items (table 7). For Ecuador the increase was due to a significant jump in banana and plantain exports, which in 1991-93 were equal in value to the country's total intraregional agricultural exports in 1981-83 and accounted for 64 percent of the country's total intraregional agricultural exports. For Argentina it was due to impressive increases in intraregional exports of wheat, corn and vegetable oil as the country's focus in exporting these products turned from markets outside of the region to neighboring markets.

Among those countries that have diversified their exports to the region, none has been as successful as the United States. Between 1981-83 and 1991-93, the United States sharply increased its exports of meats (beef and poultry), fresh vegetables and grain-based foods (including breakfast cereals, pastas and baked goods) at the expense of wheat and corn. Wheat exports, in particular, declined from the number one spot at $1.35 billion in 1981-83 to number five at $ 523 million during 1991-93. As a result, United States' exports of products in each of the high value consumer-ready categories exceeded those of bulk unprocessed commodities in 1991-93. This is in sharp contrast to the situation in 1981-83, when exports of bulk unprocessed goods was forty percent higher in value than those of the two consumer-ready categories combined.

A significant feature of intraregional trade between 1981-83 and 1991-93 was that those commodities experiencing the fastest rate of growth also tended to experience less concentration among the four leading exporters. Sharp increases in demand tended to be met by an increase in the number of countries exporting within the region. While this phenomenon would seem to imply that the barriers to entry for exporters are not high, the question remains whether these exports were provided by domestic firms or by multinationals looking to diversify their sources of supply. The fastest growing items mutually traded within the region included live cattle, meats (beef and poultry), certain fruits and vegetables (fresh and preserved), grain-based foods (including breakfast cereals, pastas and baked goods), cut flowers, tobacco and cotton. By contrast, their were some items which declined in value during this period, including refined sugar, coffee, cocoa, and most of the bulk grains and oilseeds. Among those items that showed little or negative trade expansion the degree of concentration among the four top exporters tends to be higher.

There have also been notable changes in the pattern of country participation in intraregional trade. In particular, the share in intraregional trade of the three NAFTA countries increased rapidly in the decade of the eighties. In 1981-83 the U.S., Canada and Mexico accounted for 56 percent of total intraregional exports and 67 percent of imports, as table 8 shows. By 1991-93 these percentages had increased to 63 and 74, respectively. While the NAFTA countries held there spots as the top three importers during this period, they are now also the top three exporters within the region, with Canada having supplanted Brazil

in the number two spot while Mexico lept above Brazil and the CACM to the number three spot. Also worth mentioning is the growth in exports from Chile and Argentina to the rest of the region. In 1991-93, Argentina had the largest trade surplus with its regional trading partners, almost equal in size to the U.S.'s deficit of $2 billion (the region's largest), while Chile managed to turn a $200 million deficit into a $770 million surplus between 1981-83 and 1991-93.

Not all of the countries in the hemisphere shared in the growth of intraregional trade during the eighties. Brazil and the Caribbean region saw their export value drop by $240 and $180 million dollars, respectively. For the Caribbean countries this represented an almost 25 percent drop during the period. Venezuela was the only country in the region for which imports decreased, due perhaps to sharply reduced exports earnings from petroleum exports between the beginning and end of the period. At the same time, however, Venezuela's agricultural exports increased impressively.

Agricultural Trade among the Region's Trade Blocs

Rapid growth of trade in agricultural commodities within the western hemisphere during the past twenty years has been the result of the expansion in trade within trade blocs rather than expansion of trade between these blocs and other countries. Table 9 partitions intraregional export growth among the regions four largest economic groupings: the Andean Pact, MERCOSUR, NAFTA and the CACM. Other countries not belonging to one of these groups are also shown in the table including Chile and the Caribbean countries, as well as an additional region entitled Other Latin America (Belize, Panama, other South America) to account for total export growth. As is evident, mutual trade between the NAFTA countries has accounted for the bulk (77 percent) of export growth in the region. One of the outstanding features in the region's trade patterns is the growing concentration in agricultural exports among these three countries. By contrast, the next largest source of export growth in the region were the MERCOSUR countries which accounted for 11 percent of the total. Part of this growth by NAFTA was the result of diverting exports from other countries in the region to trading partners within NAFTA, as the value of exports from NAFTA countries to others in the region actually went down from $4 to $3.5 billion between 1981-83 and 1991-93 while trade within the group increased from $6.5 to $15.8 billion.

A breakdown of trade by economic groups reveals that the NAFTA group is the only one where over half of total intraregional exports are to partners within the group. In fact, between 1981-83 and 1991-93, the percentage of total intraregional trade from NAFTA countries that was made up of mutual trade within the group grew from 62 to 82 percent. For the MERCOSUR countries the figure increased from 21 to 35 percent while for the Andean Pact countries it increased from 8.5 to 18 percent. Only in the CACM did trade within the group drop as a percent of total intraregional trade, from 11 to 8 percent.

Table 10 depicts the changes in market share by economic group between 1981-83 and 1991-93. As already mentioned, the NAFTA countries accounted for 63 percent of total intraregional trade during 1991-93. All of the other groups saw their share of intraregional exports drop during this period. The increase in market share by NAFTA was especially pronounced in the consumer-ready categories, where trade within the group has grown the most. The total export market share of NAFTA countries in the two bulk categories actually dropped as exports of commodities in these two categories from NAFTA to other countries in the region plummeted. Trade within NAFTA went up even for these two categories. The MERCOSUR group was the largest gainer in the bulk categories, with their market shares going from 14 to 24 percent in the bulk unprocessed group and from 16 to 18 in the bulk processed.

United States' Trade Patterns with the Western Hemisphere

The United States and the rest of the Western Hemisphere are major agricultural net exporters, exporting almost twice as much as they import in value terms. The United States and the rest of the WH both ship over one-quarter of their exports to each other and obtain almost half of their agricultural imports from each other.

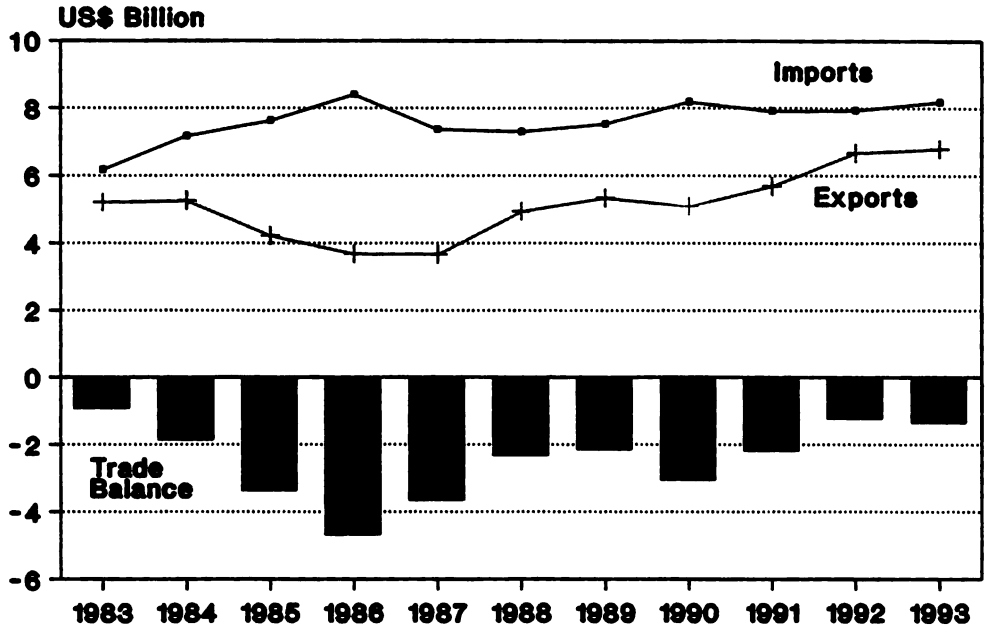
LAC countries have always been important markets and sources of supply for the United States and during the past decade that trade has become even more important. The largest WH agricultural trading partners for the United States are Canada and Mexico. The United States ships more than one-quarter of the value of its agricultural exports, $12 billion in 1993, to WH countries. U.S. agricultural exports to WH countries consist of feed grains, wheat, pulses, oilseeds and products, sugar, seeds, deciduous fruits, cattle, beef and veal, pork, poultry, and dairy products.

The United States also receives over half of its agricultural imports, $13 billion in 1993, from WH countries. Major imported commodities include horticultural and tropical products, coffee, cut flowers, bananas, cattle, and fresh noncitrus fruits. The WH is also an important source for U.S. imports of processed foods, including tomato paste, and of beverages, such as fruit juices and beer.
In 1993, U.S. agricultural exports to all destinations, valued at $43 billion were almost equal to those by the other WH countries to all destinations, $44 billion. Total 1993 U.S. agricultural imports of $25 billion were also comparable to those by the remaining WH countries, $24 billion. Almost half of total agricultural imports by other WH countries were from the U.S. in 1991, the last year for which data is available. The United States was the destination for over one-quarter of agricultural exports by other WH countries in 1991.

U.S. exports to WH countries are growing more than to the rest of the world and the commodities for which trade is increasing are often ones that both the United States and other WH countries export, for example, meats, fruits, and vegetables. The U.S. has also been increasing its proportion of exports of high-value agricultural products considerably since 1980. High-value agricultural products (HVP) include any traded commodity that receives some additional processing or added value beyond the farm gate into its price. HVP include livestock and dairy products, live animals and processed grains and oilseeds and fresh fruits and vegetables. From 1980 to 1990, HVP imports of WH countries grew $12.8 billion. Over this same period, HVP exports from WH countries increased $13.9 billion.

Measured by the value of agricultural trade, the United States generally runs a trade surplus with respect to NAFTA and Venezuela and a deficit with the Andean Group, MERCOSUR, and Chile (Table 11). The highest U.S. agricultural trade deficits in 1993 were with Brazil, Colombia, Costa Rica and Chile. The commodity group with the largest deficit is tropical products, such as coffee and cocoa. The NAFTA partners (Canada and Mexico) account for the largest share of U.S. exports in the WH. The Andean Group and the rest of the WH (Central America, Caribbean, and some countries of South America) also import substantial quantities of grains and feeds.

U.S. Agricultural Trade with LAC
1983-1993



SOURCE: FATUS, U.S.D.A.

Countries are classified according to annual growth rates over the past 16 years and size of imports using a 1992 base. Mexico and Canada alone claimed 75% of U.S. exports to Western Hemisphere and have been the faster growing markets for the Unites States. Mexico's imports from the U.S. grew at 12.5% per year while Canada's imports grew at 8.1%. Although Argintina's imports from the U.S. has grown rapidly (15.5%) it still remains a relatively small market for the U.S. claiming less than 1% of the total Western Hemisphere. Several Carribean and Central American countries had moderate growth rates including Guatemala, Haiti, Panama, Costa Rica, Dominican Republic, Honduras, El Salvador, and the Bahamas. As a group they claimed 11.1% of U.S. exports while grewing at 7.2% per year. Among the slow-growing medium sized markets were Columbia, Brazil, Jamaica, Trinadad & Tobago, Equador, Chile, Venezula, and Peru. This group claimed 11.7% of the U.S. exports for the region but grew at only 1.8% per year. Markets classified as small claimed less that 1.5% of the total U.S. exports to the region. Paraquay and the Turks & Caicos Is. where the fastest of the small markets growing at 16.8% per year.

Conclusions

A potential hemispheric integration with the corresponding changes in trade policy could substantially ease limitations to the free trade of agricultural products, changing Western Hemisphere trade patterns. At the same time, growing incomes in LAC and increasing demand for a greater volume and variety of more highly processed food products from the U.S. will spur growth in trade, and continue to boost the HVP share of total agricultural exports from the United States.

If a free trade area for the WH was established, how important would it be from a global perspective? During 1991-93, mutual agricultural trade accounted for about 10 percent of global trade. Add to this the imports by WH countries from the rest of the world and the percentage increases to 16 percent, or over $50 billion.

From the U. S. perspective, the developing subregional groups can serve as a step towards a hemispheric trade accord by reducing the number of negotiating partners and advancing the harmonization of trade policies and practices. At the same time, the United States has an interest in further encouraging and locking in trade liberalization and market-oriented reforms in Latin America and the Caribbean.

For the Latin American countries, a hemispheric partnership means access to markets, particularly in the United States. A preferential trading agreement will also have macroeconomic implications, since the ability to attract investment capital will permit the restoration of rates of economic growth needed to guarantee the permanence of democracy and market-oriented systems.

Sub-regional trade liberalization is being accompanied by market-oriented reforms in almost every LAC country in an effort to improve competitiveness, attract investment, and restore growth. While domestic growth is very slow in some countries, many reforms take time and in an increasing number of countries recovery is underway. Capital is returning to LAC, attracted by changes in investment rules, more stable political and economic situations and sounder policies. LAC exports are expanding, but imports are growing even faster and will accelerate as integration progresses. From 1989 to 1990, capital inflows increased from $4 billion to $14 billion. Estimates indicate that real growth could average 4.5% annually for LAC in the 1990's, if current reforms continue. This implies that LAC's demand for agricultural products could grow rapidly. How much of this growth will be met by mutual trade as opposed to imports from the rest of the world? In recent years, imports from within the region have been growing about 25 percent faster than imports from the rest of the world. There is every reason to believe that a hemispheric free trade area will widen this gap unless the growth in demand is significantly faster than the can supply. Perhaps more important than the ability of the region to increase supply is the form that a WH free trade agreement would take, particularly with respect to how it treated non-tariff barriers such as quotas and sanitary and phytosanitary regulations. Four of the most important commodities imported by the region from the rest of the world, fresh beef, raw tobacco, raw sugar and coffee were also important exports from the region. With the exception of sugar, these are each broad categories, consisting of a number of sub-categories which are highly differentiated by price, variety and quality. Thus they don't necessarily offer an area where intraregional trade can easily substitute for trade with countries outside the region unless the countries in the region can diversify their product lines or, in the case of beef, get sanitary barriers relaxed.

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Table 1: Growth of Global and Western Hemisphere Agricultural Trade

				Average Annual Growth Rates		
	1971/73	1981/83	1991/93	1971/73-1981/83	1981/83-1991/93	1971/73-1991/93
Global Trade	$ mil.			percent		
Total Exports	411967	1738333	3687767	15.5%	7.8%	11.6%
Agricultural Exports	70633	209860	329186	11.5%	4.6%	8.0%
Agri. exports as % of Total	17.1%	12.1%	8.9%			
Western Hemisphere Exports						
Total exports to world	98031	390149	711414	14.8%	6.2%	10.4%
West.Hem. share of world market	23.8%	22.4%	19.3%			
Agri. exports to world	23185	73460	86179	12.2%	1.6%	6.8%
Agri. exports as % of Total	23.7%	18.8%	12.1%			
West.Hem. share of world market	32.8%	35.0%	26.2%			
Agri. exports to rest of world	17180	54616	55220	12.3%	0.1%	6.0%
As % of total	74.1%	74.3%	64.1%			
Western Hemisphere Imports						
Total imports from world	104296	427805	839328	15.2%	7.0%	11.0%
West.Hem. share of world market	25.3%	24.6%	22.8%			
Agri. imports from world	10998	32550	51075	11.5%	4.6%	8.0%
Agri. imports as % of Total	10.5%	7.6%	6.1%			
West.Hem. share of world market	15.6%	15.5%	15.5%			
Agri. imports from rest of world	5365	13706	20116	9.8%	3.9%	6.8%

Table 2: Global and Regional Agricultural Trade by Category

	Value			Average Annual Growth Rates			Market Shares		
	1971/73	1981/83	1991/93	1971/73-1981/83	1981/83-1991/93	1971/73-1991/93	1971/73	1981/83	1991/93
Global Trade									
Total Ag. Trade	70633	209860	329186	11.5%	4.6%	8.0%	100.0%	100.0%	100.0%
Total Bulk	38364	109392	135116	11.0%	2.1%	6.5%	54.3%	52.1%	41.0%
Bulk Unprocessed	18806	56309	54478	11.6%	-0.3%	5.5%	26.6%	26.8%	16.5%
Bulk Processed	19558	53083	80638	10.5%	4.3%	7.3%	27.7%	25.3%	24.5%
Total Consumer-Ready	32269	100467	194070	12.0%	6.8%	9.4%	45.7%	47.9%	59.0%
Consumer Unprocessed	17784	51246	90161	11.2%	5.8%	8.5%	25.2%	24.4%	27.4%
Consumer Processed	14485	49221	103909	13.0%	7.8%	10.4%	20.5%	23.5%	31.6%
Total Value-Added	51827	153550	274708	11.5%	6.0%	8.7%	73.4%	73.2%	83.5%
Western Hemisphere Ag. Trade									
Ag. Exports to Rest-of-World	17180	54616	55220	12.3%	0.1%	6.0%	100.0%	100.0%	100.0%
Total Bulk	13263	42169	36237	12.3%	-1.5%	5.2%	77.2%	77.2%	65.6%
Bulk Unprocessed	9640	30264	21602	12.1%	-3.3%	4.1%	56.1%	55.4%	39.1%
Bulk Processed	3622	11905	14635	12.6%	2.1%	7.2%	21.1%	21.8%	26.5%
Total Consumer-Ready	3918	12447	18983	12.3%	4.3%	8.2%	22.8%	22.8%	34.4%
Consumer Unprocessed	3007	9017	12697	11.6%	3.5%	7.5%	17.5%	16.5%	23.0%
Consumer Processed	911	3429	6286	14.2%	6.2%	10.1%	5.3%	6.3%	11.4%
Total Value-Added	7540	24352	33618	12.4%	3.3%	7.8%	43.9%	44.6%	60.9%
Ag. Imports from Rest-of-World	5365	13706	20116	9.8%	3.9%	6.8%	100.0%	100.0%	100.0%
Total Bulk	1607	4131	6636	9.9%	4.9%	1.6%	29.9%	30.1%	33.0%
Bulk Unprocessed	356	687	1281	6.8%	6.4%	0.1%	6.6%	5.0%	6.4%
Bulk Processed	1251	3444	5355	10.7%	4.5%	2.0%	23.3%	25.1%	26.6%
Total Consumer-Ready	3759	9575	13480	9.8%	3.5%	6.6%	70.1%	69.9%	67.0%
Consumer Unprocessed	1745	3448	4390	7.1%	2.4%	4.7%	32.5%	25.2%	21.8%
Consumer Processed	2014	6126	9090	11.8%	4.0%	7.8%	37.5%	44.7%	45.2%
Total Value-Added	5010	13019	18835	10.0%	3.8%	4.8%	93.4%	95.0%	93.6%

Table 3: Commodity Composition of Western Hemisphere Trade with Rest of World

EXPORTS				IMPORTS			
	1981-83		1991-93		1981-83		1991-93
Wheat	9327	Wheat	6203	Beef frsh,frzn	1223	Beef frsh,frzn	1719
Corn	6715	Soybeans	5403	Rubber	1001	Rubber	1144
Soybeans	6361	Corn	4655	Coffee green	908	Grain-based foods	878
Coffee green	3616	Coffee green	2536	Refined sugar	595	Other oils	724
Cotton	2656	Tobacco unmfd	2190	Cheese & curd	494	Tobacco unmfd	703
Tobacco unmfd	1953	Cotton	2119	Veg.prsvd,prpd	457	Milk & cream dry	695
Rice	1190	Beef frsh,frzn	2040	Other oils	405	Cheese & curd	657
Other grains	1129	Bananas,plantains	1905	Tobacco unmfd	388	Veg.prsvd,prpd	543
Beef frsh,frzn	1080	Poultrymeat frsh	1000	Milk & cream dry	379	Fruit,nuts prsvd	523
Other oilseeds	972	Raw sugar	972	Grain-based foods	305	Raw sugar	353
TOP TEN	35000		29023		6154		7939
SHARE OF TOTAL	64.1%		52.6%		44.9%		39.5%
Barley	931	Fruit,veg.juice	968	Cocoa beans		Fruit,veg. juice	333
Raw sugar	836	Other oilseeds	855	Fruit,nuts prsvd	249	Cocoa beans	333
Soybean oil	782	Soybean oil	849	Raw sugar	218	Rice	306
Bananas,plantains	658	Other meats	779	Nuts edib.frsh,dry	204	Nuts edib.	294
Other meats	576	Frsh fruit,nes	643	Tea	175	Coffee green	282
Poultrymeat frsh	554	Nuts edib.frsh,dry	590	Butter	168	Non-alc beverages	241
Fruit,veg.juice	464	Rice	571	Other oilseeds	147	Cotton	199
Other oils	390	Fruit,nuts fsh,dry	477	Fruit,veg. juice	122	Tea	186
Pigmeat frsh	1	Grain-based foods	475	Milk,cream evp,cnd	102	Live plants,bulbs	186
Flour	349	Pigmeat frsh	468	Other livestock	87	Pigmeat frsh	170
Nuts edib.frsh,dry	313	Other grains	435	Other meats	86	Other meats	163
Refined sugar	313	Sunflwrseed oil	409	Wheat	83	Other frsh veg.	137
Legum.veg.dry	308	Apples frsh	407	Corn	76	Palm oil	136
Sunflwrseed oil	248	Legum.veg.dry	401	Rice	76	Seeds for planting	124
Cocoa beans	242	Lemons,grapefruit	377	Palm oil	71	Wheat	123
TOP TWENTY FIVE	42324		37729		8277		11154
SHARE OF TOTAL	77.5%		68.3%		60.4%		55.4%
OTHERS	12292		17491		5429		8962
TOTAL	54616		55220		13706		20116

Table 4: Agricultural Trade and Trade Balances for Western Hemisphere Countries with Rest of World

Countries	Export Value	Market Share	Import Value	Market Share	Trade Balance	Export Value	Market Share	Import Value	Market Share	Trade Balance	Export Value	Growth Rate	Import Value	Growth Rate	Trade Balance
	1981/83					1991/93					Difference 1981/83 - 1991/93				
CACM	1453	3%	101	1%	1352	1621	3%	176	1%	1445	168	1%	75	6%	93
Caribbean	927	2%	633	5%	293	1240	2%	1172	6%	68	313	3%	538	6%	-225
Venezuela	70	0%	466	3%	-396	47	0%	303	2%	-257	-23	-4%	-163	-4%	139
Uruguay	547	1%	19	0%	528	552	1%	34	0%	518	5	0%	15	6%	-10
United States	30691	56%	10103	74%	20588	30280	55%	13774	68%	16506	-412	0%	3671	3%	-4083
Peru	205	0%	105	1%	100	668	1%	170	1%	498	463	13%	65	5%	398
Paraguay	255	0%	9	0%	246	361	1%	15	0%	345	106	4%	7	6%	99
Mexico	383	1%	317	2%	66	365	1%	992	5%	-627	-18	0%	675	12%	-693
Ecuador	184	0%	29	0%	156	504	1%	40	0%	464	320	11%	12	4%	308
Colombia	1404	3%	88	1%	1316	1422	3%	106	1%	1316	17	0%	18	2%	0
Chile	439	1%	87	1%	353	1102	2%	139	1%	964	663	10%	52	5%	611
Canada	5776	11%	1259	9%	4516	4691	8%	1934	10%	2757	-1085	-2%	674	4%	-1759
Brazil	7056	13%	269	2%	6787	6995	13%	787	4%	6208	-61	0%	518	11%	-579
Bolivia	17	0%	17	0%	1	21	0%	23	0%	-2	4	2%	7	3%	-3
Argentina	4909	9%	97	1%	4812	4848	9%	264	1%	4584	-61	0%	167	11%	-228
O.L.America	299	1%	108	1%	191	504	1%	187	1%	317	205	5%	80	6%	126
TOTAL	54616	100%	13706	100%	40910	55220	100%	20116	100%	35104	603	0%	6410	4%	-5806
Top Four		89%		91%			85%		89%						

Table 5: Total and Intraregional Agricultural Trade by Category

	Value			Average Annual Growth Rates			Market Shares		
	1971/73	1981/83	1991/93	1971/73-1981/83	1981/83-1991/93	1971/73-1991/93	1971/73	1981/83	1991/93
	$ mil.						percent		
Total Intraregional Ag. Trade	6005	18844	30960	12.1%	5.1%	8.5%	100.0%	100.0%	100.0%
Total Bulk	2454	8162	12386	12.8%	4.3%	8.4%	40.9%	43.3%	40.0%
Bulk Unprocessed	1320	5197	5910	14.7%	1.3%	7.8%	22.0%	27.6%	19.1%
Bulk Processed	1133	2965	6476	10.1%	8.1%	9.1%	18.9%	15.7%	20.9%
Total Consumer-Ready	3551	10682	18573	11.6%	5.7%	8.6%	59.1%	56.7%	60.0%
Consumer Unprocessed	2331	6579	10899	10.9%	5.2%	8.0%	38.8%	34.9%	35.2%
Consumer Processed	1220	4103	7674	12.9%	6.5%	9.6%	20.3%	21.8%	24.8%
Total Value-Added	4684	13647	25049	11.3%	6.3%	8.7%	78.0%	72.4%	80.9%

Table 6: Commodity Composition of Western Hemisphere Intraregional Agricultural Trade

Commodities	1981-83		1991-93
Coffee	2180	Coffee	1696
Wheat	1853	Wheat	1664
Refined Sugar	1054	Bananas,Plantains	1439
Bananas,Plantains	891	Bovine Cattle	1411
Corn	846	Oth fresh Veg.	1210
Soybeans	607	Grain-based foods	1201
Fruit,Veg.juices	541	Bovine meat	1165
Other grains	511	Fruit,fresh	941
Oth fresh Veg.	504	Corn	810
Bovine meat	449	Fruit,Veg.juices	795
TOP TEN	9436	TOP TEN	12331
SHARE OF TOTAL	50.1%	SHARE OF TOTAL	39.8%
Raw Sugar	369	Raw Sugar	717
Other Oilseeds	367	Soybeans	708
Bovine Cattle	336	Other grains	576
Leguminous Veg.,Dry	330	Cotton	539
Grain-based foods	284	Grapes	521
Tomatoes	278	Tobacco	505
Soybean Oil	267	Rice	468
Fruit,fresh	256	Veg Simply Presvd	439
Pigmeat	239	Cut Flowers	438
Rice	216	Pigmeat	434
Grapes	188	Tomatoes	384
Tobacco	180	Poultrymeat	370
Cocoa Beans	176	Edib Nuts	347
Cotton	169	Soybean Oil	341
Flour	165	Other Oilseeds	320
TOP TWENTY FIVE	13256		19440
SHARE OF TOTAL	70.3%		62.8%
OTHERS	5588		30960
TOTAL	18844		30960

Table 7: Portion of Intraregional Agricultural Exports Accounted for by Top Ten Items

Countries	Export Value	Top Ten Items	Top Ten % of Total	Export Value	Top Ten Items	Top Ten % of Total
	1981-83			1991-93		
CACM	1556	1346	87%	2074	1744	84%
Caribbean	781	661	85%	598	423	71%
Venezuela	19	15	78%	194	121	62%
Uruguay	188	131	70%	413	280	68%
United States	7017	3884	55%	11343	4567	40%
Peru	169	136	81%	196	92	47%
Paraguay	256	240	94%	286	262	92%
Mexico	1240	1007	81%	2840	2086	73%
Ecuador	473	379	80%	588	509	87%
Colombia	799	743	93%	1250	1109	89%
Chile	268	203	76%	1090	745	68%
Canada	2221	1298	58%	5152	2982	58%
Brazil	2370	1722	73%	2129	1348	63%
Bolivia	37	31	83%	131	97	74%
Argentina	1187	641	54%	2490	1485	60%
O.L.America	264	245	93%	183	146	80%
TOTAL	18844	9436	50%	30960	12331	40%

Table 8: Intraregional Agricultural Trade and Trade Balances for Western Hemisphere Countries

Countries	Export Value	Market Share	Import Value	Market Share	Trade Balance	Export Value	Market Share	Import Value	Market Share	Trade Balance	Export Value	Growth Rate	Import Value	Growth Rate	Trade Balance
	1981-83					1991-93					Difference 1981/83 - 1991/93				
CACM	1556	8%	459	2%	1098	2074	7%	747	2%	1326	517	3%	288	5%	229
Caribbean	781	4%	1214	6%	-433	598	2%	1372	4%	-774	-182	-3%	158	1%	-340
Venezuela	19	0%	1085	6%	-1066	194	1%	866	3%	-672	176	26%	-218	-2%	394
Uruguay	188	1%	73	0%	115	413	1%	162	1%	251	225	8%	89	8%	136
United States	7017	37%	8010	43%	-993	11343	37%	13426	43%	-2083	4326	5%	5416	5%	-1090
Peru	169	1%	461	2%	-292	196	1%	600	2%	-404	28	2%	139	3%	-112
Paraguay	256	1%	71	0%	186	286	1%	178	1%	108	30	1%	107	10%	-77
Mexico	1240	7%	2277	12%	-1037	2840	9%	4021	13%	-1181	1599	9%	1743	6%	-144
Ecuador	473	3%	130	1%	343	588	2%	186	1%	402	115	2%	56	4%	59
Colombia	799	4%	368	2%	430	1250	4%	478	2%	773	452	5%	110	3%	342
Chile	268	1%	463	2%	-195	1090	4%	493	2%	597	822	15%	30	1%	792
Canada	2221	12%	2311	12%	-90	5152	17%	5572	18%	-420	2931	9%	3261	9%	-330
Brazil	2370	13%	1391	7%	979	2129	7%	1922	6%	207	-241	-1%	531	3%	-772
Bolivia	37	0%	90	0%	-53	131	0%	151	0%	-20	95	14%	61	5%	34
Argentina	1187	6%	266	1%	921	2490	8%	541	2%	1948	1303	8%	275	7%	1028
O.L.America	264	1%	176	1%	88	183	1%	243	1%	-60	-81	-4%	68	3%	-148
TOTAL	18844	100%	18844	100%	0	30960	100%	30960	100%	0	12115	5%	12115	5%	0
Top Four		70%		74%			70%		81%						

Table 9: Sources of Intraregional Export Growth by Economic Groupings, 1981-83 to 1991-93

	Total Ag Trade	Bulk Unprocessed	Bulk Processed	Consumer Unprocessed	Consumer Processed
Andean Pact	2.5%	12.2%	3.0%	0.3%	2.6%
to others	4.7%	8.8%	2.3%	10.6%	-0.9%
Total	7.1%	21.0%	5.3%	10.8%	1.7%
MERCOSUR	8.7%	75.3%	2.9%	2.9%	8.0%
to others	2.2%	17.2%	16.9%	-5.3%	-6.1%
Total	10.9%	92.4%	19.8%	-2.4%	1.9%
NAFTA	77.0%	63.1%	75.4%	73.4%	85.6%
to others	-3.9%	-114.8%	-3.3%	0.9%	11.9%
Total	73.1%	-51.7%	72.1%	74.3%	97.6%
CACM	-0.1%	0.9%	0.0%	-0.8%	0.5%
to others	4.3%	29.0%	1.2%	9.3%	-3.6%
Total	4.3%	29.9%	1.3%	8.6%	-3.1%
Caribbean	0.0%	-2.0%	-0.1%	-0.1%	0.6%
to others	-1.5%	5.2%	0.1%	-0.9%	-5.0%
Total	-1.5%	3.2%	-0.1%	-1.0%	-4.4%
Chile	6.8%	2.0%	1.6%	10.8%	8.1%
O.L.America	-0.7%	3.3%	0.1%	-1.1%	-1.7%
TOTAL WEST.HEM.	100.0%	100.0%	100.0%	100.0%	100.0%

Table 10: Export Market Shares by Economic Groupings, 1981-83 and 1991-93

1981-83	Total Ag Trade	Bulk Unprocessed	Bulk Processed	Consumer Unprocessed	Consumer Processed
Andean Pact	0.7%	0.3%	1.1%	0.8%	0.7%
to others	7.3%	0.4%	1.1%	16.8%	5.1%
Total	7.9%	0.7%	2.2%	17.6%	5.7%
MERCOSUR	4.4%	6.8%	2.9%	3.9%	3.2%
to others	16.8%	7.6%	13.0%	15.1%	34.1%
Total	21.2%	14.4%	15.9%	19.0%	37.3%
CACM	0.9%	0.3%	1.0%	0.8%	1.8%
to others	7.3%	0.8%	1.6%	16.3%	5.4%
Total	8.3%	1.1%	2.6%	17.1%	7.2%
Caribbean	0.5%	0.4%	0.8%	0.2%	0.8%
to others	3.7%	3.4%	1.0%	3.3%	6.5%
Total	4.1%	3.8%	1.7%	3.5%	7.3%
NAFTA	34.3%	33.1%	47.2%	33.3%	28.2%
to others	21.3%	45.9%	28.5%	5.2%	10.5%
Total	55.6%	79.0%	75.7%	38.5%	38.7%
Chile	1.4%	0.1%	1.4%	2.7%	1.0%
O.L.America	1.4%	0.9%	0.4%	1.5%	2.6%
1991-93					
Andean Pact	1.4%	1.7%	2.1%	0.6%	1.6%
to others	6.3%	1.4%	1.7%	14.3%	2.3%
Total	7.6%	3.2%	3.9%	14.9%	3.9%
MERCOSUR	6.1%	15.0%	2.9%	3.5%	5.4%
to others	11.1%	8.8%	15.1%	7.0%	15.4%
Total	17.2%	23.8%	18.0%	10.5%	20.8%
CACM	0.5%	0.4%	0.5%	0.2%	1.2%
to others	6.2%	4.2%	1.4%	13.5%	1.2%
Total	6.7%	4.6%	1.9%	13.7%	2.4%
Caribbean	0.3%	0.1%	0.3%	0.1%	0.7%
to others	1.6%	3.6%	0.5%	1.6%	1.1%
Total	1.9%	3.7%	0.8%	1.7%	1.9%
NAFTA	51.0%	36.7%	62.5%	49.2%	54.9%
to others	11.4%	26.5%	11.3%	3.5%	11.2%
Total	62.5%	63.3%	73.8%	52.7%	66.1%
Chile	3.5%	0.3%	1.5%	5.9%	4.3%
O.L.America	0.6%	1.2%	0.2%	0.5%	0.6%

Appendix Table 1--Latin American Import Regimes

Country	Regime prior to trade liberalization	Trade liberalization in the 1980's
Argentina	All imports require certificate of necessity.Tariffs zero to 38% ad valorem on consumer goods, and raw materials; zero to 55% ad valorem on capital goods.	Liberalization in 1976-81, followed by new protection in response to crisis; intent toreliberalize since 1987.Tariffs reduced to maximum of 40 percent in 1989.
Brazil	Licensing requirements on almost all goods.Tariffs zero to 37% for raw materials and essentials not produced locally, 16-70% for equivalents of locally made items and 64-205% for nonessentials.	Beginning 1988, simplification of tariff structureand reduction of tariff rates.Import licensesnot binding.Proposal for an average importtariff of 14.2% with a maximum duty of 35%.
Bolivia	License required for foodstuffs, live animals, manufactures and industrial inputs.Tariffs range from a minimum 2% on food imports to 120% on automobiles.	In 1985 replaced the complex, highly protective tariff system by a single uniform tariff of 20%,progressively reduced to 10%.
CARICOM	Enacted a Common External Tariff (CET) in 1973.Time of actual implementation varied by country.Fourdifferent tariff schedules and 16 different tariff rates,ranging from zero to 70%.The average tariff was 20%.	A proposal for a new CET seeks to reduce the tariff rate to 5, lower the maximum tariff to 45%, and introduce a minimum tariff of 5%.
Chile	Required one-year permits to obtain foreign exchange for imports over $500.Trade liberalized in the 1970s.Tariffs increased to 35% in response to 1982 crisis, later reduced to 20% ad-valorem.	Since October 1985, tariffs have been progressively reduced to 15% ad valorem.In addition, there is a variable import surtax forwheat and oilseeds.
CACM	Highly protective tariff rates. In Costa Rica, for example, several rates exceeded 1,000%.A CET enacted 1986 included effective protection rates between 50% and 150%, which reduced the tariffs and the dispersion.	Reformed the CET in 1987, reducing themean external tariff from 53% to 26%, and converting specific tariffs to ad valorem.In 1987 Costa Rica further reduced average tariff to 16%.Costa Rica joined GATT in 1990.
Colombia	Prior licenses required on 80% of imports.Tariffs of 5-20% for capital goods, 180% for automobiles.Averagetariff of 30%.	Gradual trade liberalization since 1980.Radicalimport liberalization program adopted in 1989. Tariff reduction has been accelerated and thereis a proposal to reduce prior licensing.
Mexico	Licensing requirements for most imports, except "free zone" imports.In 1985, import licensing covered 92 percent of production.Tariffs 50-100% for consumer goods; 30-40% for products competitive with localindustry.For capital goods, 40-60% for items producedlocally; 20-30% if production likely; 5-10% if unlikely.	Beginning in 1985, phase-out and reduction oftariffs.Joined GATT in 1986.
Peru	Import licenses required for products produced by state- owned firms.Tariffs 10% ad valorem for industrial rawmaterials; 30% for intermediate goods; 45% for finishedgoods; and 60% for luxury goods.	Since 1983 a 10% surcharge has been imposed on imports to reduce trade deficit.In addition,local-content requirements and/or import substitution rules have been used.
Venezuela	Widespread import licensing.Average tariff 35-40%, up to 100% for luxury items.	Adopted an import liberalization program in 1989. Abolished most import prohibitions and tariffs reduced to maximum of 80%.

Source: Business Latin America, May 1983. IIE, Latin American Adjustment, April 1990. World Bank Documents.

Appendix Table 2--Western Hemisphere Preferential Markets

Groups	Established / Aim	Member countries
Canada-Caribbean Commonwealth Program(CARIBCAN)	Established in 1985, as Canada's preferential trading scheme for theCommonwealth Caribbean.	Canada, Commonwealth Caribbean.
Caribbean Basin Initiative (CBI)	Implemented in 1984.U.S. trade preference program for Caribbean and Central American countries.	United States and 24 Caribbean and Central American countries.
Andean Trade Preference Act (ATPA)	Authorized in 1991 to encourageproduction of non-drug crops.	Bolivia, Colombia, Ecuador, Perú.

Appendix Table 3--Western Hemisphere Trading Blocks and Bilateral Agreements

Groups	Established / Aim	Member countries
Argentina-Bolivia	Established December 1989 aCEA to promote free trade.	Argentina, Bolivia.
Argentina-Colombia	Established April 1988 a CEA to expand and diversify trade.	Argentina, Colombia.
Andean Group (AG), also known as the Andean Pact	Established May 1969, to promoteeconomic integration, and freer trade.	Bolivia, Colombia, Ecuador, Peru, Venezuela.
Bolivia-Perú	Established November 1992, topromote freer trade.	Bolivia, Perú.
Bolivia-Chile	Established April 1993, to promoteeconomic integration, and freer trade.	Bolivia, Chile.
Caribbean Community andCommon Market(CARICOM)	Established July 1973, to promote free trade among member countries.	Antigua and Barbuda, The Bahamas, Barbados,Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saint Kitts and Nevis, Santa Lucia, SanVicente and Grenadines, Trinidad and Tobago.
Central AmericanCommon Market (CACM)	Established December 1960, to promote a common market.	Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua.
Chile-Mexico	Established September 1991 to promote free trade.	Chile, Mexico.
Chile-Venezuela	Established April 1993.	Chile, Venezuela.
Colombia-Venezuela	Established 1992, customs union.	Colombia, Venezuela.
Group of 3 (G-3)	Established 1990 as a mechanism for policy coordination.	Colombia, Mexico, Venezuela.
Latin American IntegrationAssociation (ALADI)	Established 1980, to promote freerregional trade with preferential tariffs.	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador,Mexico, Paraguay, Peru, Uruguay, Venezuela.
North America Free TradeAgreement (NAFTA)	Implemented January 1994, to promote freer regional trade.	Canada, Mexico, United States.
Northern CommercialTriangle	Established in 1992, to promote freer trade within the CACM.	El Salvador, Guatemala, Honduras.
Mexico-Costa Rica	Established 1994.	Costa Rica, Mexico.
Southern Cone CommonMarket (MERCOSUR)	Established March 1991, for regional economic cooperation.	Argentina, Brazil, Paraguay, Uruguay.
U.S.-Canada Free TradeAgreement(CFTA)	Enacted January 1989, to promotefreer regional trade.	Canada, United States.
U.S.-Canada-Mexico FTA (NAFTA)	Enacted January 1994, to promotefreer regional trade.	Canada, Mexico, United States.
Perú-Venezuela	Enacted 1992, trade accord	Perú, Venezuela.

SESSION 5B. INTEGRATION, TRADE AND ENVIRONMENTAL POLICY

Agricultural, Environmental and Health Research in a Global Environment

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This paper is based on the final chapter of a book based on several consultations and a conference involving leading agricultural, environmental, health, and social scientists held during 1989-91.[1] Two perspectives emerged from the consultation and the conference. One is that the battle to achieve sustainable growth in agricultural production must be fought out along a broad multidisciplinary front. Poverty undermines health and degrades the environment. Environmental problems such as soil erosion, water logging and salinity, and fertilizer and pesticide residues link the agricultural agenda with issues such as malaria and schistosomiasis control, sanitation, and water and food quality on the health agenda. Environmental changes underway at the global level, such as acid rain, ozone depletion and climate change will require changes in food production and health practices at the producer and community level. Effective bridges must be built between the "island empires" of the agricultural, environmental and health sciences.

A second perspective is the central role of family and community level decisions in achieving growth of agricultural production, enhancement of the resource base, and improvements in health. This means that much more effective organizational and institutional linkages must be built between the suppliers of knowledge and technology and the users. It also means that the institutions must be designed to place the users in stronger role relative to the suppliers.

During the discussions at Bellagio a vision of the institutional infrastructure that will be needed to supply the knowledge and technology in the areas of agricultural production, resource management, and health began to take shape. In this paper we draw on the papers and discussion at the Bellagio conference and at the three earlier consultations to outline our vision of the structure of global agricultural, health and environmental research systems. We are under no illusion that the process of evolving effective global research system that will be capable of bridging the island empires of agriculture, environment and health will be easy. In his paper for the Bellagio conference Douglass C. North emphasized that the design of an institutional framework that will make possible sustainable agricultural development in the 21st century will require a clearer understanding of the way institutions evolve than is available at the present time.

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[1] This paper draws on David E. Bell, William C. Clark and Vernon W. Ruttan. Global Research Systems for Sustainable Development: Agriculture, Health and Environment. In Agriculture, Environment and Health: Sustainable Development in the 21st Century. Vernon W. Ruttan (Ed.) Minneapolis: University of Minnesota Press, pp. 358-80. The dialogues and recommendations from the initial three consultations, held under the auspices of the "Twenty-First Century Project", with support from the Rockefeller Foundation have been reported in three University of Minnesota Department of Agricultural and Applied Economics Staff Papers (Ruttan, 1989; Ruttan, 1990a; Ruttan 1990b). Revised versions of the second and third consultations have been published by Westview Press (Ruttan, 1992, Ruttan, 1992a).

Agricultural Research

This vision is strongly influenced by the experience of attempts, beginning in the late 1950s to establish a global agricultural research system (Ruttan, 1986; Baum, 1986). For the architects of the post-World War II set of global institutions meeting world food needs and the reduction of poverty in rural areas were essential elements in their vision of a world community that could ensure all people of freedom from hunger.

In the immediate post-war years much of the burden fell on the United Nations Food and Agriculture Organization (UN/FAO). But John Boyd Orr, the first Director General of the FAO, burdened with the memory of the agricultural surpluses of the 1930's was highly critical of the view that knowledge and technology represented a serious constraint on agricultural production capacity, "No research was needed to find out that half the people in the world lacked sufficient food for health, or that with modern engineering and agricultural science the world food supply could easily be increased to meet human needs." (Boyd-Orr, 1966:160) in the first two post-war decades assistance for agricultural development in the poor countries was conducted largely in a technology transfer and community development mode. By the late 1950s, it was becoming apparent, however, that the gains in production from simple technology transfer had largely played themselves out.

The inadequacy of policies based on the technology transfer or extension model led, in the early 1960s, to a re-examination of the assumption about the availability of a body of agricultural technology that could be readily diffused from high agricultural productivity to low productivity countries or regions. The result was the emergence of a new perspective that agricultural technology, particularly yield enhancing biological technology, is highly "location specific." Evidence was also accumulated to the effect that only limited productivity gains could be achieved by the reallocation or more efficient use of the resources available to peasant producers in poor countries. The new vision that emerged as a guide to the sources of growth in agricultural production was the product of both experience with the improvement in agricultural technology and a reinterpretation of the role of peasant producers in the process of agricultural development.

It was apparent, in retrospect, that a number of colonial agricultural research institutes had played an important role in increasing the production of several of tropical commodities, particularly export commodities such as rubber, sugar, tea, cotton and sisal. The Rubber Research Institute of Malaysia and the sugar research institutes in Barbados, Java, and India were important examples. The initial success of the Rockefeller Foundation's agricultural programs, initiated in 1943 with the establishment of the Oficina de Estudias Especiales in cooperation with the Mexican Ministry of Agriculture, was of more immediate relevance. The program focused on food crops important in Mexico, particularly wheat and maize, rather than export commodities.

In the early post-war development literature peasant producers had been viewed as obstacles to agricultural development. They were viewed as bound by custom and tradition and resistant to change. In an iconoclastic work published in 1964 Theodore W. Schultz advanced a "poor but efficient" view of peasant producers. They were viewed as making effective use of the resources available to them. But they lived in societies in which productivity enhancing "high pay-off" inputs were not available to them.

Schultz, drawing on the experience of the Rockefeller Foundation program in Mexico and case studies by anthropologists and agricultural economists, identified three "high pay-off" investments needed to enhance

the productivity of peasant producers. These were: (a) the capacity of the agricultural research system to generate locally relevant knowledge and technology; (b) the capacity of the industrial sector to develop, produce and market new inputs which embodied the knowledge and technology generated by research; and (c) the schooling of rural people to enable them to make effective use of the new knowledge and technology.

These insights, from experience and analysis, shaped the response to the food crises of the 1960s and 1970s. The immediate response was the transfer of large resources, including food aid, to the food deficit countries. The longer term response was the mobilization of resources to develop a system of international agricultural research institutes and to strengthen national agricultural research systems (Eicher, Chapter 4).

In 1959 the Ford and Rockefeller Foundations collaborated in establishing an International Rice Research Institute (IRRI) in the Philippines. This was followed by the spinning off of the international activities ot the Rockefeller supported Mexican maize and wheat programs to form an International Center for the Improvement of Maize and Wheat (CIMMYT) and the establishment of an International Institute of Tropical Agriculture (IITA) in Nigeria and the International Center for Tropical Agriculture (CIAT) in Colombia. It became apparent by the late 1 960s that the financial requirements to maintain the research and development programs of the four institutes were stretching the capacity of the two foundations. In 1969 consultations were held among the Ford and Rockefeller Foundations, the World Bank, the FAO and the United Nations Development program that led to the organization of a Consultative Group on International Agricultural Research (CGIAR). The initial membership consisted of the World Bank, the FAO and the UNDP as sponsors, plus nine national governments, two regional banks and three foundations.

The leadership of the Consultative Group is now centered at the World Bank, which provides a chairperson and a secretariat. Each institute or Center is an independent corporate identity governed by its own board of trustees. The CGIAR established a Technical Advisory Committee (TAC) with its secretariat located at FAO in Rome, to provide technical oversight of the research institutes and to advise the CGIAR on priorities and resource allocation among Venters. The TAC has been charged with the responsibility of organizing comprehensive reviews of the programs of the centers, of evaluating new initiatives, and of overseeing coordination among centers in common program areas such as cropping systems research.

By the early 1990s the system had expanded from an initial 4 to 18 centers. The initial centers focused their research on the major food crops grown in developing countries - rice, wheat, maize, potatoes and cassava. These were joined in the 1 970s by centers focusing on livestock production, animal disease and genetic resources, on arid and semiarid areas, food policy, and the capacity of the national research system. At the beginning a commodity orientation in research and development was adhered to in an effort to assure that the limited resources available to the system would not be dissipated in unfocused research efforts.

In the late 1970s and early 1980s crop and farming systems research programs were developed to achieve more effective understanding of soil, water, climate, weed and crop interaction. In the late 1970s several donors to the CGIAR were instrumental in establishing independent research venters to work on soils, irrigation and agro-forestry.

As the new seed-fertilizer technology generated at the CGIAR centers, particularly for rice and wheat, began to come onstream some donors assumed that the CG centers could bypass the more difficult and

often frustrating efforts to strengthen national agricultural research systems. But experience in the 1960s and the 1970s confirmed the judgement of those who had participated in the organization of the international centers that strong national research centers were essential if the prototype technology that might be developed at the international Venters was to be broadly transferred, adopted and made available to producers.

The location-specific nature of biological technology meant that the prototype technologies developed at the international centers could become available to producers in the wide range of agroclimate regions and social and economic environments in which the commodities were being produced only if the capacity to modify, adapt and reinvent the technology was available. It became clear that the challenge of constructing a global agricultural research system capable of sustaining growth in agricultural production required the development of research capacity for each commodity of economic significance in each agroclimatic region. One response by the CGIAR donor community was the establishment of a new Center, the international Service for National Agricultural Research (iSNAR) to provide analytical and technical assistance to national agricultural research systems in strengthening their organization and management.

Another response was, particularly during the 1970s, substantially expanded support for national agricultural research systems. During 1990-92 five new centers were added to the CG system thus increasing the number of Venters from 13 to 18. In 1990 the International Irrigation Management Institute (IIMI), the International Center for Research on Agro-Forestry (ICRAF); and the International Network for the Improvements of Banana and Plantain (INIBAP) were brought into the CG system. In 1992 the International Center for Living Aquatic Research Management (ICLARM) was added to the system. This expansion was not accompanied by an expansion of the resources available to the system. Support to the system in 1990-92 actually declined in real terms producing a "quiet crisis in the system" (Eicher, Chapter 4).

The crisis has not only been financial. A number of the CGIAR centers are experiencing the difficulties associated with organizational maturity. There is a natural "life cycle" sequence in the history of research organizations and research programs (Ruttan, 1982:132). When they are initially organized they tend to attract vigorous and creative individuals. As these individuals interact across disciplines and problem areas the organization often experiences a period of great productivity. As the research organization matures, however, there is often a tendency for the research program to settle into "filling in the gaps" in knowledge and technology rather than achieving creative solutions to scientific and technical problems. Since the early 1980s a number of the managers of several of the CGIAR institutes have been forced to struggle, during a period of budget stringency, with the problem of how to revitalize a mature research organization.

Efforts to strengthen national research institutes have also been only partially successful. The 1970s witnessed a remarkable expansion of agricultural research capacity in a number of developing countries. The national research systems in India, Brazil, Malaysia and a number of other developing countries began to achieve world class status in their capacity to make advances in knowledge and technology available to their farmers. A number of other countries, such as the Philippines, Colombia and Thailand achieved substantial capacity to conduct research on their major agricultural commodities. During the 1990s the buffeting of a global recession and debt crisis had the effect of weakening commitment by a number of aid agencies and national governments to the strengthening of agricultural research. In Africa many national agriculture research systems that have received generous external support even during the 1980s have failed to become productive sources of knowledge and technology. (Eicher, Chapter 4)

The role of technical support for farm decision making by farmers and the capacity to supply to producers the technical inputs in which the new technology is embodied has been a continuing area of controversy. In general the developing countries have been relatively extension intensive. The ratio of extension workers to agricultural product has been much higher in developing countries than developed countries (Judd, Boyce and Evenson, 1987). Weak linkages between research and extension and between extension and farmers have represented a serious constraint on the diffusion of new technology (Tendler, Chapter 6). During the late 1970s and early 1980s the World Bank devoted very substantial resources to the support of an intensive "training and visit" (T & V) system of delivering information about practices and technology to farmers. The system involved a highly regimented schedule in which the field level worker is involved one day each week in intensive training about the information that he or she must convey to farmers (Benor and Harrison, 1977). In retrospect it appears the system erred in placing the extension worker rather than the farmer, or the farm family at the Center of the technology adoption process.

A second constraint on the effectiveness of the transfer of agricultural practices and technology to producers is the weakness of the private sector as a source of both the supply and delivery of knowledge and technology (Evenson, Evenson and Putnam, 1987; Pray, 1987). The emergence of more liberal economic policies since the early 1980s in a number of developing countries is, however, leading to rather rapid growth of private sector suppliers of agricultural technology and to increased research by the suppliers.

The global agricultural support system is still incomplete. The deficiencies discussed by Eicher, Turner and Beniamin, and Tendler in Chapters 4-6 continue to deprive farm families the support that they need to meet even current food consumption and income needs. Yet the vision of the agricultural support system that will be needed to sustain growth in agricultural production is reasonably clear. During the past several decades implementations of the vision have been less than adequate in some developed countries and in all but a few developing countries. With the ending of the cold war it may now be possible to extend the vision to farm families in many of the formerly centrally planned economies. One important step will be to place farm families and the farm enterprise in those societies at the Center of the agricultural production process. Another important step will be to link the agricultural research systems in the formerly centrally planned economies with the emerging global agricultural research system.

Health Research

At the Bellagio conference Godfrey Gunatilleke outlined a vision of the gains in health status that can be achieved by even a poor society that devotes significant resources in support of an effective national health policy. Sri Lanka has achieved health indicators - a life expectancy of around 70 years and infant mortality below 20 per 1,000 live births - comparable to the levels achieved by many societies that are much more affluent. (Chapter 8) But vision of the global health research system needed to sustain national health policy has emerged more slowly than the vision of a global agricultural system. Only within the last decade has the health research community begun to articulate the form that such a system might take.

For most of the last century - since the time of Koch and Pasteur - health research has been thought of principally as laboratory-based biomedical research, seeking "silver bullets" against specific infections or diseases - new vaccines, new drugs, new surgical techniques. This focus, plus the remarkable improvements in health in recent decades, led to the misperception that all the new knowledge and new technology needed to protect families and communities around the world from debilitation and illness could

be generated in the universities, research institutes, and pharmaceutical company laboratories of the industrialized countries.

This limited conception was clearly wrong and has been changing rapidly. Three gains in perception are especially important. The first is the recognition that health technologies, to be useful, must be applied in particular social settings. Achieving health improvements requires not only technology but policies, organizations, and processes that are adapted to the varied economic, social, cultural, and historical circumstances among and within countries. Even vaccines, the simplest of technologies, cannot be applied in Lagos by the same means they are in Liverpool.

An effective health research system, capable of conducting the essential national health research described by Lucas in Chapter 7, needs epidemiologists, economists, management specialists, and other social and policy analysts in addition to biomedical scientists. Such skills are scarce in industrialised countries. They are grossly deficient in developing countries. But they are essential to identify the precise nature of health problems in different national and local settings, and to design, test, and apply appropriate solutions.

A second gain in perception is the recognition that the principal actors in achieving improvements in health are individuals and families, especially mothers. Preventing illnesses and promoting health depends first and most of all on "maternal technology" the ability to use basic knowledge about nutrition, cleanliness, home remedies, and when and how to call on health professionals. (Mata, 1988)

An effective health research system, therefore, must be organized not simply to serve physicians but to support the flow of health knowledge and technology to families and communities - and to provide for the reverse flow of information from families and communities to researchers about the actual nature of health problems and how they are changing. Such a conception of linking researchers directly to primary actors is customary in agriculture, where research results have long been aimed at farmers as decision makers. But it is a recent conception in health even in industrialized countries.

A third gain in perception is the recognition that the world's health research efforts are overwhelmingly concentrated in industrialised countries, seeking technologies to address the diseases of the more affluent societies. Only about five percent of global health research financing is directed to the major diseases and health problems of the less developed countries, where more than 90 percent of the world's burden of preventable deaths occur (Commission on Health Research for Development, 1990). An effective global health research system must address this huge imbalance, and provide for a large increase in the resources devoted to the health problems of the developing countries.

Combining these three perceptions with the traditional power of biomedical research, one can begin to perceive, dimly, the shape of a global health research system and hots to move toward it.

Such a system - in health just as in agriculture - will need to be based solidly on national research systems, capable of supporting decision makers as they identify and confront health problems. A national health research system requires first of all skills to determinants of disease, disability, and death, and to monitor changes in health status over time. It requires also skills to design, test, and evaluate means for applying improved health technologies in local environments, and for making research results available to those who need to use them, from national policy makers to local families. Every nation needs the capacity to conduct such country specific research to guide its health activities, and the establishment of such capacity should clearly be given top priority. (Chapter 7)

Beyond the capacity for essential country specific research, health scientists in every country will wish to join, as and when they can, in the international effort to advance the world's frontiers of knowledge on the social and biological pathologies of ill-health and disability, and on new technologies to overcome them. In poor countries, the conditions for world-class science are difficult to establish. Nevertheless, a significant number of developing countries - to name just a few, Thailand, India, Egypt, Mexico, Brazil - are beginning to have the capacity to make significant contributions to world knowledge in the health field.

Thus, national health research systems need to begin with the capacity to guide national health activities, and to go on, as conditions permit, to participate in global frontier research. In most developing countries, there are only rudimentary health research capabilities at present. It is urgent for developing countries, and for the international health assistance community, to commit themselves to building steadily stronger national health research systems. Such systems will need to start small, and to focus initially on the most pressing health problems. But they should be designed with a view to dynamic change over timeas financial and personnel resources grow, and as health problems change with the demographic and epidemiologic transitions through which the developing countries will pass over the coming decades.

Thinking about how to achieve an effective global health research system thus begin with the development of strong national systems. But national systems must not be thought of as separate, free-standing entities. On the contrary, it is essential that they be linked together by strong international ties, and draw from the common, growing pool or world-wide health knowledge, with each country adapting advances in health science to its own specific circumstances.

Moreover, it would be a mistake to think of a global system as centered in the industrialised countries, with all scientific advances pioneered there and rippling outward to the developing world. We have already seen major health improvements developed in the Third World, as ambulatory therapy for tuberculosis was pioneered in Madras, and oral rehydration therapy for diarrhea in Dhaka. As the amount and quality of developing country research steadily rise, a global research system will increasingly be multi-centric - one in which the flows of ideas and new knowledge move in all directions along networks of information and collaboration encompassing scientists from many countries rich and poor alike.

Thus the guidelines for moving toward a global health research system include the development as rapidly as feasible of strong national systems, especially in developing countries where they are currently very weak, and (2) the rapid evolution of international collaborative mechanisms and arrangements. There is much work here for years to come.

In the discussions at Bellagio, two aspects of this overall vision received special attention and illumination.

The first was the necessity for building direct relationships between the national health research system and action for health at the community and family level. In Chapter 8, Dan C. O. Kaseje describes the elements of a community based health system in Kenya that he helped design and implement that relies directly on the actions of individual families and communities. The model views the mother as the key health provider. It builds on the strong motivation to carry out her tasks resulting from concern about the current and future well-being of her children and family. Kaseje summarizes the concept behind the "Harambee" model:

This model recognizes the strengths and resources of the community; seeks to facilitate and enhance these strengths; recognizes that communities have always been responsible for their own health, even without the intervention of health professionals that the mother is the most important and knowledgeable health

provider. This mother is not, however, left without resources to carrv out her responsibilities. She is reinforced with a strong program of health education, the availability of appropriate technolog materials, and support from NGO and official health programs. The system described by Kaseje does not work perfectly. It should not be overly idealized. Kaseje himself expressed considerable skepticism that it will be possible to boos the professional and bureaucratic inertia needed to extend and sustain the program ne has described.

It is clear, however, that the resources needed to enable the family to provide effective health services to its members are very similar to those identified three decades ago by Schultz to enable peasant producers to become effective suppliers of agricultural commodities. The "high pay-off" health inputs include:

(a) The capacity of the health research community to produce the new knou ledge and the materials that are appropriate to the resource and cultural endowments of rural communities.

(b) The capacity of national, regional, and local institutions to make the knowledge and the materials available to families; and

(c) The formal schooling and informal education of families, particularly mothers, to make effective use of the knowledge available to them.

The second issue on which the papers and discussions at Bellagio shed light is the nature of the international apparatus needed for a global health research system.

In the field of agriculture, the CGIAR sponsored set of international research centers serve as leaders of applied science for the Third World and accelerators of linkages between frontier science and Third World problems. There is no comparable set of internationally supported health research centers in poor countries of the tropics.

Adetokunbo Lucas in his paper (Chapter 7) notes that there are only two international centers of significant size in the field of health - the International Centre for Diarrheal Disease Research, Bangladesh, and the International Centre for Insect Physiology and Ecology in Kenya (which is concerned with entomology that is relevant to both health and agriculture).

There are strong differences of opinion within the international health community as to whether a system of international health research centers, analogous to the CGIAR centers, would be appropriate or effective.

On the one hand internationally organized efforts have the advantage of achieving a critical mass of scientists concentrating on and physically located close to high priority problems... Internationally organized research efforts can focus on specific problems in a multidisciplinary way and demonstrate economies of scale in their operations, making them attractive to external funding. On the other hand, international Center salaries are high and their activities, if not carefully targeted, can supersede rather than complement national efforts (Commission on Health Research for Development, 1990:58).

At the Bellagio conference there was something approaching consensus that present constraints on foreign assistance funds suggest that it would be unrealistic to expect that resources could be mobilized in the mid-1990s to support a system of international health research centers in the tropics. It seems more likely

that the predominant model of international collaboration in the health field will be international networks linking scientists in national institutions (both in industrialised and developing countries) in goal oriented research programs aimed at specific health problems. A successful example of such collaboration is the Special Programme for Research and Training in Tropical Diseases (TDR), co-sponsored by UNDP, the World Bank, and WHO. Started in 1976, TDR focusses on six specific diseases, (including malaria, schistosomiasis, and leprosy), and in addition to supporting research, invests approximately 25 per cent of its annual budget of $30-35 million in strengthening research capacity in developing countries.

While international networks of national venters evidently can work effectively in supporting research on particular diseases, there is one extremely important function they cannot perform. The field of health research conspicuously lacks an overview mechanism. In agriculture, the CEDAR (as distinct from the set of centers it sponsors) has built highly valuable methods for surveying the world-wide agricultural research scene in relation to the needs for research results, reviewing on-going research activities (both those of the international centers and of other institutions), and proposing changes in current research priorities and institutional arrangements including where necessary the development of new research facilities.

There is no analogous, effective, independent organization in the health field for assessing progress in research, especially on developingwountry health problems identifying neglected areas, and promoting necessary action. The result is clear. At present, of the three leading infectious disease causes of death in the world (acute respiratory infections, diarrheal diseases, and tuberculosis), only diarrhea is addressed by a major, sustained research effort. That is why the Commission on Health Research for Development came to the conclusion that "a health analogue of the CGIAR assessment and promotion structure could be of great value and should be established (Commission on Health Research for Development, 1990:59). This objective is clearly an urgent one.

Environmental Research

If the global research system for agriculture now faces the challenges of maturity and the system for health confronts those of adolescence, then the global environmental research system still requires pre-natal care.

To be sure, research for environmental conservation has a long and productive history in many parts of the world. Since World War II, this research has been given impetus and direction by at least three waves of concern over the implications of natural resource availability and environmental change for the sustainability of improvements in human well-being. Early work focussed on the adequacy and protection of the material base for agricultural and industrial production. By the mid 1970s, increasing attention was also being given to the impact of residuals generated by that production on air and water quality and human health. Today, rapidly growing awareness of global change in the earth system had provided yet another dimension to our environmental concerns.

Most environmental research to date has been performed in universities, initially with support from major philanthropic organizations such as the Ford Foundation. Prodded by the Stockholm Conference on the Global Environment in 1972, national governments have become increasingly involved as supporters, producers, and users of environmental research. Over the last decade, there has also been an explosion in the number and variety of non-governmental organizations active on the world's environmental scene, some of them producing research of the highest calibre and relevance (Livernash, 1992). International programs for environmental research have also expanded dramatically since their "modern" birth in the International Geophysical Year of 1957. Nonetheless, most important international institutions for environmental

research are barely 20 years old - for example ICSU's SCOPE, UNESCO's MAB, IIASA and, of course, UNEP (Caldwell, 1990). Today's major research programs on global change - the World Climate Research Program (WCRP), the International Geosphere Biosphere Program (IGBP), and the Human Dimensions of Global Change Program (HDGEC) - are younger still (Jaeger and Ferguson, eds. 1991; Miller and Jacobson, 1992; Perry, 1991).

This impressive and expanding array of activities nonetheless fails far short of the global system of environmental research needed to provide the knowledge base for sustainable development. Still lacking is a coherent institutional structure that can link the world's environmental researchers both upward to the international level of policy negotiations and downward to the community level consumers producers, health workers and extension agents on whose actions sustainable development must ultimately depend. In the wake of the Rio "Earth Summit", however, several initiatives are under discussion that could supply important components of such a system and move it substantially closer to reality.

The most ambitious of these is START - a System for Analysis, Research and Training proposed in 1991 by the IGBP in collaboration with the WCRP and HDGEC. START is planned as "a global system of regional research networks to stimulate research, modelling, and training activities related to global [environmental] change in both the natural and social sciences" (IGBP, 1992; p5). Its regional focus is based on the realization that global change wears local faces. The origins, the impacts, and the options for managing global environmental change will be different in different parts of the World, and must be understood within their local environmental and social contexts. The initial START planning document divided the world into 13 "scientifically coherent" regions (Eddy et al., 1991). Within each region, the research network is planned to consist of one or more research venters plus an unspecified number of regional research sites (eg. university departments, field stations). The networks aim to provide scientists from all parts of the world the knowledge and infrastructure necessary for them to participate fully in on-going research concerning global environmental change. If planned funding from the international community is forthcoming, the first of the networks - probably in the Tropical Asian Monsoon region - could be fully operational by mid-decade.

In addition to the comprehensive plans of START, a number of more focussed regional initiatives are also being pursued around the world. For example:

* Asia: The Smithsonian-sponsored program on Sustainable Management of Tropical Evergreen Forests has linked leading centers throughout Asia in a unique network for research, training and data collection (Ashton, 1991). Though the tropical forests program has been launched largely through the efforts of private foundations and host-country contributions, Japan and the United States - through their recently announced "Global Partnership Plan of Action" - have promised increased governmental support of environment and conservation research in the region (Lepkowski, 1992).

* The Americas: The Inter-American Institute for Global Change Research (IAI) has been established as a "regional network of research entities... [that] seeks to achieve the best possible international coordination of scientific and economic research on the extent, causes, and consequences of global change in the Americas" (IGBP, 1991; Declaration of Montevideo, 1992). Close integration with the START initiative has been emphasized throughout the planmng of the IAI.

* Central and Eastern Europe: A number of environmental research, development and training institutions have been formed to address the special problems of this region. One notable example with support from

a number of western countries is the Regional Environmental Center in Budapest. Since its inception in 1989, the Center has helped "to set up environmental surveys, grassroots and non-governmental organizations, new environmental legislation and remediation campaigns" (Nature 1992). Its major activity has been building a data base on environmental conditions in the region, coupled witn a computer network to disseminate these data to smaller offices for use by local researchers.

* Globally: Increasing attention is being given to the need for a permanent international research institution that could tackle environmental problems that transcend individual regions, and link national centers for environmental research into a truly global system. This function is currently performed on a largely ad-hoc basis - for example through studies of ICSU's Scientific Committee on Problems of the Environment, or the Intergovernmental Panel on Climate Change. But the time may well be ripe for complementing such ad hoc efforts with a more permanent home or homes. The International Institute for Applied Systems Analysis, with its focus on problems of global change (IIASA, 1991), has been put forward as one leading candidate (Maddox. 1992).

How these and other initiatives will relate to one another or to existing national research centers is not yet clear. Most of the parties involved seem aware of the need for addressing such relations. Early indications are that their potential complementarities could dominate the inevitable competition for people, programs and funds. The recent formation of a professional secretariat for START in Washington can only improve the prospects for successful integration of emerging international environmental research efforts.

Against this optimistic assessment, however, it must be noted that in the dialogue leading to recent environmental research initiatives there appears to have been little consideration of appropriate linkages with agricultural and health research systems. (Chapters 10-12) This is a serious omission for two reasons. First, it virtually guarantees that many of the lessons painfully learned in the course of building today's relatively mature network of agricultural and health research systems will be lost on the fledgling environmental effort. Second, it perpetuates the "island empire" problems we referred to at the outset of this essay. We address possible measures for mitigating these shortcomings in turn.

First, there are several related lessons from the development of todayts agricultural and health research systems that should be incorporated in new environmental efforts. As noted above, all of these reflect a growing appreciation of the central role of family and community level decisions in shaping sustainable development:

*Means must be designed to assure that research priorities reflect the environmental problems confronting individual families, farmers, and resource users in the field. The small "charmed circle" of puzzles that excite lab scientists or program administrators should not be allowed to dominate the agenda. The World Bank's recent report on Development and the Environment (World Bank, 1992) is surely correct in its conclusion that "the current environmental debate has paid too little attention to the problems of clean water, urban air pollution, indoor air pollution, and severe land degradation" that each year kill millions of people, undermine the health of hundreds of millions more, and significantly reduce productivity of people who can least afford it (World Bank, 1992, p.4; see also Norberg-Bohm et al., 1992).

* We must resist the temptation to search for universal "silver bullets" that will solve specific environmental problems whenever and wherever they occur. Most causes, impacts and solutions will be intimately associated with particular social circumstances and landscapes. Effective research systems will therefore require significant site specific components, and must avoid focussing activity in a few elite

laboratories of the high income countries. The need for elite laboratories will remain, in part because of needs for special research and data processing equipment, in part because of the need to bring is top scientists from many disciplines together for particular aspects of the necessary research. But specific measures must be implemented to assure that such regional centers do not bleed talent, funds and equipment from the essential national and local nodes of the research network. A recognition of the need for simultaneous and complementary strengthening of the local, national and regional dimensions of the emerging global environmental research system seems well embodied in the plans for START (Eddy et al., 1991). But a practical vision of "essential national environmental research" - how it is to be funded and linked to international efforts - has yet to emerge.

* A "technology transfer" strategy for research and development will be no more successful in dealing with environmental problems than it has been for sustaining improvements in agricultural productivity or human health. This applies not only to conventional north-south transfers, but also to the current spate of enthusiasm for grafting the clean energy systems of advanced OECD nations onto the formerly socialist economies of Europe. Less obviously, but perhaps even more importantly, experience in the agriculture and health sectors warns against the wholesale transfer of institutions as a means of enhancing environmental conservation. This is especially the case in the area of common pool resources, where an uncritical tendency to transfer solutions based on full private property rights or centralized regulation to small scale, low income situations has had disastrous consequences. Appropriate alternatives often exist, more finely attuned to local social and environmental conditions (Ostrom, 1990). In general, the need is not to transfer environmental technologies and institutions from "advanced" to "developing" regions, but rather but to promote more widespread sharing of knowledge, know-how and experience around the world. In particular, in environment as in agriculture and health, the need is to enhance the voice and power of users relative to suppliers of needed research and development.

* An effective global environmental research system must be much more broadly inclusive than is presently the case. The need to better incorporate knowledge users in the system has been stressed in this chapter. The need for an expansion of the capacity to monitor global change has been emphasized in Chapters 10-12. The environmental R&D potential of the formally centrally planned economies must also be tapped though this will require institutional innovations to end the traditional exclusion of such societies from the "global" research system. Finally, the private sector must be encouraged as both a supplier and deliverer of the knowledge needed for environmentally sustainable development. Perhaps no single factor has so inhibited the development of effective global research systems for agriculture and health as the failure to promote incentive and reward structures that can induce constructive private sector involvement. In the environmental field, there is a vast potential for private sector engagement in topics as diverse as energy efficiency to biotechnology. But a number of issues involving intellectual property rights, liabilities, and government-industry relations will have to be resolved before the potential can be fully tapped for the benefit of sustainable development (Schmidheiny, 1992).

In summary, an effective global environmental research system will have many of the features of effective agricultural and health research systems, the behavior of consumers of environmental services and the producers of the residuals - households, farms and factories - that erode environmental amenities will have to be recognized as central to the process of environmental change (Chapter 5). The resources that will be needed to place households, farms and factories in a position to respond constructively will depend on: (a) the capacity of the environmental research system to provide the knowledge, including the essential national environmental research, needed by household, farm and factory decision makers; (b) the capacity of national, regional and community institutions to provide the knowledge, technology and incentives to those

who make decisions abut resource use; and (c) the depth of understanding possessed by household, farm and factory decision makers about the consequences of their own actions and the actions of the economic and political institutions in which they participate.

Bridging the "Island Empires"

We have argued that the "island empires" of the agricultural, health, and environmental sciences can learn from one another as they strive to build global research systems that can support sustainable development. Whether they can, or even should, move beyond passive learning to active cooperation remains to be seen.

There seems little merit in any grand organisational scheme that would attempt to pull the already diverse networks of research in the respective empires under a single roof. And the most dynamic of the existing empires - that dealing with environmental research - simply does not have enough experience in the tough business of actually running a global network to seem credible as a leader of any major bridging movement. What does seem both feasible and desirable, however, is to begin some modest effort at active bridge building.

At a minimum, the principals of the three empires might agree to meet regularly - perhaps in the spirit of the G-7 Summits - in order that they and their senior staff members could get to know one another and exchange information on current activities. An exploration of possible collaboration in global monitoring and other data gathering activities might be a good early agenda item for such meetings. The new UN Commission on Sustainable Development, established at the 1992 "Earth Summit", would be one logical convener for such meetings. But private foundations and NGOs could do a 10t to get the ball moving.

At a deeper level, it is essential to realize that the global agricultural, health and environmental research systems outlined in this chapter have important common elements. The global systems outlined in this chapter can be effective only as the a underlying sciences - particularly the biological and the social sciences - advance. Advances in the biological sciences and the social sciences are necessary to enlarge the world's understanding of the natural and social phenomena in global change. They are also needed in order to expand the capacity to apply advances in knowledge to the national and human dimensions of development in the poor countries where most or the world's people live.

The need to enlarge scientific capacity in the poorer countries of the world should not be viewed as a burden on either the developed or developing countries. Rather it is an opportunity to multiply the intellectual talent necessary to advance knowledge relevant to the achievement of sustainable development. Completion of the development of global research systems in agriculture, health and environment is a necessary component of a global effort to establish and mobilize the intellectual capacity and energy that will be needed to sustain development.

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Western Hemisphere Integration: Trade Policy Reform and Environmental Policy Harmonization

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The democratically elected leaders of the Western Hemisphere countries met in Miami in December 1994 to discuss economic integration. They had four main objectives related to the future of the region: foster sustainable economic growth; reduce trade and investment barriers; improve environmental quality; and strengthen democratic institutions. The North American Free Trade Agreement (NAFTA) and, to a more limited extent, the multi-country Uruguay Round of the General Agreement on Tariffs and Trade (GATT), had similar goals. Many in agriculture and the food industry support regional and multilateral trade reform and may promote further integration in the Western Hemisphere. They see increased business opportunities through improved market access to a large population and a region with a potential annual economic growth of nearly 5 percent.[1] Others, though, have expressed concern about trade reform. Non-governmental organizations, like Public Citizen and Sierra Club, have suggested that trade and investment policy liberalization will adversely affect environmental quality and income distribution in the region.

There are several areas of potential conflict between trade and environmental interests which may influence agriculture and the food industry. Most relate to divergent national environmental standards: for example, the competitive and trade effects of environmental regulations; the role of environmental standards in the determination of direct foreign investment and the location of production; and the use of sanitary and phytosanitary and other product standard-related regulations, including packaging and labeling requirements. This paper will focus on the competitive and trade effects of environmental regulations.

We undertake an early assessment of the potential production, consumption, trade, and environmental effects of various Western Hemisphere integration schemes. We examine two policy scenarios in the context of a multi-country, multi-sector computable general equilibrium model. First we analyze the effects on regional trade when bilateral tariffs and nontariff barriers are removed among Western Hemisphere countries. Eliminating regional trade barriers may pose some new opportunities and challenges for agriculture and the food industry. U.S. firms may be able to increase their exports and investments to their southern neighbors but they may also face increased competition. Foreign firms may export foods to the U.S. market without tariff and nontariff trade barriers and they may have lower production costs relative to U.S. firms, partly due to less stringent environmental regulation. Some U.S. agri-business interests and environmental groups, in an unusual coalition, are pressing for similar standards for competing exporters who want to export to the United States. As a matter of principle, GATT has reiterated that differing environmental compliance costs are no reason to impose trade barriers, rather they are a normal differential cost of production.

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[1] Estimated Data Resources Incorporated (DRI) as cited in Suchada Langley, "Western Hemispheric Economic Integration - From Here to There," manuscript, December 22, 1994.

Some U.S. laws do impose the same environmental standards on imports as on domestic products. In some cases, the standards are allowed by international trade disciplines: GATT, for instance, permits food safety standards on domestic and imported goods for the protection of human health. The international legality of other standards, however, has been called into question and has created conflict between the U.S. and some of its major trading of its major partners. One prominent example concerning differences in national standards which affect the U.S. food industry is standards placed on harvesting tuna fish. Unlike other countries, in the U.S., the Marine Mammal Protection Act (MMPA) sets dolphin protection standards for the domestic fishing fleet and for imports from international fishing boats that harvest yellow fin tuna in the eastern tropical Pacific Ocean. This has created strife between the United States and Mexico and the European Union (which is intermediary in tuna trade).

Our second policy simulation is to remove bilateral tariffs and more closely harmonize environmental policies across the region. Harmonization can have different interpretations. Some U.S. interests would suggest that partner countries should pursue comparable environmental regulations. Others would suggest that the goal of harmonization is not to promote uniform standards, but to encourage standards that adequately protect the environment while recognizing differing environmental conditions and national preferences. We consider both alternatives: we liberalize trade and (a) establish uniform standards or (b) establish relative standards based on a country's wealth. By simulating this more profound synthesis of the economies, we are in a better position to assess the relative magnitude of the trade and environmental policy effects that could accompany Western Hemisphere regional integration.

Our results may be summarized as follows. Trade policy reform in the Western Hemisphere appears to be beneficial for all participating countries. Environmental quality, however, may decline in Mexico and Brazil, given no change in environmental policies. Relative harmonization of environmental policies appears to increase the gains from economic policy integration for these countries. Too stringent environmental regulations (i.e., absolute harmonization of policies), however, are likely to diminish the gains from economic integration.

Trade and Environmental Policy Integration: Model Background

In order to undertake the simulation exercises we extend the Global Trade Analysis Project (GTAP) framework developed by Hertel and expanded for environmental issues by Perroni and Wigle. A detailed description and specification of the GTAP model can be found in Hertel and Tsigas, ant Huff *et al.* Briefly, the model can be described as a comparative static, multi-country, computable general equilibrium (CGE) model. It is calibrated to a 1992 base so it does not reflect the policy changes that have already occurred as part of the NAFTA agreement (Gehlhar *et al.*). Our version of the GTAP model focuses on Western Hemisphere countries, food sectors, and trade and environmental policies.

Eight geographic regions and fourteen sectors are specified (Table 1). These include five individual Western Hemisphere countries: Canada, U.S., Mexico, Argentina, and Brazil and seven agriculture and food manufacturing categories: primary agriculture - grains, non-grain crops, and livestock; and food manufacturing - meat products, milk products, tobacco and beverages, and other food products.
The advantage of developing this large scope analytical model, which we refer to as TREWH (Trade and Environment in the Western Hemisphere), is that it can quantitatively assess the differential effects of trade and environmental policies across agriculture, food and other manufacturing sectors. It is limited, though, in addressing issues concerning specific commodities, firms, or industries.

To capture trade and environmental policy issues, we augmented the GTAP framework by incorporating two types of environmental data: pollution emissions and pollution abatement expenditures; we extended the model to include environmental quality and policies; and we explicitly account for the negative welfare implications of pollution.

Pollution Data

Environmental data for manufacturing is compiled separately from data for primary agriculture, although the compilation of each follows similar steps and assumptions.

Manufacturing Pollution: Pollution emissions for each region and manufacturing sector are calculated using data compiled by the World Bank under their Industrial Pollution Projection System (IPPS) (Hettige *et al.*, 1994) and data from GTAP. IPPS draws from U.S. EPA's Toxic Release Inventory for 1987 to calculate total toxic substance releases of 320 substances for all reporting plants across all media (air, water, underground, and solid waste releases). IPPS then weights pollution releases by *ordinal risk measurements* from EPA's Human Health and Ecotoxicity Database (HHED). The weighing scheme implies that the ordinal risk scale is linear: a one pound emission with risk factor 4 is equivalent to four pounds of emissions with risk factor 1. These risk-weighted total emissions are then matched with output data from the U.S. Census Bureau's Census of Manufacturing to calculate sectoral emission coefficients for the U.S. (i.e., pounds of pollutants/US $ million of output). To estimate total emission releases for each sector in all regions, these U.S.-based emission coefficients are multiplied by regional sectoral output values taken from GTAP.

Although we do generate unique total pollution emission estimates by manufacturing sector for all regions in TREWH, we assume constant sectoral emission intensities across regions. While this is not the best measure of regional pollution, it is the only one available at this point due to insufficient international data. Other international studies have used this same approach, including several studies conducted by the World Bank and OECD (Lucas, Wheeler, and Hettige, 1992; Harrison and Eskeland, 1994; Lee and Roland-Holst, 1993 and 1994; Lucas, 1994). Since there is evidence that relative sectoral pollution intensities have remained fairly constant across countries and over time (Lucas, Wheeler, and Hettige, 1992; Harrison and Eskeland, 1994), these emission estimates should provide a fairly accurate assessment of relative sectoral emissions across regions.

Agricultural Pollution: For the agricultural sectors, a similar approach is used - U.S. pollution data are calculated and used as a basis for cross-country data. Since there are no cross-media pollution data for agricultural sectors, soil erosion is used as a proxy for all forms of agricultural pollution. Average erosion rates and acres planted are from Osborn, 1995. In order to determine erosion in other regions, tons of erosion by sector in the U.S. are scaled by sector values of output in other regions relative to U.S. sector values of output. Pollution from livestock production is not estimated.

Table 2, part A shows regional and sectoral pollution levels for the agriculture, food, and manufacturing sectors in the Western Hemisphere. Among the primary agricultural sectors, U.S. grains and non-grain crops have higher levels of emissions than crop production in the other countries. This reflects the larger size of U.S. crop production. In the U.S. and Canada, the grain sector is estimated to cause more pollution than the non-grain sector, although the emission levels are more equal, or even reversed (for Argentina), across the two sectors in the south.

On average, chemical manufacturing and the resource based industries generate the highest pollution emissions among industrial sectors (table 2, part A). Thus, about 80 percent of all industrial pollution emissions in our model is generated by these two groups of industries. Due to output composition differences between the northern (i.e., U.S. and Canada) and the southern countries, the resource based industries are contributing a larger share of total industrial pollution in the north. Differences in the contribution to the share of pollution occurs in other sectors as well: final manufacturing is contributing a larger share of pollution in the north, but clothing is contributing a larger share in the south. Among the food processing industries, meat production and other food production generate, on average, the highest pollution emissions. Table 2, part A shows that other food production contributes more pollution than all the other food processing sectors combined. In the north, food processing accounts for about 1.7 percent of all pollution and in the south, food processing accounts for about 2 to 3.5 percent of all pollution.[2]

Abatement Data

Manufacturing Abatement: Pollution abatement expenditures for manufacturing sectors are drawn from the Census Bureau's 1992 survey of pollution abatement costs and expenditures for U.S. manufacturers (U.S. Bureau of the Census, 1994). Operating costs by industries, at the SIC level, for all media were summed to calculate operating costs in U.S. million dollars for each sector in TREWH. In order to calculate sectoral abatement coefficients for the U.S., abatement expenditures were divided by the value of output. For the developed regions in the model (i.e., U.S., Canada, and Other Developed Economies), these abatement coefficients were multiplied by sectoral value of output and the ratio of regional per capita GDP to U.S. per capita GDP (i.e., a proxy for the valuation of environment quality across countries) to derive total abatement expenditures by sector and region. Wealthier countries value their environment to a greater extent, and have a greater weight on environmental goods. Our assumption that abatement costs across developed countries are distributed across sectors in a pattern similar to that of the U.S. is a fairly straightforward assumption if one believes that similar technological and economic conditions lead to similar abatement standards (Harrison and Eskeland, 1994).

For the developing regions, we assumed that abatement expenditures were very small in the benchmark data, reflecting either low standards or lax enforcement. The development of institutions that regulate and enforce environmental laws in the southern countries is relatively recent. For example, Mexico is establishing new norms, especially with respect to emissions of dangerous waste materials, to be brought in fine with other OECD countries (International Environmental Reporter, 1995). Other south American countries are only beginning to make progress on an environmental agenda. Chile established a ministerial agency for environmental standards in 1990, the Commission Nacional del Medio Ambiente - CONAMA (National Commission on the Environment). The 1994 Basic Law on the Environment gave CONAMA formal status to work with other agencies to establish and coordinate national environmental standards. Argentina does not have a comprehensive strategy for a national environmental plan; environmental policy decisions are scattered among a multitude of municipal, provincial, and federal agencies, most of which have little authority to mandate solutions and often overlap in their authorities. For many agencies, their greatest source of action is simply to denounce environmental transgressions (Erickson). In Brazil, the

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[2] Only the direct pollution level is measured in these calculations. Hanson calculates the total emissions of a commodity, direct and indirect pollution levels (based on input requirements for each sector), and finds that food industries such as meat and poultry processing, butter, milk, cheese, dry milk, and milk processing have some of the highest emissions content of final demanded commodities.

ministries of the Environment and Agriculture are preparing guidelines for environmental regulations for the nation's farmers. The regulations will mainly focus on the prevention of soil erosion (International Environmental Reporter, 1995).

Agricultural Land Conservation: For the reduction of agricultural pollution, a program of land conservation is modeled. The U.S.'s Conservation Reserve Program is modeled as the representative land conservation program and serves as the data source for conservation acres, and average pre-program yields and erosion rates on the set-aside acres for the grains and non-grain crops sectors (Osborn, 1995). U.S. conservation payments by sector are scaled by sector values of output, intensity of chemical use and regional per capita GDP in other regions, relative to U.S. sector values of output, intensity of chemical use and GDP. The developing country regions are assumed to have relatively small land conservation programs; these regions only conserve a small portion of their land in the base period. The livestock sector is assumed to not have a pollution reduction program.

Table 2, part B shows regional and sectoral abatement expenditures for the food and manufacturing sectors and land conservation payments in the Western Hemisphere in the TREWH model. As with pollution emissions, the chemical manufacturing and resource based industries account for most of abatement expenditures in the U.S. and Canada. However, the food processing industries are estimated to account for a larger share of abatement expenditures than pollution, e.g., in the U.S. food processing contributes about 1.7 percent of total pollution, but its abatement expenditures account for about 7.7 percent of the total. Pollution reduction expenditures for agriculture are higher than those for the food processing sectors, although still significantly smaller than those for most of the non-food sectors.

TREWH Model Specification

Manufacturing and agricultural sectors emit pollutants when they produce commodities. In TREWH, the amount of pollution generated by each sector is proportional to its commodity production and these proportions do not change due to policy changes. In essence, we specify a Leontief relationship between commodity production and pollution emissions:

$$1.\ POL^r_i = a^r_i Q^r_i$$

$$2.\ POL^r_j = a^r_j Q^r_j$$

where POL = emissions,
Q = output for each sector in each region,
a = pollution coefficient for each sector in each region,
and i represents manufacturing sectors,
j represents agricultural sectors, and
r represents regions.

We capture existing environmental regulations (abatement activities) for manufacturing with a set of pollution *taxes and subsidies*. We assume that each manufacturing sector faces an ad valorem environmental tax rate t, which is equal to the cost share of abatement activities relative to output. The total value of tax revenue across all manufacturing sectors equals regional sectoral abatement expenditures:

$$3.\ AB^r = \Sigma^n_i t^r_i P^r_i Q^r_i / P^r_I$$

where AB = abatement activities,
t = ad valorem tax rate,
P = price for each sector in each region, and
P_I = price of abatement activities.

A *fictional pollution cleaning sector* receives the tax revenues collected from the manufacturing pastors in the form of a subsidy.[3] (We assume the cleaning sector demands intermediate inputs in fixed proportions according to the input relationships in the abating sectors.) Although the environment tax rates (t in equation 3) are exogenous, the environmental tax revenues are endogenous, since sectoral production values are determined within the model. Abatement activities from the cleaning sector lower net pollution, thus increasing environmental quality.

For the agricultural sectors, pollution is reduced by taxes on the land input. Tax revenues are used into remove land from production into conservation set-asides. A fictional *land conservation sector* is developed to hold the conservation acres. The land input is therefore divided into two components: conservation acres and planted acres. A Constant Elasticity of Transformation (CET) function is used to model land use:

$$4.\ LAND^r = CET(CNSV^r, PLNT^r_{GRN}, PLNT^r_{NGR}, PLNT^r_{LIV})$$

where LAND = Total acres of land,
CNSV = Acres in conservation, and
$PLNT_j$ = Acres of land used in production of commodity j.

Each land component has distinct yield and pollution rates. Planted acres are the only land that generate pollution. The conservation sector is roughly analogous to the cleaning sector, since it reduces pollution. However, unlike the cleaning sector, it uses only a primary input rather than intermediate inputs and it prevents pollution rather than cleaning up already existing pollution. A more stringent policy with respect to agricultural pollution will cause an increase in the land area in conservation (CNSV in eq. 4), and a decline in land used for agricultural production ($PLNT_j$ in eq. 4). As a result, agricultural production will decline (Q in eq. 2) and thus agricultural pollution will be reduced.

Finally, through our specification of pollution and abatement activities, we deduce environmental quality by estimating an initial environmental endowment.[4] Environmental quality can deteriorate depending on the level and composition of output and it can improve depending on resources allocated to abatement and land conservation. By assuming that one unit of pollution degrades the environment by one unit and that one unit of abatement offsets one unit of pollution, we can establish the following relationship:

$$5.\ EQ^r = END^r - NP^r$$

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[3] Services of the pollution cleaning sector are not traded across regions.

[4] To establish a benchmark environmental endowment, we assume a 25 percent degradation rate for all countries, and a 65 percent cleaning rate for developed countries. For developing countries we assume a cleaning rate of 0.65 percent. The developed country degradation rate is based on Perroni and Wigle.

where EQ = environmental quality
END = endowment of environment
NP = net pollution

Net pollution is based on pollution and abatement activities in the manufacturing and agricultural sectors:

$$6.\ NP^r = \delta\,(\Sigma^n_i\, POL^r_i - AB^r) + (1 - \delta)\,\Sigma^m_j\, POL^r_j$$

where δ = weighing factor.

Our goal is to estimate the impact of policy changes on pollution by sector for each region, and abatement, net pollution, and environmental quality by region. Note that the contributions to net pollution by manufacturing and agricultural activities are weighted by a factor, δ. We estimate a weight of approximately 80 and 20 percent, respectively. We estimate 20 percent as an upper bound for agriculture's contribution to pollution. We assume that agriculture contributes 66 percent of water pollution (as a primary source, agriculture accounts for 64 percent of river pollution and 57 percent of lake pollution, USDA, 1991), and contributes only a small portion of air pollution (10 percent). Studies that estimated benefits from pollution control in the U.S. and pollution cost data in Germany have found that water pollution accounts for 13-18 percent of total pollution costs and benefits, while air pollution accounts for the remaining 82-87 percent (Pearce and Warfords 1993). Agriculture's 20 percent share is derived from summing the sector's estimated contributions to air and water pollution: (82% * 0.1) + (18% * 0.66) = 20%

The specification of pollution and the cleaning and conservation sectors are critical in determining a country's environmental policy. A more stringent policy with respect to agricultural pollution is modeled as an increase in the area of land which is set-aside for conservation. Manufacturing pollution and abatement are closely linked: if production increases, the level of pollution and environmental tax revenues will increase; greater tax revenues mean that the cleaning sector will be subsidized to a greater extent, so that pollution cleaning. A tightening of environmental regulations for manufactures, modeled as an increase in the pollution tax rates. Higher tax rates will create more pollution tax revenue, which will be used to increase the subsidy for the pollution cleaning sector. These relationships, however, only hold for the economy as a whole. At a sectoral level, our model does not target increased pollution cleaning and conservation toward a sector that has become relatively more polluting.

Table 2, part C shows benchmark values for regional and sectoral environmental tax rates for the agriculture, food, and manufacturing sectors in the Western Hemisphere in the TREWH model. Output tax rates for the manufacturing industries and land input tax rates for primary agriculture are shown. Tax rates for chemical manufacturing are substantially larger than pollution tax rates for other industrial sectors. Tax rates for the resource based industries are second in magnitude. Within food processing, beverages and tobacco have slightly higher tax rates than other sectors. The tax rate for final manufacturing appears to be smaller than the average tax rate for food processing. Nevertheless, all industrial pollution tax rates

are very small.[5] Land taxes for the two primary agricultural sectors are substantial in the U.S. and Canada, and in all regions, tax rates for the grain sector are greater than tax rates for the non-grain crop sector.

Consumer Utility and Environmental Quality

In order to determine a country's valuation of a clean environment, we specify a *super-household* which derives *utility*, from private and government consumption, savings, and environmental quality (Hertel and Tsigas, and Perroni and Wigle, p. 9).[6] In particular, we assume that utility from the environment and utility from market goods are normal goods; and that total welfare is an increasing function of its components. We model the super-household's utility with a Constant Elasticity of Substitution (CES) function:

$$7.\ U^{r} = F(U^{r}, EQ^{r})$$

where U^{r} = overall utility of the super-household,
U = utility from private and government consumption and savings, and
EQ = utility from environmental quality.

Overall utility, U^{r}, will increase, if benefits associated with a higher level of utility from market goods, U, exceed any losses associated with a deterioration of environment quality, EQ (i.e., pollution less abatement).

Two parameters are needed for specifying the CES utility function: a distribution parameter and an elasticity of substitution. The distribution parameter is based on how each region values its market and non-market (environmental quality) goods. Following Perroni and Wigle, we use consumption shares (ratios of market and non-market expenditures over total expenditure) to determine the distribution parameter. For the second parameter, we assume that consumers in each country do not find the two types of goods to be very substitutable.

Policy Integration Scenarios

In our policy integration scenarios the three NAFTA countries (Canada, U.S., and Mexico) form an extended free trade agreement with the MERCOSUR countries of Argentina and Brazil.[7] Although this supposition abstracts from the current discussions with Chile as potentially the next country to accede to NAFTA, it does reflect the inclusion of the five largest countries in the Western Hemisphere, which have an aggregate GDP of nearly $7 trillion, and a population of approximately 550 million.

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[5] The tax rates only account for operating costs. In the U.S> in 1992, in addition to pollution abatement operating costs of $19 Billion, firms spent $8 billion on pollution abatement capital expenditures (U.S. Bureau of the Census, 1994). Developing country regions, which may lack pollution control infrastructure, would need to install capital before they could introduce abatement.

[6] Although consumers often gain satisfaction from decreases in foreign or global pollution, in the TREWH model, we only allow domestic pollution levels and environmental quality to enter a region's utility function.

[7] The MERCOSUR (Southern Cone Common Market) trade agreement was established in 1991 and, upon completion, it will completely integrate the economies of Argentina, Brazil, Paraguay, and Uruguay.

As noted in our introduction, we designed our policy integration scenarios to:

(I) eliminate import tariffs and other barriers for trade between the five Western Hemisphere countries (i.e., the U.S., Canada, Mexico, Argentina, and Brazil), and

(II) eliminate import barriers as in (I) coupled with *harmonization* of environmental policies.

Since there are different interpretations of what harmonization means, we pursue two harmonization schemes:

(II.A) *absolute* harmonization: each southern partner (i.e., Argentina, Brazil, and Mexico) imposes environmental regulations that duplicate U.S. environmental regulation, adjusted for domestic production levels, and

(II.B) *relative* harmonization: each southern partner imposes environmental regulation similar to U.S. standards but adjusted for its own valuation of file environment and domestic production levels.

Although we know that citizens in developing countries value environmental quality, in our benchmark data, we assume that these countries have low levels of environmental protection, either due to market or government failures (see table 2, parts B and C). The inclusion of environmental policy harmonization in integration scenarios captures the role of newly-formed international institutions that provide pressures to compensate for market and government failures. In fact, sometimes even simply the negotiation of integration agreements fosters environmental protection: both Mexico and Chile began to strengthen their environmental legislation and enforcement when NAFTA and NAFTA expansion have been discussed. Table 2, part D shows the pollution tax rates which we will impose in Mexico, Argentina, and Brazil for simulation (II.B) where environmental policies for manufacturing are harmonized in a relative sense.

The critical factors in determining the impact of regional trade integration are the magnitude of import barriers and the initial trade shares.[8] In the GTAP database, import barriers reflect the level of tariffs and nontariff barriers in effect during the Uruguay Round negotiations. Comparing bilateral trade barriers, the U.S. and its partners tend to have relatively greater import protection rates in the food sector relative to other sectors (Table 3). U.S. food industry rates vary from an ad valorem equivalent high of 100 percent in milk products; to 18 percent in meat products; 4 to 15 percent in beverages and tobacco; and 7 percent in other food products. The rates differ across trading partners due to compositional differences in bilateral trade. Canadian import protection placed on U.S. meat and milk products is also large, 136 and 22 percent, respectively. Among the other Western Hemisphere trading partners, Brazil has the highest level of tariff equivalent rates on U.S. food products, ranging from 25 to 85 percent, followed by Argentina and Mexico, with import tariff/nontariff rates ranging from 3 to 18 percent. The U.S.'s Western Hemisphere trading partners also tend to have relatively high rates of protection on primary agricultural sectors. Given these

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[8] Assumptions on model closure are also important factors in influencing the numerical results. First, we have assumed that land, labor, and capital are fully employed, although relative price changes create reallocation of resources across sectors. Labor and capital are fully mobile domestically, but they are not allowed to migrate to foreign regions. Land is used for agricultural production and conservation purposes. Second, we have assumed that foreign savings are a limiting factor in changing the balance of trade. Our third closure assumption relates to government revenue and expenditures; we assume that a decline in tariff revenues causes savings and private and government consumption to decline by the same proportion; that pollution tax revenue collected from manufacturing is fully allocated to the cleaning sector, and that enough taxes are levied on farmland, to maintain a constant area of land for conservation.

relatively high rates of protection, we would anticipate liberalization to have significant effects on the region's trade flows.

Trade Policy Integration

Our integration scenario (I), in which we completely remove regional import barriers, indicates regional trading patterns are indeed promoted with liberalization. The U.S. increases its exports of crops and livestock, although imports of livestock outweigh exports. Of the food sectors (excluding primary agriculture), the U.S. mainly increases its bilateral exports to Western Hemisphere countries in meat, milk, and other food products, totalling nearly $2 billion (Table, 4 Parts A and B.). Exports are mainly fresh or frozen bovine, chicken, turkey, and pig meats; nonfat dry milk, butter, and cheese (mostly to Mexico); and fruits, vegetables, and oilseed products. U.S. imports increase across all our food product categories, particularly beverages (malt beverages), tobacco, and other food products, for a total of approximately $2.3 billion (Table, 4 Parts C and D). Thus, the balance of U.S. food trade declines by US$ 425 million. The balance of U.S. manufacturing trade improves, but the overall U.S. trade balance declines by US$ 193 million. U.S. exports to the Western Hemisphere region increase $43.3 billion relative to an increase in imports of $33.8 billion.

Trade Policy Integration and Harmonization of Environmental Policies

Next we impose environmental policy harmonization in addition to trade integration. The trade flow results under the harmonization scenarios are similar to the trade policy integration scenario. Production changes are also similar to those under the earlier scenario. Harmonization policies thus appear to have little additional effect on production and trade flows. The question then arises why there are such small trade effects when the Western Hemisphere trading partners adopt stricter environmental regulation. The answer lies in the costs of environmental regulation in the U.S.: they are very small relative to variable costs of production. For the chemical sector, the environmental abatement operating costs are around 1.25 percent; for all other sectors they are less than 1 percent. Hence, the estimated environmental sectoral tax rates for the United States, Canada, Mexico, Argentina, and Brazil are small.

Two caveats to this finding are in order. First, we have limited our analysis to pollution abatement operating expenditures as reported to the EPA by manufacturing firms. These data may not reflect all industry costs associated with reducing pollution. Second, as stated earlier, we have specified our model with aggregated sectoral classifications; hence, average pollution abatement expenditures are used for each aggregated sector. A more specific examination of an industry or firm may reveal larger costs of environmental regulation than the average for an aggregated sector.

Welfare Changes

Next we turn to changes in welfare in each region. In scenario I, trade liberalization affects relative prices across sectors and countries and, as a result, influences the composition of agricultural and manufacturing output in each country. Since pollution depends on the sectoral output mix, it is not clear what the effect of regional trade liberalization will be on pollution. In the agricultural sector, the U.S. incurs more pollution as production of grains wad non-grains expands (first column in Table 5). Other Western Hemisphere partners experience a decline in agricultural pollution because of resource allocation away from crops to other sectors, ie., livestock and manufacturing industries. U.S., Mexico, and Brazil endure small increases in pollution from manufacturing while Argentina, Canada, other Latin America, other

Developed Economies, and Rest-of-World regions enjoy a small decrease in pollution (second column in table 5). Argentina and Canada alter their product mix to less polluting sectors accounting for less pollution from manufacturing. Finally, the U.S. and Canada increase their transfers to the pollution cleaning sector because more environmental tax revenues are collected (third column in table 5).

The regional changes in welfare are reported in Table 5 in both percent chances from the base period and in dollar terms (columns 6 and 7, respectively). With regional integration (scenario I), each participating country augments welfare in the range of 0.085 to 0.476 percent or US $ 9.244 billion for the region as a whole. These gains only reflect the static efficiency gains from integration and not any dynamic gains from new investments in human and physical capital, technological innovation, and economies of scale.[9] Note that environmental utility declines for Mexico and Brazil since pollution is increasing, a result of a liberalized output mix and no change in environmental policies. Argentina, on the other hand, alters its product mix so that there is less pollution and environmental welfare increases slightly. This is in spite of no change in environmental policy. For the United States, there is essentially no change in environmental welfare because there is a neutral effect on environmental quality; the increase in pollution generated by changes in the output mix is almost offset by the increased efforts in pollution cleaning. This finding is sensitive to our parameter specification suggesting that further analysis is required to draw any firm conclusions.

In the harmonization scenarios, Mexico, Argentina, and Brazil experience very large increases in abatement activities, as they adopt environmental regulations promoting abatement and land conservation. In the trade integration and relative harmonization scenario (Scenario II.B in Table 5) environmental and overall welfare increases for each Western Hemisphere country (except the U.S. where there is a small decrease in environmental quality). Trade liberalization contributes more of the benefits than the imposition of environmental regulations, although this result is also sensitive to our model specification. When the Latin American partners implement environmental regulations consistent with U.S. valuation of environmental quality (scenario II.A in Table 5), then overall welfare gains are diminished relative to scenarios I and II.B. U.S. type environmental regulations lead to substantial gains in welfare from a cleaner environment, but they appear to be too costly for Mexico, Brazil, and Argentina.

Summary and Conclusions

In this paper we have used a multi-country, computable general equilibrium framework to obtain a preliminary assessment of economic integration in the Western Hemisphere. We find that economic integration appears to be beneficial for the U.S economy and for all participating countries. We also find that environmental quality declines for Mexico and Brazil, given no change in environmental policies.

We then examine the implications of coupling economic integration with more stringent environmental controls in the southern Western Hemisphere countries. We find that environmental regulations appear to increase the gains from economic policy integration for these countries suggesting that they have not internalized their domestic environmental externalities. A regional integration pact may help facilitate the internalization process. We also found that too stringent environmental regulations (i.e., like those in the U.S.) are likely to be resisted because they diminish the gains from economic integration. Thus, Western

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[9] Brown, Deardorff, Hummels, and Stern consider these additional factors which can contribute to welfare gains in Western Hemisphere integration.

Hemisphere integration and environmental policy harmonization generates welfare gains to participants as long as the environmental policy changes in the southern countries reflect their valuation of environmental quality.

Table 1: Regional ant Sectoral Classification in TREWH

Region	Sector
Canada (CAN)	Grains (GRN)
United States of America (IJSA)	Non-grain Crops (NGR)
Mexico (MEX)	Wool and Odder Livestock (LIV)
Argentina (ARG)	Resource Based Industries (RBI)
Brazil (BRZ)	Meat Products (MEA)
Other Latin America (OLA)	Milk Products (MIL)
Other Developed Economics (ODV)	Beverages and Tobacco (BVT)
Rest-of-the-World (ROW)	Other Food Products (OFP)
	Clothing and Textiles (CLO)
	Chemicals and Metals (CHM)
	Final Manufacturing (FMN)
	Services (SRV)
	Pollution Cleaning
	Land Conservation

Table 2: Sectoral Pollution Emissions and Abatement Expenditures in the Western Hemisphere

A. Pollution Emissions (in thousand tons for primary agriculture; pounds for manufactures)

	CAN	USA	MEX	ARG	BRZ
Grains	138184.	1106790.	192394.	96442.	274598.
Non-grain Crops	89542.	675410.	196761.	201007.	274365.
Resource Based Ind	1517370.	11554900.	499190.	588704.	927089.
Meat Products	7329.	45499.	9889.	6264.	8630.
Milk Products	18575.	107674.	4611.	12217.	14210.
Beverages/Tobacco	5234.	46152.	4923.	7889.	5274.
Other Food Products	35863.	333233.	44288.	38222.	48281.
Clothing	181725.	1371640.	161470.	246289.	336754.
Chemicals	1240670.	10673300.	818583.	995859.	1678970.
Final Manuf.	419403.	3902930.	134574.	125112.	289145.
Total Industrial	3426170.	28035300.	1677530.	2020550.	3308350.

B. Abatement Expenditures (in US $ million)

	CAN	USA	MEX	ARG	BRZ
Grains	114.256	1087.530	0.214	0.163	0.232
Non-grain Crops	80.498	721.577	0.225	0.350	0.238
Resource Based Ind	518.156	4689.100	0.315	0.566	0.445
Meat Products	30.119	222.199	0.075	0.072	0.049
Milk Products	21.223	146.199	0.009	0.039	0.022
Beverages/Tobacco	25.317	265.299	0.044	0.107	0.035
Other Food Products	64.461	711.799	0.147	0.193	0.122
Clothing	34.527	309.700	0.056	0.131	0.089
Chemicals	787.449	8050.500	0.961	1.780	1.498
Final Manuf.	277.747	3071.600	0.164	0.233	0.269
Total	1953.753	19275.503	2.210	3.634	2.999

C. Benchmark Environmental Tax Rates (on land use for primary agriculture; on output for industry)

	CAN	USA	MEX	ARG	BRZ
Grains	11.7682%	25.6836%	0.0085%	0.0137%	0.0077%
Non-grain Crops	7.1850	9.1319	0.0049	0.0078	0.0056
Resource Based Ind	0.3927	0.4667	0.0007	0.0011	0.0006
Meat Products	0.2342	0.2784	0.0004	0.0007	0.0003
Milk Products	0.2571	0.3055	0.0005	0.0007	0.0004
Beverages/Tobacco	0.2806	0.3334	0.0005	0.0008	0.0004
Other Food Products	0.2696	0.3204	0.0005	0.0008	0.0004
Clothing	0.1685	0.2003	0.0003	0.0005	0.0002
Chemicals	1.0352	1.2302	0.0019	0.0029	0.0015
Final Manuf.	0.2649	0.3148	0.0005	0.0007	0.0004

D. Harmonized Environmental Tax Rates (on output for manufactures)

	CAN	USA	MEX	ARG	BRZ
Resource Based Ind	0.3927%	0.4667%	0.0727%	0.1106%	0.0552%
Meat Products	0.2342	0.2784	0.0434	0.0660	0.0329
Milk Products	0.2571	0.3055	0.0476	0.0724	0.0361
Beverages/Tobacco	0.2806	0.3334	0.0519	0.0790	0.0394
Other Food Products	0.2696	0.3204	0.0499	0.0759	0.0379
Clothing	0.1685	0.2003	0.0312	0.0475	0.0237
Chemicals	1.0352	1.2302	0.1916	0.2916	0.1456
Final Manuf.	0.2649	0.3148	0.0490	0.0746	0.0372

Table 3: U.S. - Trading Partners Bilateral Import Barriers

	U.S. Protection				Partner Protection			
	CAN	MEX	ARG	BRZ	CAN	MEX	ARG	BRZ
Grains	7%	4%	4%	4%	13%	31%	17%	11%
Non-Grain Crops	8	19	7	7	36	1	14	51
Livestock	18	18	15	18	21	2	18	1
Resource Based Ind	1	1	3	2	5	9	21	2
Meat Products	18	18	18	18	22	5	12	30
Milk Products	100	100	100	100	136	10	10	35
Beverages/Tobacco	15	4	6	11	7	18	10	85
Other Food Products	7	7	7	7	7	3	16	25
Clothing	11	15	12	11	21	17	38	60
Chemicals	6	8	6	16	10	6	21	11
Final Manuf.	3	4	5	4	8	12	26	29
Services	0	0	0	0	0	1	0	0

Table 4: U.S. Bilateral and Global Trading Patterns

A. Base Level - Value of U.S. Exports

	CAN	MEX	ARG	BRZ	Western Hemisphere	All Regions
			US $ million			
Grains	102	654	5	155	917	10861
Non-Grain Crops	1281	776	31	66	2155	11070
Livestock	216	363	5	25	609	2531
Resour.Based Ind.	7251	3607	127	728	11713	42011
Meat Products	532	631	2	3	1167	4434
Milk products	24	143	2	4	173	411
Beverages/Tabacco	131	98	40	5	275	6750
Other Food Product	1882	980	35	115	3012	11125
Clothing	1919	1560	148	87	3714	13036
Chemicals	14519	6905	662	1330	23416	73200
Final Manuf.	46781	20605	1958	3658	73001	248215
Services	6391	6038	938	1650	15017	135060
ALL COMMODITIES	**81029**	**42359**	**3953**	**7828**	**135169**	**558704**

B. Scenario I - Change in Value of U.S. Exports

	CAN	MEX	ARG	BRZ	Western Hemisphere	All Regions
			Percent Change			
Grains	37	73	60	43	64	4
Non-Grain Crops	82	8	51	365	64	10
Livestock	37	14	109	-1	22	3
Resour.Based Ind.	17	27	103	6	21	4
Meat Products	70	18	48	176	42	10
Milk products	1480	43	52	203	245	101
Beverages/Tabacco	44	109	49	1910	105	1
Other Food Product	19	9	68	-4	15	1
Clothing	144	100	368	594	145	38
Chemicals	25	20	82	32	25	6
Final Manuf.	26	30	104	137	35	7
Services	2	7	4	-1	4	-2
ALL COMMODITIES	**27**	**27**	**85**	**82**	**32**	**5**

Table 4: U.S. Bilateral and Global Trading Patterns (continued)

C. Base Level - Value of U.S. Imports

	CAN	MEX	ARG	BRZ	Western Hemisphere	All Regions
			US $ million			
Grains	349	5	11	0	364	494
Non-Grain Crops	385	1407	52	569	2413	8518
Livestock	1177	381	10	9	1577	2140
Resour.Based Ind.	28326	6762	301	1043	36432	96499
Meat Products	679	20	201	58	957	3143
Milk products	17	0	10	0	27	515
Beverages/Tabacco	914	288	55	257	1513	5811
Other Food Product	1589	514	235	672	3010	8912
Clothing	1308	1888	201	1639	5037	56723
Chemicals	15796	3402	269	1597	21064	79390
Final Manuf.	46973	19857	130	1999	68959	286559
Services	12723	6106	158	422	19409	70079
ALL COMMODITIES	**110235**	**40630**	**1632**	**8266**	**160762**	**618783**

D. Scenario I - Change in Value of U.S. Imports

	CAN	MEX	ARG	BRZ	Western Hemisphere	All Regions
			Percent Change			
Grains	19	-1	0	7	18	11
Non-Grain Crops	28	74	13	23	53	10
Livestock	63	54	35	67	61	38
Resour.Based Ind.	1	-2	5	11	1	2
Meat Products	72	64	62	76	70	12
Milk products	1369	1296	1287	1404	1338	46
Beverages/Tabacco	100	5	15	75	75	13
Other Food Product	29	26	19	30	28	7
Clothing	107	134	93	113	118	7
Chemicals	21	35	19	94	29	6
Final Manuf.	22	25	48	42	24	5
Services	-2	-5	-6	1	-3	2
ALL COMMODITIES	**17**	**24**	**38**	**59**	**21**	**5**

Table 5: Simulation Results for Pollution Emissions, Abatement, and Welfare

Scenario I
Trade Policy Integration

	Agricultural Pollution	Manufacturing Pollution	Manufacturing Abatement	Percent Change in Welfare Environment	Percent Change in Welfare Other	Percent Change in Welfare Total	Change in Welfare*
Canada	-3.459%	-0.020%	1.789%	1.132%	0.226%	0.266%	$1403.
USA	0.265	0.169	0.263	-0.016	0.091	0.085	4485.
Mexico	-0.549	0.528	2.350	-0.101	0.362	0.340	998.
Argentina	-0.584	-0.233	1.191	0.104	0.390	0.369	734.
Brazil	-1.205	0.799	1.342	-0.132	0.508	0.476	1624.
OLA	-0.222	-0.124	-0.286	0.048	-0.312	-0.306	-677.
ODV	0.187	-0.079	-0.117	-0.010	-0.052	-0.049	-5111.
ROW	0.044	-0.101	-0.099	0.024	-0.091	-0.086	-2580.
World							877.

Scenario II.A
Trade Policy Integration and Absolute Harmonization of Environmental Policy

	Agricultural Pollution	Manufacturing Pollution	Manufacturing Abatement	Percent Change in Welfare Environment	Percent Change in Welfare Other	Percent Change in Welfare Total	Change in Welfare*
Canada	-2.836	-0.030	1.792	1.099	0.228	0.267	$1407.
USA	0.854	0.170	0.268	-0.054	0.087	0.079	4179.
Mexico	-26.189	0.349	65552.	116.019	-0.389	-0.265	-777.
Argentina	-26.089	-0.066	42611.	76.099	-0.717	-0.517	-1028.
Brazil	-29.051	1.065	85747.	151.251	-0.736	-0.612	-2087
OLA	0.318	-0.249	-0.372	0.045	-0.261	-0.255	-566.
ODV	0.544	-0.079	-0.117	-0.034	-0.063	-0.061	-6336.
ROW	0.207	-0.137	-0.126	0.023	-0.095	-0.090	-2696.
World							-7904.

Scenario II.B
Trade Policy Integration and Relative Harmonization of Environmental Policy

	Agricultural Pollution	Manufacturing Pollution	Manufacturing Abatement	Percent Change in Welfare Environment	Percent Change in Welfare Other	Percent Change in Welfare Total	Change in Welfare*
Canada	-3.409	-0.019	1.792	1.129	0.226	0.266	$1403.
USA	0.313	0.171	0.266	-0.019	0.091	0.085	4476.
Mexico	-20.825	0.497	10132.	18.932	0.266	0.391	1148.
Argentina	-20.844	-0.198	10023.	18.930	0.192	0.394	783.
Brazil	-21.705	0.827	10034.	18.731	0.386	0.511	1743.
OLA	-0.179	-0.128	-0.286	0.046	-0.308	-0.302	-669.
ODV	0.217	-0.078	-0.116	-0.012	-0.053	-0.050	-5223.
ROW	0.057	-0.103	-0.100	0.024	-0.091	-0.086	-2580.
World							1081.

* Change in total welfare in dollar values is measured US $ million.

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SESSION 6A. STRUCTURAL MODELS OF WESTERN HEMISPHERE TRADE

The Impacts of MERCOSUR on Brazil

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Introduction

In March 1991, Argentina, Brazil, Paraguay and Uruguay signed the Treaty of Asuncion aiming to create a common market (MERCOSUR) by January 1, 1995. The common market comprises a region where in 1993, population was almost 200 million people, GDP was about US$ 650 billion and per capita income was US$ 3,400. Exports and imports were, respectively, US$ 52.5 billion and US$ 43.5 billion Improved diplomatic relations between Argentina and Brazil in the 1980s, albeit the domestic probings faced by both economies during that decade, were an important first step for the creation of MERCOSUR. Being the largest partners of the block, the path towards integration started with them and successful completion of the process depends fundamentally on the commitment demonstrated by the two countries with the completion of the negotiations and how they will follow the rules and disciplines imposed by the agreement. The strength with which these will be pursued will depend heavily on how the domestic economics evolve, in relation to macroeconomic stability, and on the actual impacts of the agreement. Gainers from integration will support a faster pace while losers will struggle for a slow down.

There have been few serious attempts to measure the impacts of the common market on these two economies. The task is difficult because of the net of intersectoral effects that involve both factor and product markets and of the large size of two tariff changes that will have taken place at the end of the adjustment period. Nevertheless, this task is overdue. In this paper we make an attempt to estimate some of these impacts using a computable general equilibrium model (CGE) called General Trade Analysis Package (GTAP)[1].

The paper is organized as follows. In the next section a brief accounting of the negotiations that led to MERCOSUR is presented, together with some basic quantitative data and with a discussion of the future prospects for the integration. In section 3 an stylized description of the Brazilian and Argentine economics is presented. Section 4 contains a summary of GTAP for the reader unfamiliar with the model. Section 5 discusses the main results and section 6 concludes the paper.

MERCOSUR

Table 1 shows some macroeconomic indicators for MERCOSUR as a whole. Exports have increased 18 percent between 1991 and 1993 and imports have increased 42 percent over the same period. The remarkable growth of them is a consequence of structural reforms made by the economies of the region, particularly Argentina and Brazil, and of the renewal of growth process.[2] But it has also been facilitated

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[1] GTAP has been developed by Herter (1993) and associates at Purdue University.

[2] During the period 1990/1993 the growth rate for the MERCOSUR countries was 11 percent.

by large amounts of foreign capital inflows that occurred over the period, which allowed international reserves to increase almost three times.

Table 1: MERCOSUR - Main macroeconomic indicators

Itemization	1990	1991	1992	1993
Gross Domestic Product (GDP)				
Current Value (US$ Millions)	586,974	600,574	605,844	652,229
Population (millions of persons)	189	192	195	196
Per Capita Income (US$)	2,943	3,105	3,201	3,435
Trade Balance (US$ Millions)	19,547	14,510	12,692	9,468
Exports (US$ Millions) FOB	46,837	46,319	50,734	54,704
Imports (US$ Millions) FOB	(27,290)	(31,809)	(35,042)	(45,236)
Current Account Balance (US$ Millions)	762	(2,503)	(1,602)	(9,196)
International Reserves (US$ Millions) (*)	13,797	16,380	34,434	46,518
Exports/GDP (%)	8.43	7.78	8.13	8.05
Imports/GDP (%)	4.91	5.34	6.10	6.66
(Imports+Exports) / GDP (%)	13.35	13.12	14.23	14.71
Debt service/International reserves (%)	118.15	94.20	46.31	45.08

Source: Banco Central do Brazil - MERCOSUR - Informacoes selecionadas.

Despite the significant efforts of Argentina and Brazil to open their economies, this regional block is still comprised of fairly closed economies. In 1993 the share of trade in GDP (that is, imports plus exports) is still around 14 percent.

The Path Towards MERCOSUR

Regional integration is not a new phenomenon in Latin America.

In 1960, it was created the Latin America Free Trade Association (LAFTA) aiming to create a free trade zone in a period of 12 years[3]. The main driving force of LAFTA was the idea that the integration process could foster the import substitution model of industrialization by obtaining greater economies of scale due to the enlargement of the market size (Valls Pereira 1993).

Many factors have contributed to the failure of LAFTA. The dismantling of tariffs through the application of the principle of most favored nation between countries with very deep differences in their productive structures and levels of development led to systematic demands for waivers and special treatment by many governments. Very strict stated periods, often not observed, to accomplish the targets negotiated did not also help to build confidence on the process of integration. Most important of all, the idea of integration through liberalization was contradictory to the logic behind the import substitution model. Governments were accustomed to think about protection as a means to stimulate growth and, therefore, very reluctant to offer extensive list of goods to be subject to a free-trade status.

[3] The country - member of LAFTA were Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela.

Anyhow the weight of the regional exports in total exports of LAFTA increased from 7.7% in 1960 to 13.7% in 1981. Part of this result can be explained by favorable conditions of growth in many Latin American countries coupled with the implementation of diverse incentives to manufactured exports, besides some preferential tariff agreements due to LAFTA.

In 1980, LAFTA was extinguished and in its place the Treaty of Montevideo created the Latin America Integration Association (LAIA). The principles that guided LAIA were very different from those of LAFTA. The concept that the ultimate goal was the creation of a Latin America free trade zone was preserved. Notwithstanding, no rigid periods with targets to be fulfilled and neither automatic instruments to advance the process of integration were contemplated. The aim was to stimulate tariff preferential agreements between the member-countries who wanted to do so.

In this same period, Argentina and Brazil began to improve their diplomatic relationships characterized by disputes around border questions. This was reflected on the signature of an agreement about the use of hydric resources, which was the main contention between these countries during the seventies.

Better diplomatic relationships were not, however, immediately translated into any improvements towards economic integration. The debt crisis of 1982 was answered in many countries by the introduction of different protective measures and high currency devaluations, as in the case of Brazil. This was not a propitious scenario to integration.

The middle of the eighties marks the beginning of the return to democracy in both countries, facilitating even more the strengthening of the relationships between Argentina and Brazil. In 1986, this strengthening was sealed with the signature of PICE (Program for Integration and Economic Cooperation). It must be pointed out that this Program was an initiative of the Argentine and Brazilian Executives and was not preceded by any demand of entrepreneur sectors in both countries and neither by a reversal of the decline of intra-regional trade. The percentage of intra-exports within the MERCOSUR declines from 11.6% in 1980 to 5.5% in 1985 and only achieve values compared to 1980 after 1990 (see table 2).

The PICE was an agreement based upon 24 sectoral negotiations that covers trade in areas such as capital goods, wheat, automotive industry and contemplates cooperation in technological policies and energy supply, for example.

The conception of PICE can be interpreted in two ways. On the one hand, reflects the emphasis still presented at that moment with the consolidation of the industrialization process[4]. On the other hand, the sectoral agreements establishing targets of equilibrium on trade was a means to weaken the distrust of entrepreneur sectors in both countries in respect to the process of integration.

After just two years that PICE was signed and with mostly of the agreements still reflecting a "letter of intentions", Argentina and Brazil signed a new treaty aiming to create a common market. The perception that the world was driving towards an organization based upon regional agreements, that Latin American countries were outside the interests of economic integration by developed countries, possible failure of the Uruguay Round and a move towards liberalization by Argentina and Brazil are some of the main factors that could explain this new treaty.

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[4] It was not a casual decision the emphasis given to the capital goods sector on PICE (Lavagna 1991).

Table 2: Intra-Trade in Relationship to Total Exports

In US$ millions

Years	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
LAIA														
Share of Intra-LAIA Exports	13.8	14.3	12.3	8.5	8.9	8.0	11.0	10.7	10.6	11.0	10.9	13.6	18.8	19.2
Growth of exports to LAIA		8.9	-18.2	-28.4	16.6	-12.9	11.3	8.2	14.1	14.3	10.2	22.3	29.0	21.8
Growth of total exports		5.2	-5.3	3.6	11.6	-2.5	-19.4	10.9	15.3	10.8	10.6	-1.6	4.4	6.4
Andean Group														
Share of Intra-Andean Group Exports	4.0	4.9	4.8	3.3	2.9	2.6	3.4	5.1	4.7	4.1	4.2	6.0	8.0	9.7
Growth of exports to Andean Groups		5.9	-7.3	-36.2	-3.5	-5.4	-8.9	65.5	-8.5	5.9	33.0	33.9	26.1	28.8
Growth of total exports		-13.5	-2.5	-10.7	10.8	3.8	-29.5	10.5	-2.0	22.5	30.5	-7.2	-4.7	5.7
MERCOSUR														
Share of Intra-MERCOSUR Exports	11.6	8.9	8.1	5.9	6.3	5.5	8.6	7.4	6.6	8.2	8.9	11.1	14.3	18.5
Growth of exports to MERCOSUR		-11.6	-22.2	-22.0	25.4	-15.1	34.3	-3.6	16.4	30.4	7.6	23.6	41.4	38.9
Growth of total exports		15.0	-14.1	6.5	17.2	-3.2	-13.2	11.7	31.5	3.7	-0.3	-1.1	10.0	7.3

Source: CEPAL

Soon after the treaty of 1988 was signed, the Argentine and Brazilian governments decided that the common market was due to being in 1995. Finally, the Treaty of Asunción creating the MERCOSUR was sealed establishing a common market between Argentina, Brazil, Paraguay and Uruguay.[5]

The Treaty of Asunción: What was Accomplished?

The Treaty of Asunción has to be interpreted as a legal device to establish negotiations in order to achieve a common market between the member countries of MERCOSUR. It does not establish any supranational institution that represents the interests of the community neither specifies how negotiations must be implemented.

[5] Paraguay and Uruguay are very small economies in relation to Argentina and Brazil. Their trade is relatively more dependent upon their big neighbors. In 1991, 35.2% of Paraguay and Uruguay exports, respectively, were directed to MERCOSUR. The same figures for Argentina and Brazil were 4 percent and 16.1 percent respectively.

The Treaty discriminates that the target of a common market will be achieved by negotiations classified in ten fields[6]. Nonetheless, the Treaty has established a calendar determining the move towards zero tariffs between the member countries until January 1995. This move was to be accomplished by an automatic linear reduction of tariffs, although the countries could present list of exceptions that would have also to diminish their scope over the period (1991-1995).

It is not the aim of this article to enumerate the results obtained in all group of negotiations selected to establish a common market. Even though it can be stated that clear advances were only achieved in the establishment of a free trade area and the implementation of a external common tariff. In this sense, since January 1995, Argentina, Brazil, Paraguay and Uruguay can be labeled as an "imperfect custom union".

Why "an imperfect custom union"?

Brazil has promoted a Tariff Reform in 1990 that reduced the average tariff from 32% to 14% in three years. The modal tariff of the Reform was 20% and the rates ranged between 0% and 40%. Most of the manufactured products, including capital goods, were under the 20% import tariffs. Import tariffs of 30% fell upon some chemical products, wheat, some food products and some durable consumers such as TV and video-recorders. Import tariffs of 35% covered automobiles, trucks and motorbikes and 40% fell upon computer and some telecommunication goods.

Argentina began its most recent liberalization process at the end of the eighties. In 1991, the import tariffs were 11% for raw materials and intermediary products, zero percent for any items not manufactured in the country and 22% for finished products (Three levels). At the end of 1991, the maximum tariff was raised to 35% but covering only 15 products, and the average tariff dropped from 18.15% to 11.77%. In October 1992, the statistical tax that fell upon imports went up to 10% as a temporary measure to deal with the sharp increase on the trade deficit[7]. Besides, imports of automobiles and few other products are subject to import license.

The negotiations about the external common tariff of MERCOSUR proved to be difficult in some areas. Brazil opposed relatively less resistance to lower common external tariffs. Although Argentina recognized the threat that relatively lower tariffs on commodities such as wheat, maize, dry milk, and rice would allow imports of subsidized products from European Union and the United States, which would damage their interests in the booming Brazilian markets, the Argentine negotiations minimized this preoccupation. In part this was a matter of strategy: if Argentina had claimed that agricultural commodities would have to have higher common external tariffs, this would justify Brazilian negotiations to push for higher tariffs on industrial and related goods.

The final agreement of common external tariffs was reached in terms of a range from 6 to 12%, tariffs considered relatively low by all standards, considering commodities subject to severe price distortion, due to subsidies in world markets and protective domestic policies either in developed countries and developing

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[6] Latter a new group of negotiations was introduced due to demands of the unions. Appendix 1 lists the negotiation groups.

[7] The statistic as is collected as a mechanism to finance the statistical services related to trade and it is not a trade instrument, according to Argentine government.

countries. These tariffs would characterize a so-called "open bloc", with less potential for trade diversion. In agriculture, MERCOSUR would protect relatively less the member countries.

However, a few issues appeared in the process of discussion of the common external tariffs. One critical issue was related to the lack of a supporting regulation for the case of unfair trade competition. Another regulation deemed necessary was the MERCOSUR legislation on safeguards, for agroindustrial and industrial products as well. This needed legislation has been discussed among the member countries.

In relationship to the industrial sectors, the import tariff structures of both countries reveal different productive environments and, therefore, different strategies which have reflected on the negotiation about the external common tariff.

Argentina, for example, have zero import tariffs for capital and computer goods. In the case of computer this is a consequence of Argentina not being a producer. In relation to capital goods, its share on the value added by industry has dropped from 23.1% to 17.7% between 1985 and 1990 (Kume e Markwald 1993). The strategy after the 1990's was then to eliminate import tariffs and to protect the industry giving a subsidy of 15% to domestic production. Imports of capital goods at international prices are interpreted as a means to accelerate the process of modernization of all industries.

Brazil as the only producer of computer goods and the largest producer of capital goods in MERCOSUR rouse fears of trade diversion on the other member countries. At the same time these are sectors with a history of high protection in the Brazilian economy. And despite of this, in some branches of these industries Brazil has displayed a good performance in the international market. Consequently, the capital and computer goods entrepreneur sectors were not prepared to accept a regime of free trade in relationship to the rest of the world. Tariffs are justified on the grounds that Brazil has a relatively large and diversified capital goods sector with some degree of efficiency and the cost of a zero tariff will be very high.

The solution was to offer a period of transition for these industries until the external common tariff could be implemented. In the case of capital goods it was agreed that an average tariff of 14% to be in force in 2001 and for computer and some telecommunications goods an average tariff of 16% to be in force in 2006. During the period of transition the tariffs of the member countries will be converging to the agreed tariff.

There are also national list of exceptions in relationship to the common external tariff and to the free trade zone between member-countries[8]. It is expected that the process of convergence towards the custom union tariff and the free trade zone will be completed in 2000 for these products. So, at the present stage the external common tariff covers 83% of the tariff items. It was also agreed rules of origin for the products not subject to the common external tariff - regional requirements of 60% for all products, with the exception of capital goods whose rate is 80%.

MERCOSUR, therefore, will be only a truly custom union by 2006

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[8] At January 1995, the national list of exceptions of Argentina in relationship to the external common tariff has 232 items, mostly from steel, chemical, paper and shoe industries. The Brazilian list has 175 items from chemical, petroleum, textile raw materials, rubber, agricultural products. Paraguay has 210 and Uruguay 212 items on their list.

With respect to the other negotiations to create a common market, the results are less clear as it was already pointed out. Efforts to harmonize technical barriers, rules to organize the different types of transportation, rules to integrate the financial markets are all in discussion with different degrees of success. The most visible result of the negotiations until now is undoubtedly the trade aspects.

Part of the difficulties to negotiate derives from the relatively short period proposed by the Treaty of Asunción to create a common market (4 years). This was in some sense expected by governments and private sectors and is not seen as a sign of total impossibility to create a common market.

Other problems derive from specific circumstances that surround the stabilization plans, specially in Argentina and Brazil. For instance, Brazil has not yet realized the Fiscal Reform which is important not only from the point of view of the stabilization plan, but also from the point of view of abolishing a highly distorted tax structure in terms of economic efficiency. In this sense any discussion about tax harmonization turns to be very vague whereas the Brazilian Government does not decide its tax structure.

Negotiations about the best exchange-rate regime in the process of integration of MERCOSUR are also highly complicated when the bigger partners pursue different policies due to their stabilization programs. Argentina's centerpiece of its program is a fixed parity one to one between its currency and the dollar. Brazil implements a system of fixed exchange bands, though the range of the bands can be altered. The possibility of understandings about exchange-rate regimes will probably only be feasible when the fears of a return of high inflation rates have vanished and the two countries can work together an exchange rate policy.

Main Results of MERCOSUR from a Brazilian perspective

Total trade between Brazil and MERCOSUR reached the amount of US$ 10579.9 millions in 1994, which represents 14% of Brazilian total trade (See Table 3). In 1980, when total trade achieved its peak value of the seventies that figure was only 7%. It must be pointed out also that in 1989 the total trade surpassed the peak value of 1980, but the percentage in relationship to Brazil total trade was the same of 1980. Therefore the result for 1994 indeed represents a change in the structure of Brazilian external trade. Some additional data confirms this result.

MERCOSUR's share in Brazil total exports increased from 7.3% to 13.6% between 1992 and 1994. This huge increase transformed LAIA into the second main market destination of Brazilian exports, just surpassed by the European Union (See Table 4). Also this means that Argentina is now the second main trade partner of Brazil, after the United States [9].

[9] Whereas the United States explains around 20% of Brazilian total foreign sales, Argentina's share is 9.5% in 1994. Given the great differences in the market sizes of these countries, the figure for Argentina is significant.

Table 3: Brazil - MERCOSUR: Total of Trade

	US$ millions
Period	Total trade
1970	388.4
1971	401.5
1972	437.2
1973	659.5
1974	957.9
1975	918.7
1976	1,183.3
1977	1,343.0
1978	1,427.5
1979	2,403.6
1980	2,855.8
1981	2,659.4
1982	1,997.0
1983	1,513.1
1984	1,995.7
1985	1,674.1
1986	2,358.4
1987	2,281.6
1988	2,775.5
1989	3,558.9
1990	3,648.9
1991	4,577.7
1992	6,347.1
1993	8,721.4
1994	10,579.9

Source: BACEN - Brazil

Table 4: Brazil Exports by Market Destination 1991 and 1994

Markets	Share % 1994	Share % 1991	Average Annual Growth 94/91
LAIA	22.37	15.55	25.60
MERCOSUR	13.59	7.28	36.99
LAIA - MS	8.78	8.27	13.50
United States	20.24	19.58	12.49
European Union	27.12	30.89	6.52
Asia	16.21	18.01	7.40
Africa	3.10	3.27	9.23
Others	10.96	12.89	5.95
Total	100.00	100.00	11.25

Source: Balance Comercial -DTIC- Brazil.

The importance of Argentina on the trade flows of Brazil in MERCOSUR is described on Table 5. Brazilian exports to Argentina account roughly for 70% of the total sales of Brazil to the regional bloc. Moreover, the rate of increase of these sales compared to the two other member-countries is much higher. The average annual growth of Brazilian exports to Paraguay and Uruguay between 1991/1994 was 28.5% and 29.5% respectively, whereas for Argentina this rate reaches 41%.

Table 5: Brazilian Exports to MERCOSUR

Countries	Average growth		Share
	1989/1991	1991/1994	1994
Argentina	44.15	40.98	69.85
Paraguay	24.32	28.54	17.79
Uruguay	0.52	29.50	12.36
Total MERCOSUR	30.07	36.87	100.00

Source: BACEN - Brazil.

These figures show that for the Brazilian economy the dynamism of MERCOSUR is highly dependent upon the Argentine market. Therefore the majority of the effects of the custom unions upon the Brazilian agricultural and industrial sectors will certainly arise from Brazil-Argentina trade.

The good performance of Brazil exports to MERCOSUR was translated into the accumulation of big surplus with the other member-countries (See Table 6). With Argentina, the trade balance which was on a deficit situation between 1989 and 1991, reached a surplus of US$ 1030 millions in 1993, then declined to US$ 523 millions in 1994.

Table 6: Trade Balance Brazil - MERCOSUR

Countries	1989	1990	1991	1992	1993	1994
Argentina	(528.60)	(767.28)	(138.51)	1,318.56	1,030.03	523.54
Paraguay	(37.83)	50.80	276.52	355.92	688.22	688.04
Uruguay	(262.46)	(290.02)	(97.03)	173.40	348.88	51.49
MERCOSUR	(829.89)	(1,006.50)	40.98	1,847.88	2,067.13	1,263.07

Source: BACEN - Brazil

Is the program of tariff reduction initiate in 1991 the sole explanation for these results? If this were true, Brazil products display high levels of competitiveness in the MERCOSUR markets. The past trade deficits, specially with Argentina, would be due to the structure of import barriers. Moreover, it would be expected important movements of trade diversion, since MERCOSUR as a whole accounted just for 12.7% of total imports of Argentina in 1991, United States for 28.2% and European Union for 29%. In 1993, just Brazil

explained 21% of total Argentine imports, whereas the share of United States and European Union dropped respectively to 23% and 25%.

Actually two main other factors explain the Brazilian performance, besides the stimulus given by the tariff reductions. Whereas the Brazilian economy was experiencing a recessive period in the beginning of the nineties, the Argentine economy was booming[10]. Moreover, the fixed-exchange rate associated with the stabilization plan in Argentina led to an expressive overvaluation of the peso in relationship to the Brazilian currency (real). The index of the real exchange rate between real/peso reached 15561 on December 1993, taking as period basis March 1991[11].

The decline of trade surplus in 1994 was due to the recovery of economic growth in Brazil, the decline of the overvaluation associated with the stabilization plan in Brazil and measures adopted to diminish the disequilibrium on the trade balance[12].

Consequently the effects of the creation of a free trade zone during 1991/1994 was largely influenced by those macroeconomic factors. And in this sense an exercise that ignores those factors just to give an approach of possible impacts of the custom union may help to evaluate the significance of MERCOSUR to its member-countries.

Another point to be noticed is the composition of trade between Argentina and Brazil. Manufactured exports respond roughly for 55% of Brazilian total exports and 26% of Argentine total foreign sales. Observing the share of manufactures on the bilateral trade, the share of Brazil increases to 80% and of Argentine exports of manufactures to Brazil goes up to 40%. In this sense, MERCOSUR represents an important market for manufactures on both countries[13].

At a more desegregated level it can be observed on Table 7 that except for coffee and iron ore, the ten main Brazilian exports to Argentina, representing 64% of the total exports to this market, is composed of manufactured goods.

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[10] See Section three.

[11] See Appendix 4.

[12] This includes agreements in respect to the purchase of Argentine furs and wheat. Imposition of safeguard clauses by Argentina on some Brazilian exports such as paper and paperboard.

[13] See Appendix 4.

Table 7: Main Brazilian exports to Argentina 1993 and 1994

Products	Share % 1994	Growth % 94/93
Parts, Tractors, Motor Vehicles	9.37	10.26
Passenger Cars	5.96	-13.55
Goods Vehicles	4.74	70.56
Piston engines and parts, nes	3.61	13.17
Iron ore mining	2.28	-1.35
Flat-rolled plated iron or steel	2.25	-17.53
Semi-finish iron or steel	2.08	86.23
Manufacture of chemical products n.e.c.	1.95	10.92
Coffee, not roasted	1.64	81.31
Pumps and compressors	1.58	-4.99
Other products	64.55	13.99
Total Argentina	100.00	13.04

Source: Balanca Comercial -DTIC - Brazil.

The analysis of the ten main products exported from Argentina to Brazil, which represents 55.2% of total exports, shows a high concentration on two products: fuels and wheat (29.6% of total exports). Nonetheless, sales of transport equipment have also a relatively significant weight in the structure of foreign sales to Brazil 12.9% (See Table 8)[14]

Table 8: Main Argentine Exports to Brazil, January - October of 1993 and 1994

Products	Share % 1994	Growth % 94/93
Oil	15.49	45.42
Wheat	14.13	-11.42
Gearbox	6.20	23.28
Vehicles	4.54	-8.00
Corn	4.03	-12.08
Gross cotton	2.78	600.68
Other leather and skins	2.23	-4.88
Piston Engines and parts, nes	2.20	-23.09
Soya oil	2.11	115.20
Frozen fishes	1.63	37.46
Other products	44.65	15.77
Total	100	14.29

Source: INDEC - Argentina.

[14] The automotive sector is subject to an agreement that establishes import quotas under zero import tariffs. The sector will only be under total free trade in 2000.

Despite the relative asymmetry between the composition of trade between Argentina and Brazil, intra-industry measures show that the two countries have important linkages within the manufactured sector (See Table 9. Considering yet that intra-industrial trade is one of the main sources of dynamism in the world market, MERCOSUR can provide an additional stimulus to this trade.

Table 9: Intra-Industry trade - 1992

Country	Developed Economies	Developing Economies	USA	UE	LAIA	Brazil	Argentina
Brazil	0.58	0.42	0.64	0.55	0.50	-	0.73
Argentina	0.27	0.63	0.30	0.23	0.70	0.56	-

Source: Commodity Trade Statistic.
Elaboration: FGV/IBRE/CEEG.

With respect to trade in agricultural commodities, besides the data already mentioned and discussed previously, it is worthwhile noticing the so-called strategic trade. By strategic trade we mean a few products which are new markets for all trade partners in MERCOSUR. In the particular case of trade relations between Argentina and Brazil, there are processed food products imported from Argentina which pushed domestic industries in Brazil towards more efficient production and processing. On the other hand, Argentina is a growing market for poultry and hog related products for Brazil.

Finally the results achieved by MERCOSUR, even if more expressive in terms of trade flows, are not restricted to this area. There has been increasingly movements of Brazilian and Argentine firms establishing subsidiaries in the member-countries.

Future Perspectives for MERCOSUR

Problems associated with the stabilization process still surround any analysis about the future perspectives for MERCOSUR. Anyhow, it must be noted that the member-countries succeeded to implement an "imperfect custom union" during a period when the divergence on macroeconomic variables have produced great disparities on the trade balances.

Facing, however, a worsening of the macroeconomic conditions that can really jeopardize the anti-inflationary plans, MERCOSUR doesn't represent and effective discipline framework for its member-countries. The biggest member-country does not display enough stable conditions to be viewed as a reference parameter. Moreover, MERCOSUR's market is relatively small to Brazil to make it to renounce taking some measures that negatively affect the integration process in the presence of threats to the stabilization plan[15].

[15] Soon after the common external tariff was implemented, the accumulation of trade deficits initiated on November 1994 couple with the Mexican crisis led the Brazilian authorities to claim for the introduction of new exceptions to the common external tariff and also in relationship to the free trade between MERCOSUR member countries.

Therefore one must leave aside que question of stabilization just for a moment to think about the future perspectives of MERCOSUR. Two scenarios can be thought. The first where the gains from the process of integration outweighs possible loses on Argentina and Brazil and, therefore, not only the governments but also the private sectors will be interested to push forward the negotiations towards a common market.

The other scenario is just the opposite. Even if there are gains, they are relatively small and move towards a free trade agreement with the United States could be more attractive, for example.

As is well known the actual effects of an integration process depends on a great variety of factors. Besides the true effects of integration must be analyzed on a dynamic perspective.

Even though, as a first step, in order to build up a reference framework, the questions pointed out above can be approached through an exercise of static general equilibrium. This will help define better the possible outcomes for MERCOSUR.

Some Stylized Facts About the Brazilian Economy

After World War II, import-substitution industrialization was the chosen path for the development of the Brazilian and Argentine economies. This led to the creation of an array of trade and domestic interventions that has been in place until the late eighties. Besides, both countries shared the same view towards the agricultural sector: a domestic sector whose aim was to provide cheap food and raw materials for industry. The outcomes of these general policies were, however, slightly different in the two countries.

A big wave of investments associated with the import-substitution model occurred in both countries in the late fifties. Nonetheless, better results in terms of growth rate were achieved by the Brazilian economy. Whereas the average annual rate of growth of Brazil was 9.6% (1956/60), the Argentine's rate was 3%. These differences were translated mainly into a greater growth and diversification of the Brazilian industrial sector compared with the Argentine.

Some problems, however, were common to both economies at that period. Overvaluation of the exchange rate, quantitative controls of imports and exports, and high import tariffs produced and anti-export bias to industrial and agricultural products. Moreover, the inflationary financing of the import substitution model exhausted in the beginning of the sixties imposing a challenge to the continuation of the development strategy.

Brazil's answer proved to be efficient in terms of recovery of the economic growth. The military government of 1964 introduced a series of monetary, fiscal and financial reforms that helped to control the inflationary process and stimulated economic growth. Moreover, the government implemented a system of mini-devaluations of the exchange rate in order to maintain a stable real exchange rate and a generalized scheme of credit subsidies and fiscal incentives that aimed to stimulate, specially, the growth of manufactured exports.

The oil crisis of 1973/74, though constraining the possibility of high rates of growth, did not hamper completely the Brazilian economic growth. Instead of adjusting to the new international scenario, the Brazilian planners used the high level of liquidity of international markets at that time to complete what was understood as the last stage of the import substitution model: the strengthening of a national capital goods sector and the diversification of intermediate goods sector such as chemicals and steel products.

It was only with the second oil shock of 1979 accompanied by a large increase in international interest rates and the foreign debt crisis that the need of an adjustment process became clear to the Brazilian government.

The Argentine's economy, in contrast, did not do very well during the seventies. Whereas the annual average of growth of GDP was 8.6% during this period in Brazil, the same rate was only 2.5% in Argentina. Inflation rates, also, pointed out a worse performance of the Argentine economy compared to the Brazilian (See Tables 10 and 11)

An attempt was made to solve the Argentine crises during 1976/81 by renouncing the import substitution model strategy. Import liberalization, however, took place amid high rates of inflation, a simultaneous opening of the capital account balance of payments and an overvalued peso. The result was a sudden inflow of speculative capital that only gave a temporary impression of stability. The peso (the Argentine currency) collapsed in 1981 and a series of devaluations pressed even more the escalating of the inflation rate. (Argentina 1993).

During the eighties Argentina and Brazil shared again the same basic problems. On the external front, the debt crisis of 1982 meant no longer access to private international capital markets and pressure to the creation of surpluses in the balance of trade. On the domestic front, large fiscal imbalances made increasingly difficult the financing of the public debt. The outcomes were high rates of inflation and low rates of economic growth (see Tables 10 and 11).

Diverse attempts through stabilization plans were made during the eighties. Again both economies followed the same path. The Cruzado Plan in Brazil and the Austral Plan launched in the mid-eighties were the major government initiatives in both countries during this period[16]. The initial success on curbing the inflation rates was, however, followed by the reemerging of inflationary pressures.

Table 10: Average Rate of Growth of Inflation

Years	Brazil	Argentina
1970 a 1980	30.14	119.45
1980 a 1986	153.27	269.81
1986 a 1991	780.37	634.42
1991 a 1994	1720.04	12.83

Sources: IBGE, IMF and CEPAL

Certainly there are some differences about the experience of the eighties between Argentina and Brazil. Brazil, for instance, was most successful introducing trade surpluses through manufacture exports. Also the indexation scheme of all contracts in the Brazilian economy protected, in some sense, the production and consumption decisions from the disruptive defects of the inflationary process.

[16] Both plans were based upon price and wage freezes, the launching of a new currency and a vague commitment to tight monetary and fiscal policies.

Table 11: Gross Domestic Product - Brazil and Argentina

Years	Average rate of growth of real GDP	
	Brazil	Argentina
1970/1980	8.63	2.52
1980/1990	1.48	-0.90
1990/1993	2.45	8.03

Source: IBGE, IMF and CEPAL.

Nonetheless, the general diagnosis of the structural imbalances on both countries was basically the same in the late eighties. The import substitution model had exhausted its role as the engine of growth and was only producing distorcive effects upon the economy. There was also an urgent need to reform the role of the State which had acted as a player shaping the market forces during the import substitution strategy.

Import liberalization, deregulation of the markets, fiscal reform, privatization of state-owned enterprises have become the key elements of the new development strategy.

The design of the stabilization plans and the degree coverage of the structural reforms are, however, different in Brazil and Argentina.

Argentina's stabilization plan, which has until now managed to control the inflation rate, was launched on April/1991. The centerpiece of the programme was the establishment of free convertibility with a pegged exchange rate set at one dollar to one peso. Moreover, the creation of new money was linked to the behavior of foreign reserves similar to a golden standard regime. The commitment of the government to these new rules were put into legislation approved by Congress.

Simultaneously the government had began to tackle all the structural reforms associated with the new development strategy already pointed out. The average rate of inflation dropped from 2314% in 1990 to 4% in 1994. After years of stagnation, the economy experienced high rates of growth. Nonetheless, the current account deficit reached US$ 10500 millions in 1994. This latter result, linked with the overvaluation of the peso, is undoubtedly the most fragile element of the stabilization plan[17].

After an unsuccessful attempt to control inflation in 1990, the Brazilian government implemented a new programme in July 1994, which has until now maintained the inflation rate at relatively low levels[18]. The confidence on the stabilization plan is not yet very well rooted on the Brazilian society. Fiscal Reform,

[17] The Mexican crisis has worsened even more this problem due to the higher risk now associated with Latin American countries. It has become more difficult to disregard the building up of current account deficits in a moment where the International capital has diminished its degree of confidence on Latin America stabilization plans.

[18] The rate of inflation is slightly increasing since January, but it is still under 2.5% a month.

considered one of the major pre-conditions to sustain macro-economic stability, is still on debate. Privatization goes at a much slower pace than previously announced by the government. The Mexican and Argentine experience, however, has obliged the government to be more careful about accumulating trade deficits and thus the exchange rate policy is more flexible[19].

Potentially the Brazilian economy can respond fairly well to the challenges imposed by a higher degree of trade openness. Since the beginning of the Tariff Reform of 1990, there has been efforts by the productive sector to increase its efficiency[20]. Nonetheless, macroeconomic stability is still a mayor unknown on the Brazilian scenario.

The stabilization plan in Argentina, albeit some problems, displays a better performance given the clear commitment of the government with the structural reforms and fiscal discipline. However the high rates of growth were mainly due to an increase of service sectors rather than productive sectors. Therefore, the Argentine economy still faces the challenge, specially on industrial sectors, to improve its productivity.

The General Trade Analysis Package

GTAP is a worldwide general equilibrium model developed by Hertel and associates at Purdue University. The aggregation used for this paper consists often commodity and eight regions[21], namely[22]:

Regions: E_U, PAC, BRA, ARG, MEX, NAM, LAM, ROW

Commodities: NATRES, MNFRES, MNFCAP, OTHMEQ, ALLEGRN, NONGRN, LVSTCK, FOODPR, MILK, SERVC.

In addition to the full set of accounting relations required for consistency, the model also includes behavioral and technological restrictions and a full set of price equations. The latter reflects the set of output, input and trade taxes and subsidies as well as transportation costs. Additionally, different treatment is given to primary factors leading to different factor market closures.

GTAP also generates welfare measures that permit an accurate evaluation of welfare. This is indeed a great advantage since it allows the effects of the policy changes to be directly connected to the ultimate objective of trade liberalization, which is national welfare and distribution, thus avoiding the need to concentrate the analysis on approximate measures like trade creation[23].

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[19] As already pointed out on Section two this policy is based upon exchange bands.

[20] One indicator is the issue of ISO certificates given to Brazilian enterprises that reaches an amount of 600 hundred compared with 40 given to Argentine enterprises.

[21] The model and the aggregation for this paper were kindly provided by Prof. Tom Hertel whom we deeply thank.

[22] Appendix 2 lists the country and commodity compositions of the GTAP/MERCOSUR aggregates.

[23] Brandáo and Martin (p.322) note the following: Rules of thumb based on estimates of trade creation such as that suggested in the Economist (1992, p.55), '...for countries previously separated by quite high trade barriers,

The introduction structure of the model is quite conventional. It is as nested CES, where imported inputs are differentiated by source using Armington parameters and where the imported goods are also differentiated from the domestic goods through another act of Armington parameters. Value added is also produced through a CES which, in turn, is combined (zero substitution) with the aggregate input to generate output.

The three uses of regional income in the model are: private household expenditure, government expenditure and savings. The breakdown of income among the three is determined by a Cobb-Douglas utility; that is, the shares of each of these destinations of income remains a fixed proportion of regional income in the model. Once the share of government is determined, its allocation among commodities is again determined by a Cobb-Douglas process. From there on, government demand follows a similar process of the producer's input demand where domestic goods and imports of different sources are differentiated through a set of Armington parameters. Value added is also produced through a CES which, in turn, is combined (zero substitution) with the aggregate input to generate output.

Private household demand is modeled using a CDE functional form. This is chosen because it can be calibrated rather easily to existing income and price elasticity data and it displays several properties of fully flexible functional forms.

Two types of primary factors are considered. Capital and labor are fully mobile and in consequence they have the same price in all sectors. Land however, which is only used in the agricultural and livestock sectors, is not fully mobile. This is captured in the model using a CET function to reflect the costs of transformation of land used in, say, grain production to livestock.

Another aspect of the model is the global transportation sector. Transportation services are produced using services exported by each region. Data on costs of export services in particular routes is not available, thus the model combines these services into a single composite international transport good. This is achieved using a Cobb-Douglas technology and, in consequence, the share of each region in the provision of services to the global transportation sector is constant. The output of the global transportation service is utilized, in each route and for each commodity, in fixed proportions.

Finally, the policy instruments in the model are output, input, primary factors, and trade taxes and subsidies (tariffs and export taxes and subsidies).

Experiment and Results

The experiment consists of the elimination of all tariffs between Argentine and Brazil and of the implementation of a common external tariff (TEC) for the two countries. The TEC for 2006, the last year of the integration process, was chosen. The experiment thus simulates long run impacts after the adjustments in factor and product markets are completed and when MERCOSUR truly becomes a common market. An additional consideration relevant for the interpretation of the results is that the date base of GTAP contains the tariff structure that existed in Brazil before 1990. In consequence, the results reflect

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the gain in welfare due to trade liberalization equals about one fifth of the expansion of trade' cannot be expected to give reliable results in a multilateral context.

both, the unilateral reform made by President Collor's government in the early 1990s, and the MERCOSUR reform.

The tariff structure for Argentina and Brazil and the size of the tariff change for each region and commodity of GETAP/MERCOSUR are contained in Appendix 3. Table 12 shows trade weighted average tariffs. It is immediately clear that tariff levels in Brazil were higher than in Argentina. The two exceptions are grains (ALLGRN) and natural resource based (NATRES) goods. One additional characteristic of the Brazilian tariffs is their substantial variation among regions [24], as seen in Table A2, Appendix 3. Most tariffs applied to imports from Argentina were the highest practiced by Brazil. Important exceptions are ALLGRN, NONGRN AND MILK. For Argentina, on the contrary, the tariff structure is more homogeneous and the bias against Brazil, even in the few cases where it exists, is not large.

Table 12: Ad-Valorem Tariffs

Commodities	Argentina			Brazil*		
	Before MERCOSUR	After MERCOSUR	% Change	Before MERCOSUR	After MERCOSUR	% Change
NATRES	19.82	4.99	-74.82	1.27	4.99	292.91
MNFRES	28.86	13.49	-53.26	33.46	13.49	-59.66
MNFCAP	25.45	11.29	-55.64	31.69	11.29	-54.37
OTHMEZ	18.58	13.93	25.03	44.69	13.93	-68.83
ALLGRN	18.12	5.52	69.54	5.70	5.52	-3.16
NONGRN	17.37	8.65	50.20	21.30	8.66	-59.39
LVSTCK	13.85	7.97	-42.45	23.54	7.97	-66.14
FOODPR	17.63	12.36	-29.89	43.86	12.36	-71.82
MILK	21.93	15.08	-31.24	36.19	15.08	-58.33

Source: for tariffs before liberalization, GTAP database; for common external tariff, Ministerio de Industria o Comercio.

Table 12 also shows that substantial liberalization of regional trade with the rest of the world will take place. Nevertheless, the Brazilian tariff for NATRES increases relative to the current level and the tariff for ALLFRN is practically unchanged. The average tariff reduction is of the order of 48 percent for Argentina and of the order of 56 percent for Brazil if we disregard the large increase in tariffs observed for NATRES.

Selected Results

Aggregate Results. MERCOSUR is a small block with respect to the world economy. In this experiment the changes in the world rice indices (see Table 15) are insignificant. The largest (in absolute value) one is -0.11 percent for MNFCAP. Most world prices increase, as should be expected from a tariff reduction. However, for MNFRES, MNFCAP and OTHMEQ, prices decrease. This bears on characteristics of the

[24] In GTAP tariffs are not differentiated regionally. The differences appear because of the composition of trade among the regions of the model.

model and of the liberalization process. Imports increase significantly in the liberalizing countries. These increases are larger for MNFRES, MNFCAP and OTHMEQ because of the size of the reduction in tariffs and because they are good substitutes for the more expensive domestic goods in the production process. The easiness with which imported MNFRES, MNFCAP and OTHMEQ can substitute domestic goods worldwide further contributes to the expansion in exports from Argentina and Brazil.

Another characteristic of MERCOSUR is that the two largest partners have fairly closed economies[25]. The overall impact for Argentina and Brazil is accordingly relatively small. For example:

> the increase in GDP (volume) was 0.69 percent for Brazil and practically zero for Argentina;
>
> the change in net primary factor income for Argentina and Brazil is respectively 144 and 0.44. With constant factor endowments, this is equal to increase in the primary factor price index;
>
> the change in aggregate expenditures in Argentina and Brazil is respectively 0.33 and -1.08;
>
> the change in the value of GDP for the two countries was 1.10 and -0.43 respectively due to an increase of 1.10 percent in the GDP price index for Argentina and a reduction of 1.12 percent for Brazil.

Welfare gains associated with MERCOSUR are consistent with results normally found in CGE models. The equivalent variation for Argentina is US$ 713 million (approximately 0.3 percent of GDP) and for Brazil it is US$3,080 million (about 0.6 percent of current GDP), more than four times the gain to Argentina. For the world as a whole, equivalent variation is US$6,055 million. Thus, about half of the world welfare gain accrues to Brazil and about 12 percent accrues to Argentina.

For comparison purposes, we note that Goldin, Knudsen and van der Mensbrugghe (1993), using the RUNS model, have estimated gains from full world trade liberalization of the order of 0.4 percent GDP for Brazil and 1.3 percent for Latin America (excluding Brazil and Mexico). The welfare gains for the world as a whole was found to be US$ 450 billion (1992 dollars). Using the RUNS model, Brandáo and Martin (1993) have found gains of the order of 0.3 and 1.2 percent respectively for Brazil and (other) Latin America from partial liberalization of agricultural trade in OECD and in developing countries. The gain for the world as a whole was estimated at US$ 139 billion (1992 dollars).

Trade and Production. The next two tables display the changes in exports (Table 13) and imports (Table 14) for Brazil. There is a generalized increase in imports, as a consequence of the reduction in domestic protection. Similarly, Brazilian exports increase. The increase is larger for Argentina because the complete elimination of tariffs will give an incentive to Argentinean households and firms to purchase more from the MERCOSUR partners. However, exports to the other regions of the model increase too. This takes

[25] Trade (average of imports plus exports) have been of the order of 7.5 percent from Argentina and 8 percent of GDP for Brazil.

place because cheaper imports lead to substitution of domestic goods not only in consumption, but also in production.

Some aspects to note on Table 13 are,

exports of manufactured goods to Argentina (MNFRES, MNFCAP and OTHMEQ) will more than double when all the adjustments from MERCOSUR are completed. Most other exports to Argentina will increase significantly, particularly those of NATRES, foodpr AND milk;

exports of MNFCAP and OTHMEQ will increase by about 30 percent for all the regions of the model, except, as noted above, to Argentina. This is quite significant in view of the fact that the tariff changes in countries outside MERCOSUR is zero in the experiment; and

the increase in agricultural exports for regions of the model other than Argentina is small. While the overall increase in exports of MNFCAP and OTHMEQ is larger than 50 percent, for most agricultural goods it is less than 20 percent. The noticeable exception is MILK.

We now turn to imports. As expected, there are large increases in imports from Argentina. This reflects the increase in the competitive position of that country vis a vis the rest of the world and the lower prices facing Brazilian households and firms.

Aspects to be noted on Table 14 are the following:

except for ALLGRN, NONGRN and SERVIC all imports from Argentina more than double and in some cases the increase is almost six folds (MNFCAP);

for MNFRES and MNFCAP the increase in imports from Argentina, the European Union and the Pacific Countries, will be at the expenses of imports from other regions in the American continent. For example, imports from NAM of MNFCAP will be reduced by 73 percent;

imports of manufacture goods will generally increase more than imports of agricultural-based goods;

imports of FOODPR increase by about 60 percent. The bulk of this increase comes from Argentina. Trade is diverted from all other regions of the model, except the European Union; and

the European Union and the Pacific Countries will increase their share on Brazilian imports. This reflects the relatively high tariff levels that existed on imports from these countries. An exception to this is NONGRN imports from North America which will more than double, while imports from Argentina and the Pacific Countries increase very little.

Table 13: Percentage Changes in the Volume of Brazilian Exports

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Total
NATRES	6.53	6.37	116.58	6.39	6.40	6.31	6.43	10.61
MNFRES	11.29	11.15	132.94	10.83	10.97	10.43	11.3	18.56
MNFCAP	36.28	35.57	251.34	36.41	36.01	34.71	36.17	80.25
OTHMEQ	31.88	31.69	186.95	30.88	31.53	29.97	31.93	51.67
ALLGRN	6.37	6.18	46.62	6.60	5.87	6.41	6.09	8.77
NONGRN	5.76	5.73	67.19	5.76	5.52	5.59	5.75	6.86
LVSTCK	6.61	6.50	54.27	6.32	6.42	6.61	6.52	9.49
FOODPR	8.90	9.28	97.13	8.99	8.85	8.99	9.21	10.60
MILK	6.78	7.18	104.94	7.02	6.55	6.89	6.75	61.45
SERVIC	5.74	5.69	6.63	5.45	5.49	5.56	5.69	5.73

Table 14: Percentage Changes in the Volume of Brazilian Imports

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Total
NATRES	117.00	-14.50	135.62	-14.58	-9.85	1.62	-14.86	-8.61
MNFRES	77.95	104.77	421.79	-3.96	-28.34	-17.47	-13.57	57.90
MNFCAP	106.59	221.08	571.24	-5.45	-72.50	17.71	9.01	58.80
OTHMEQ	41.11	59.93	271.74	24.53	13.91	37.16	36.36	39.76
ALLGRN	73.55	74.65	6.33	-28.53	-11.26	40.20	3.80	2.14
NONGRN	56.25	14.15	2.59	-17.08	181.57	-1.63	-1.66	29.34
LVSTCK	41.13	-7.63	103.61	-52.87	-39.40	48.21	44.84	40.50
FOODPR	50.13	-16.74	202.15	-54.85	-45.50	-54.38	-52.05	59.81
MILK	28.45	29.07	135.25	-66.94	25.58	28.08	28.10	47.09
SERVIC	-2.47	-2.27	-4.68	-2.00	-1.89	-2.03	-2.11	-2.26

Source: GTAP database.

Table 16 shows that production will fall in most sectors. This is an expected outcome of the reduction in tariffs. Three exceptions are NATRES, for which the TEC is actually higher than what was practiced by Brazil, SERVIC and LVSTCK (where the increment is small). Total demand for livestock decreases (-0.31 percent) relatively less than the other commodities in the model, despite the large reduction in the tariff rate. The growth in exports is relatively small too, but nevertheless sufficient to induce an expansion of the output of the sector. In Argentina, on the contrary, the output in the livestock sector diminishes slightly, 0.27 percent.

Prices. The MERCOSUR experiment indicates a sharp increase in the domestic merchandise terms of trade for Brazil. The price indices of merchandise exports and imports decrease respectively 2.7 percent and 14.7 percent, giving rise to an increase in the domestic terms of trade of the order of 12 percent[26]. The changes in the domestic prices for the ten commodities of the model are shown in Table 15.

Table 15: Percentage Changes in World and Brazil's Domestic Prices of Exported and Imported Goods

Commodities	World Price	Export Prices	Import Prices
NATRES	0.03	-1.09	3.30
MNFRES	-0.01	-1.94	-19.03
MNFCAP	-0.11	-4.73	-21.77
OTHMEQ	-0.03	-5.08	-21.80
ALLGRN	0.01	-1.45	-2.71
NONGRN	0.01	-1.50	-13.15
LVSTCK	0.01	-1.42	-14.00
FOODPR	0.02	-1.90	-29.58
MILK	0.01	-1.50	-18.04
SERVIC	0.02	-1.36	0.06
AVERAGE	-	-2.69	-14.66

The change in imported price is consistent with the reductions in tariffs that take place in this experiment. The reduction in export prices is caused by the use of cheaper imports in the production of domestic (and exported) goods and the fixed level of the current account.

Primary Factors We have already noted the impact on total primary factor income. Primary factor use increases in NATRES, LVSTCK and SERVIC (this is shown in Table 16). Consistent with the change in output, labor and capital use in OTHMEQ will be significantly reduced. Land use increases in the livestock sector and decreases in ALLGRN and NONGRN.

[26] The corresponding numbers for Argentina are as follows: the change in merchandise export prices is zero and the change in merchandise import prices is -11.4 percent, giving rise to an improvement in the terms of trade of 11.4 percent.

Table 16: Brazil: Percentage Changes in Production and In Primary Factor Use

Commodities	Production	Land	Labor	Capital
NATRES	3.58	0.00	3.62	3.56
MNFRES	-0.13	0.00	-0.09	-0.16
MNFCAP	-1.60	0.00	-1.56	-1.63
OTHMEQ	-6.29	0.00	-6.27	-6.33
ALLGRN	-0.61	-0.24	-0.83	-0.86
NONGRN	-0.63	-0.25	-0.84	-0.87
LVSTCK	0.15	0.38	0.07	0.03
FOODPR	-0.60	0.00	-0.56	-0.62
MILK	-1.67	0.00	-1.64	-1.70
SERVIC	0.43	0.00	0.47	0.39

There are two types of primary factors in the model: labor and capital, which are fully mobile; and land which is sector specific. Accordingly the price changes for the first two are the same in all sectors, namely -0.37 and -0.31 percent respectively. In the case of land, the changes in price differ slightly across sectors -1.421 in ALLGRN, -1.425 in NONGRN and -0.810 in LIVSTCK. This pattern is consistent with the observed changes in land use noted in Table 16. Additionally, because land is not used outside agriculture, the drop in its price is larger than the drop in labor and capital prices which can also be employed in the expanding non agricultural sectors.

Summary and Conclusions

At present, MERCOSUR is an imperfect customs union with a number of exceptions to the common external tariff in place. They must be eliminated before a true customs union starts to exist in South America. Substantial progress however, has been made in the integration process. The most important indication of that is the complete elimination of the tariffs for the member countries. This paper has analyzed the impacts of the tariff reforms that will be in effect when the MERCOSUR agreement is completed, in year 2006.

By the year 2006 a substantial liberalization of trade between the regional block and the rest of the world will take place. Nevertheless, the results show clearly that MERCOSUR is a small regional block both from the world's point of view and from the point of view of the largest partners (Argentina and Brazil). The economy wide effects in both countries are relatively small. But there are very significant changes in trade, both in exports and imports.

Brazil will expand significantly her exports of manufactured and capital goods, of mechanical equipment and of dairy products. The expansion of the latter will be targeted essentially to Argentina, but surprisingly, exports of the others for the rest of the world will grow around 30 percent. This is an indication that, despite the high level of protection given by past policies, some industrial sectors in Brazil are in a position to compete effectively in world markets.

Brazilian imports of most goods will increase. For natural resources, of which Brazil is a net exporter, however there is a decline in imports. This is due to the fact that the common external tariff is higher than

what is currently practiced in Brazil. There will be little increase in imports of grains. Additionally, imports of this commodity from Canada and the USA will decrease and substantial increases from the Pacific Countries and from the European Union will take place. This is likely to be a consequence of lesser wheat imports from Canada and the USA and more imports of rice from the Pacific Countries Surprisingly additional imports from Argentina are not large.

The process of integration is a complex one and success or failure depends on a number of other variables, some of which are non economical. Nevertheless, the results shown here indicate that despite the relatively small impacts, the gains for some sectors may be sizeable. Moreover, in a model like this not all important elements are properly considered. In particular, the positive impact on foreign investment that is likely to occur in consequence of a more transparent and stable trade policy is not fully accounted for.

Additionally, the model does not take into account economies of scale that are likely to exist in several segments of the industrial sectors in Argentina and Brazil and of the fact that the two economies have a significant degree of complementarity. This is not entirely apparent in the results of this paper because of the high level of aggregation of the analysis. Nevertheless, the fact that Brazilian exports of manufactured goods to Argentina increase substantially and the same is true for the Argentine exports to Brazil of livestock, processed food products and dairy products.

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APPENDIX 1

Structure of negotiations of MERCOSUR

The treaty of Asunción has created two intergovernmental groups to pursue the negotiations related do MERCOSUR they are:

* The market Common Counsel which has the power to deliberate about the measures that have to be implemented towards the creation of a common market.

*The Market Common Group which has the task to implement measures, agreeded by the Market Common Counsel, propose and organize the steps towards the common market. This Group conducts the work through eleven technical sub-groups:

*Trade Matters

*Custom-duties Matters

*Technical Norms

*Monetary and Fiscal Policies related to Trade

*Land Transportation

*Maritime Transportation

*Industry and Technological Policies

*Agriculture policy

*Energy Policy

*Coordination of Macroeconomic Policies

*Labor Relations, Employment and Social Security

On December 1994, three more inter-governmental groups were created.

*Trade Commission responsible for the supervision of the implementation of the common external tariff and problems related to it as custom valuation and rules of origin.

*Parliamentary Joint Commission

*Consultant Forum for Social and Economic Matters composed by private and governments members.

APPENDIX 2

Regions and Commodity of the MERCUSOR Aggregation of GTAP

Regions:

E_U European Union

PAC: Pacific Countries. Australia, New Zealand, Japan, Republic of Korea, Indonesia, Malaysia, Philippines, Singapore, Thailand, China, Hong Kong and Taiwan.

Brazil

Argentina

Mexico

NAM: North America, Canada and United States of America.

LAM: Latin America. Rest of Latin America.

ROW: Rest of the World. Sub Saharan Africa, Middle East and North Africa, Economies in transition, South Asia and Others.

Commodities:

NATRFS: Natural Resources, Forestry, Fisheries, Coal, Oil, Gas, Other Minerals and Lumber.

MNFRES: Manufactured Goods Intensive in Natural Resources. Textiles, Wearing Apparel, Leather, Pulp Paper, Petroleum, Coal, Nonmetallic Minerals, Primary Ferrous Metals, Nonferrous Metals and Fabricated Metal Products.

MNFCAP: Manufactured and Capital Goods. Chemical rubbers and plastics, Transport Industries and Other manufacturing.

OTHMEQ: Other Mechanical Equipment, Machinery and Equipment.

ALLGRN: Grains, Paddy Rice, Wheat, Maize and Cotton.

NONGRN: Other Agricultural Products. Horticulture, Fruits, Vegetables, Soybean and Soybean produce and Others.

LVSTCK: Livestock. Wool, Meat Products, Live animals and Other Livestock Products.

FOODPR: Processed Food Products. Processed Rice, Coffee, Sugar, Cocoa, Other Beverages, Tobacco and Other Processed Food.

MILK: Dairy Products.

SERVIC: Services, Electricity, Water, Construction, Trade an Transport, Other Private Services, Other Government Services; Ownership of Dwellings.

APPENDIX 3

Base Year Tariffs for Argentina and Brazil

Table A-3.1: Tariffs Practiced by Argentina

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Mean Tariff
NATRES	1.27	1.18	1.24	1.12	1.18	1.16	1.19	1.20
MNFRES	1.28	1.33	1.26	1.31	1.31	1.29	1.29	1.29
MNFCAP	1.21	1.27	1.31	1.15	1.25	1.28	1.17	1.25
OTHMEQ	1.11	1.20	1.23	1.21	1.23	1.22	1.22	1.19
ALLGRN	1.20	1.13	1.13	1.12	1.18	1.16	1.20	1.18
NONGRN	1.18	1.14	1.18	1.15	1.14	1.19	1.19	1.17
LVSTCK	1.15	1.17	1.13	1.17	1.16	1.15	1.13	1.14
FOODPR	1.20	1.20	1.18	1.23	1.13	1.17	1.22	1.18
MILK	1.21	1.21	1.21	1.00	1.15	1.24	1.24	1.22

Source: GTAP database.

Table A-3.2: Tariffs Practiced by Brazil

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Mean Tariff
NATRES	1.19	1.01	1.15	1.00	1.01	1.04	1.00	1.01
MNFRES	1.43	1.47	1.51	1.29	1.23	1.26	1.27	1.33
MNFCAP	1.48	1.57	1.53	1.32	1.11	1.36	1.36	1.32
OTHMEQ	1.46	1.49	1.50	1.43	1.40	1.45	1.45	1.45
ALLGRN	1.22	1.23	1.05	1.00	1.05	1.17	1.09	1.06
NONGRN	1.31	1.22	1.10	1.13	1.49	1.18	1.18	1.21
LVSTCK	1.26	1.15	1.27	1.00	1.05	1.27	1.26	1.24
FOODPR	1.58	1.40	1.63	1.23	1.28	1.24	1.25	1.44
MILK	1.36	1.36	1.36	1.00	1.35	1.36	1.36	1.36

Source: GTAP database.

Table A-3.3: Tariff Changes in Argentina*

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World
NATRES	-17.61	-11.21	-19.23	-6.44	-11.07	-9.81	-11.70
MNFRES	-11.53	-14.56	-20.77	-13.06	-13.67	-12.11	-11.75
MNFCAP	-7.69	-12.35	-23.68	-2.85	-11.29	-13.34	-5.28
OTHMEQ	2.73	-4.88	-18.57	-5.61	-7.53	-6.69	-6.69
ALLGRN	-11.78	-6.81	-11.64	-5.78	-10.62	-8.75	-12.21
NONAGRN	-8.08	-4.98	-15.40	-5.85	-5.03	-8.85	-8.85
LVSTCK	-5.97	-8.03	-11.54	-7.56	-6.79	-5.87	-4.55
FOODPR	-6.28	-6.65	-14.90	-8.78	-0.60	-4.17	-8.25
MILK	-4.90	-4.90	-17.36	15.08	0.17	-7.42	-7.42

*Percentage Change ln (1 + tariff rate)

Table A-3.4: Tariff Changes in Brazil*

Commodities	European Union	Pacific Countries	Argentina	Mexico	North America	Latin America	Rest of the World
NATRES	-11.58	4.46	-13.29	4.55	3.56	1.34	4.59
MNFRES	-20.74	-22.58	-33.73	-11.88	-7.37	-9.58	-10.32
MNFCAP	-24.71	-29.23	-34.45	-15.81	0.26	-18.35	-17.53
OTHMEQ	-22.02	-23.71	-33.38	-20.16	-18.88	-21.48	-21.48
ALLGRN	-13.85	-13.93	-4.50	5.52	0.47	-9.51	-3.09
NONGRN	-16.89	-10.71	-9.25	-3.93	-27.23	-7.60	-7.60
LVSTCK	-14.18	-6.21	-21.03	7.97	2.47	-15.00	-14.57
FOODPR	-28.73	-19.58	-38.48	-8.84	-12.26	-9.05	-9.98
MILK	-15.57	-15.62	-26.63	15.08	-15.02	-15.45	15.45

* Percentage Change ln (1 + tariff rate)

APPENDIX 4

Table A-4.2: MERCOSUR - Real Exchange Rate Index
March/1991 = 100

Years	Months	R$/P$	R$/US$	P$/US$
1991	Mar.	100.00	100.00	100.00
	Apr.	107.01	103.39	96.62
	May	110.66	110.91	100.23
	June	111.41	110.19	98.91
	Jul.	112.59	109.13	96.97
	Aug.	111.25	105.89	97.88
	Sep.	113.51	111.57	88.29
	Oct.	129.30	124.97	96.86
	Nov.	130.21	126.02	96.78
	Dec.	136.70	131.47	96.18
1992	Jan.	139.39	132.94	95.03
	Feb.	141.92	130.54	91.94
	Mar.	146.02	134.51	92.33
	Apr.	148.33	135.35	91.25
	May	143.07	131.38	91.45
	June	143.53	130.48	90.91
	July	145.18	132.10	90.99
	Aug.	147.31	134.25	91.13
	Sep.	148.23	135.51	91.69
	Oct.	149.02	136.67	91.71
	Nov.	152.14	139.06	91.40
	Dec.	150.12	138.24	92.09
1993	Jan.	147.23	138.13	93.85
	Feb.	150.67	142.71	94.53
	Mar.	149.89	142.87	95.31
	Apr.	150.85	145.13	96.20
	May	156.38	151.60	97.57
	June	155.30	153.74	98.68
	July	155.70	154.56	99.22
	Aug.	153.78	156.00	101.46
	Sep.	153.54	157.20	102.38
	Oct.	156.73	150.73	101.88
	Nov.	157.22	161.17	102.51
	Dec.	155.61	162.26	104.27
1994	Jan.	153.56	162.41	105.83
	Feb.	153.87	162.63	105.63
	Mar.	150.02	158.83	105.88
	Apr.	151.93	162.57	107.00
	May	155.18	186.44	107.26
	June	152.05	183.73	107.68
	July	155.71	189.35	108.78
	Aug.	147.59	181.72	109.58
	Sep.	141.25	153.60	108.74
	Oct.	135.11	145.63	107.76
	Nov.	131.12	148.82	111.98
	Dec.	130.51	148.31	114.02

Source: Central Banks of countries.

Table A-4.3: Brazil: Exports to Argentina, by Main Groups

Categories	1987	1988	1989	1990	1991	1992
	In US$ Millions					
Food products	75.6	50.8	31.1	48.4	120.7	255.1
Agricultural/ Raw Materials	16.8	24.4	11.5	9.2	20.3	24.5
Fuels	23.2	38.1	1.6	7.6	8.1	20.2
Ores and Metals	96.5	102.7	148.3	120.9	134.6	155.1
Manufactured Goods	399.6	538.4	372.3	456.9	1,190.5	2,814.2
	611.8	754.7	568.6	645.1	1,475.5	3,089.7
	Percent of Total Trade					
Food products	12.3	6.7	5.5	7.5	8.2	8.3
Agricultural/ Raw Materials	2.8	3.2	2.0	1.4	1.4	0.8
Fuels	3.8	5.0	0.3	1.2	0.5	0.7
Ores and Metals	15.8	13.6	26.1	18.7	9.1	5.1
Manufactured Goods	65.3	71.3	65.5	70.8	80.7	85.2
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL

Brazil: Total Exports, by Main Groups

Categories	1987	1988	1989	1990	1991	1992
	In US$ Millions					
Food products	8470.2	9919.7	9372	8396.4	7881.3	9206.8
Agricultural/ Raw Materials	924.5	1129.5	1167.7	1051.1	1047.2	1165.5
Fuels	952.6	897.6	853.1	653.2	437	576.7
Ores and Metals	2888.5	3824.6	4190.8	4297.3	4552.2	4300.7
Manufactured Goods	12995	1771.2	18393.6	16285.1	17345.3	20833.9
Total of Exports	26225.6	33760	34293.9	31411.6	31621.8	36206.8
	Percent of Total Trade					
Food products	32.3	29.4	27.3	27.7	24.9	25.4
Agricultural/ Raw Materials	3.5	3.3	3.4	3.3	3.3	3.2
Fuels	3.6	2.7	2.5	2.2	1.4	1.6
Ores and Metals	10.3	11.3	12.2	13.7	14.4	11.9
Manufactured Goods	49.5	52.5	53.6	51.5	54.9	57.0
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL

Table A-4.3: Argentina: Exports to Brazil, by Main Groups (continuacion)

Categories	1987	1988	1989	1990	1991	1992
	In US$ Millions					
Food products	272.8	275.2	575.2	792.4	822.9	846.7
Agricultural/ Raw Materials	8.0	17.4	12.3	15.4	10.5	21.6
Fuels	0.1	4.1	19.3	5.8	29.8	122.9
Ores and Metals	15.6	12.2	24.5	21.3	13.4	9.2
Manufactured Goods	242.7	298.9	492.6	587.3	611.5	871.0.2
Total of Exports	539.4	607.9	1,124.4	1,422.7	1,488.5	1,671.4
	Percent of Total Trade					
Food products	50.6	45.3	51.2	55.7	55.3	50.7
Agricultural/ Raw Materials	1.5	2.9	1.1	1.1	0.7	1.3
Fuels	0.0	0.7	1.7	0.4	2.0	7.3
Ores and Metals	2.9	2.0	2.2	1.5	0.9	0.6
Manufactured Goods	45.0	49.2	43.8	41.3	41.1	40.1
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL

Argentina: Total Exports, by Main Groups

Categories	1987	1988	1989	1990	1991	1992
	In US$ Millions					
Food products	3,883.5	5,447.5	5,259.2	6,948.5	7,191.2	7,484.2
Agricultural/ Raw Materials	225.1	432.8	333.97	486.9	408.4	296.1
Fuels	97.4	157.0	333.5	965.4	768.4	1,086.3
Ores and Metals	153.45	221.16	246.48	302.1	203.42	142.9
Manufactured Goods	1,996.2	2,871.4	3,382.2	3,616.4	3,399.5	3,241.6
Total of Exports	6,380.2	9,134.8	9,565.4	12,351.5	11,974.9	12,234.9
	Percent of Total Trade					
Food products	61.1	59.6	55.0	58.3	60.1	61.0
Agricultural/ Raw Materials	3.5	4.7	3.5	3.9	3.4	2.4
Fuels	1.5	1.7	3.5	8.0	6.4	8.9
Ores and Metals	2.43	2.4	2.6	2.4	1.7	1.2
Manufactured Goods	31.4	31.4	35.4	29.3	28.4	26.5
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL

SESSION 6B. LAC TRADE AND INVESTMENT RELATIONS WITH THE U.S. AND CANADA

The Andean System of Price Bands

Yesid Castro, Cartagena Board Agreement, Perú

What Is A Price Band?

It is a stabilization mechanism which comprises of fixing a floor price and a ceiling price, between which it is desired that the importing cost is maintained. Stabilization is obtained by increasing the ad valorem tariff when the international price falls below the floor price, and by decreasing the said tariff, down to zero, when the price goes up over the ceiling price. In other words, the price band attempts to convert the tariff into a variable factor which is automatically adjusted in order to counteract the extreme swings of the international price.

Effects Of Price Bands

Stabilization Effect: The narrower the band, the more stable the importing cost with tariff. The stabilization effect can be measured by comparing the coefficient of variation of the importing cost with and without band.

Protection Effect: The higher the level of the band, regarding the international price, the higher the importing cost. This is because the additional tariffs increase and the tariff reductions decrease. This effect can be measured by comparing the average importing cost with tariff, before and after the band.

Fiscal Effect: This is the effect of the band on the State fiscal revenues. It is equivalent to the protection effect.

Objectives Of The Andean System Of Price Bands

To stabilize the importing cost of a special group of agricultural and livestock products, characterized by the marked instability of their international prices, or by the serious distorsions thereof.

To achieve a stronger connection between the domestic prices of the importable products and the international price trends.

Elements Of The Andean System Of Price Bands

The products subject to the price band mechanism.
The rules to determine the floor and ceiling prices.
The rules to compute the additional variable duty and the tariff reduction.
A Special Regime for the consideration of transition and exception conditions.
The operational procedures for applying the mechanism.
The rules for tariff concessions to third countries.

The rules for the donations of subject-to-band-products received.
The Agricultural and Livestock Council, as a mechanism of coordination, follow-up, and evaluation of the System.

Products Subject To The ASPB

The System covers 138 NANDINA subitems, of which:
13 marker products.
Products whose international prices serve as the basis for the computation of the bands.
125 derived and substitute products.
Those products connected to the marker products for being substitutes, capital goods or products manufactured therefrom. The System intends to cover only those products whose inclusion is essential in order to avoid deviations in trade or disbalance in the effective protection structure.

ASPB: Related Products

Band	Number of NANDINA Subitems	Production Lines
White Rice	4	Food Grains 15 Products
Barley	3	
White Corn	2	
Wheat	6	
Yellow Corn	24	Feed and Meat 36 Products
Cuts of Chicken	4	
Pork Meat	8	
Refined Sugar	11	Sugar 13 Products
Raw Sugar	2	
Whole Milk	21	Dairy Products 21 Products
Whole Soy	14	Oleaginous plants and vegetal oils 53 Products
Crude Palm Oil	25	
Crude Soy Oil	14	
TOTAL	138	

This includes the subitems which correspond to the marker products

ASPB: Rules To Determine Floor And Ceiling Prices

FLOOR PRICE	=	Average of CIF historic prices - A fraction of the standard deviation
CEILING PRICE	=	Floor price + A standard deviation
BAND WIDTH	=	A standard deviation

Computation Of The Cif Historic Price Average	
Number of Observations	60 months until October of the last year.
Observed Quotations	FOB or international Stock Exchange prices
Conversion to current dollars	United States Consumer's Price Index
Conversion at CIF prices	Freight rates of the marker product and 0,5% insurance
CIF historic price average	Arithmetical average of the CIF price series in constant dollars

Standard Deviation Adjustment Factors	
0.5	For the bands of: soy, crude soy oil, crude palm oil, rice, barley, white corn, wheat, cuts of chicken, and pork meat.
0.0	For the bands of refined and raw sugar, and milk.
-0.5	For the band of yellow corn.

ASPB: Rules For The Computation Of Additional Duties And Tariff Reductions

Case 1: Marker Products

Reference Price Level (RP)*	Additional Duty (AD) and Tariff Reduction (TR)** Formula
Above the ceiling price (CP)	TR = (RP - CP) x (1 + AEC)/RP
Within the band	Not applicable
Below the floor price (FP)	AD = (FP - RP) x (1 + AEC)/RP

** Reference Price (RP) = Fortnightly average of the quotations observed in the reference international market.*

*** The numerator corresponds to the TR and AD expressed in dollars per metric ton. When divided by the RP, they are expressed in ad valorem terms*

Case 2: Related Products

Relation Between the AEC of the Marker Product and the AEC of the Related One	Formula for the Additional Duty of the Related Product (AD_r)
$AEC_{related} = AEC_{marker}$	$AD_{related} = AD_{marker}$
$AEC_{related} > AEC_{marker}$	AD_r = Maximum AD_m x (AEC_m / AEC_r) and $AD_m - (AEC_r - AEC_m)$
$AEC_{related} < AEC_{marker}$	AD_r = Minimum AD_m x (AEC_m / AEC_r) and $AD_m - (AEC_r - AEC_m)$

The Tariff Reduction of the related products is equivalent to the tariff reduction of the marker product, and cannot surpass the AEC of the marker or of the related product, the lowest of the two.

ASPB: Marker Products And Reference Markets

Rice Band	White Rice	White rice with 10% of split grains. FOB Bangkok, "trader" weekly quotations. Source: Reuter.
Barley Band	USA N°2 Brewer's barley	FOB Portland, based on daily quotations reported by the USDA. Source: Reuter.
Yellow Corn Band	Yellow corn N°2	FOB Gulf, based on the Chicago Stock Exchange. Daily closing quotations, first place. Source: Reuter.
White Corn Band	Yellow corn N°2	FOB Gulf, based on the Chicago Stock Exchange. Daily closing quotations, first place. Source: Reuter. These quotations shall be adjusted by a 1,21 factor, which is anually adjusted.
Soy Band	USA N° 2 Yellow Soy	FOB Gulf, based on the daily closing quotations, first place, Chicago Stock Exchange. Source: Reuter.
Wheat Band	Hard Red Winter N°2 Wheat	FOB Gulf, based on the daily closing quotations, first place, Kansas Stock Exchange. Source: Reuter.
Crude Soy Oil Band	Crude soy oil	FOB Argentina, based on weekly quotations. Source: Oil World.
Crude Palm Oil Band	Crude palm oil	CIF Rotterdam, North West Europe, based on weekly quotations. Source: Oil World.
Refined Sugar Band	Refined sugar	London Stock Exchange Contract N° 5, daily spot quotations, FOB London. Source: Reuter.
Raw Sugar Band	Raw sugar	New York Stock Exchange Contract N° 11, daily closing quotations, first place. Source: Reuter.
Milk Band	Whole powder milk without sugar	Whole powder milk without sugar, FOB monthly average prices New Zealand. Source: Statistics, New Zealand, official figures of monthly exports in volume and value.
Cuts of Chicken Band	Chicken Meat	***Historic prices:*** Trucklot daily prices for Grade A Chicken, 2 to 3.5 pounds. North-east of the United States of America. Quotations reported by Urner Barry Publications Inc., plus internal freight rates of US$ 87/MT. ***I.Reference prices:*** Trucklot daily prices for leg quarters in the Nort-east of the United States of America. Quotations reported by Urner Barry Publications Inc., plus internal freight rates of US$ 87/MT.
Pork Meat Band	Pork meat	Boston Butts, 4-8#, Central US FOB Omaha, Source: USDA, plus internal freight rates of US$ 110/MT.

SPECIAL REGIME

A. EXCEPTION CASES FOR THE APPLICATION OF THE ASPB

II. In principle, Bolivia is not obliged to apply the ASPB in view of the high transport costs that it faces due to its geographical location.

III. The Member Countries shall be able to limit the magnitude of the additional duties to that necessary for the fulfillment of the commitments on access to markets, within the framework of the Ronda de Uruguay of the GATT (GATT Uruguay Round).

IV. Peru shall be able to limit the application of the ASPB to 20 NANDINA subitems.

V. Venezuela shall gradually approach the milk band, starting at a lower floor price than that of the System (0,5 adjustment factor).

VI. Colombia and Ecuador shall gradually approach the milk band, starting at a higher floor price than that of the System (-0,5 adjustment factor).

VII. Venezuela is not obliged to apply the yellow corn band during the first year of the System being into force, and shall be able to gradually approach the Andean band starting the second year (0,125 factor).

VIII. Venezuela shall gradually approach the pork meat band, starting at a lower floor price (1,0 factor).

B. APPLICATION OF CORRECTIVE DUTIES

When a product of the System is imported from a Member Country which applies to the said product overall levies lower than those applied by the importer Member Country, it shall be considered that those imports cause distortions in competition and disturbances to the domestic production of the importer Member Country.

In these cases, the importer Member Country shall be able to apply corrective duties to the imports which come from the exporter Member Country, as long as a set of specific conditions are fulfilled.

ASPB: Parameters In Force During The Second Fortnight Of June 1995

Marker Products	CIF Floor Price US$/MTCIF	CIF Ceiling Price US$/MT	Fortnightly Reference Price	AD (+) and TR (-)
Pork meat	1806	2169	1945	0%
Pork meat(Ven)	1624	1987	1945	0%
Cuts of Chicken	1337	1452	858	67%
Whole milk	2090	2310	2081	1%
Whole milk (Col Ecu)	2200	2420	2081	7%
Whole milk(Ven)	1980	2200	2081	0%
Wheat	164	188	191	-2%
Barley	142	154	159	-4%
Yellow corn	146	156	135	9%
Yellow corn(Ven)	---	---	---	---
White corn	154	166	159	0%
White rice	328	373	278	22%
Whole soy	263	280	244	9%
Crude soy oil	479	523	616	-18%
Crude palm oil	401	444	650	-20%
Raw sugar	282	344	283	0%
Refined sugar	377	462	410	0%

ASPB: OPERATIVE ASPECTS

IX. The Board of the Cartagena Agreement, technical agency of the Andean Group, announces the floor and ceiling prices of each marking product every year, before December 15.

X. The floor and ceiling prices have an annual effectiveness counted as from April 1, every year. These prices are updated by adding the last 12 months to the series of historical prices, excluding the first 12 months of the series.

XI. The additional duties and tariff reductions are specified in the customs schedules made by the Board of the Cartagena Agreement.

XII. The fortnightly reference prices are computed and reported by the Board to the Member Countries, during the week following the fortnight on which the said prices are based.

XIII. The secondary information sources of international prices could be amended through a Resolution issued by the Board, due to technical and operative considerations, upon the opinion of the Agricultural and Livestock Council.

XIV. The elements of the System (marking and connected products, reference markets, rules for the computation of the band parameters, etc.) can only be amended by the Commission of the Cartagena Agreement, highest legislative agency of the Andean Group.

JOINT NEGOTIATION OF TARIFF CONCESSIONS TO THIRD COUNTRIES

XV. The granting of tariff concessions to third countries, in which products of the System are affected, shall be commonly carried out through the Decision of the Commission of the Cartagena Agreement. The Ministers of Agriculture of the Member Countries shall recommend to the Commission strategy and procedures to make progress in the corresponding negotiations.

XVI. The tariff concessions granted in favor of third countries prior to the establishment of the System shall be commonly revised so as to harmonize them and avoid price distortions which could countervene the objectives of the System. For this, the Ministers of Agriculture shall make the necessary recommendations to the Commission.

XVII. Until the Commission approves the aforementioned strategy, the Member Countries shall be able to continue the bilateral negotiations which they are currently holding with third countries, and which cover products of the Andean System of Price Bands. Likewise, the Member Countries shall be able to keep the tariff concessions granted until their harmonization is approved by the Commission.

DONATIONS OF FOOD PRODUCTS

XVIII. The donations of food products shall be administered by the recipient Member Country, in such a way, that their handling does not distort the sub-regional exchange. These donations shall be monetarized at prices no lower than those of the total import duties of a recent regular import.

XIX. The aforementioned does not apply to the donations which exclusively and directly aim at helping in catastrophs and similar emergency cases.

THE ANDEAN AGRICULTURAL AND LIVESTOCK COUNCIL

The Agricultural and Livestock Council is formed by the Deputy Ministers or Assistant Secretaries of the Ministries of Agriculture of the Member Countries. Their main function is to advise the Commission and the Cartagena Agreement in aspects connected to agricultural and livestock integration. With regard to the ASPB, it has the following functions:

XX. To cooperate with the Board in the preparation of decision proposals connected to the Andean System of Price Bands;

XXI. To carry out a permanent follow-up of the System; to conduct evaluations thereof from time to time; to channel the exchange of essential information among the Member Countries and the Board; and, to inform the agencies of the Agreement about the performance of the System semestrally.

XXII. To cooperate in the appropriate application of the common provisions regarding the System;

XXIII. To issue decisions on specific matters connected to the ASPB;

XXIV. To propose measures to the Commission, whenever an abnormal behavior is observed in the floor levels of the bands.

The representatives of the sub-regional agricultural and livestock or agrobased industrial trade organizations participate in the Council's sessions and have the right to vote.

ASPB: RICE PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-55,86%
Protection effect:	-0,28%
% of under floor observations	26,67%
% of on band observations	46,67%
% of over ceiling observations	26,67%

ASPB: BARLEY PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-53,99%
Protection effect:	0,02%
% of under floor observations	15,00%
% of on band observations	26,67%
% of over ceiling observations	58,33%

ASPB: WHITE CORN PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-59,03%
Protection effect:	0,03%
% of under floor observations	26,67%
% of on band observations	41,67%
% of over ceiling observations	31,67%

ASPB: WHEAT PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-53,88%
Protection effect:	-0,89%
% of under floor observations	30,00%
% of on band observations	23,33%
% of over ceiling observations	46,67%

ASPB: YELLOW CORN PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-78,98%
Protection effect:	7,97%
% of under floor observations	86,67%
% of on band observations	8,33%
% of over ceiling observations	5,00%

ASPB: CHICKEN PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-100,00%
Protection effect:	54,35%
% of under floor observations	100,00%
% of on band observations	0,00%
% of over ceiling observations	0,00%

ASPB: PORK MEAT PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-47,91%
Protection effect:	0,17%
% of under floor observations	38,33%
% of on band observations	33,33%
% of over ceiling observations	28,33%

ASPB: POWDER MILK PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-60,45%
Protection effect:	2,87%
% of under floor observations	58,33%
% of on band observations	23,33%
% of over ceiling observations	18,33%

ASPB: REFINED SUGAR PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-56,93%
Protection effect:	5,51%
% of under floor observations	71,67%
% of on band observations	6,67%
% of over ceiling observations	21,67%

ASPB: RAW SUGAR PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-61,43%
Protection effect:	4,96%
% of under floor observations	68,33%
% of on band observations	11,67%
% of over ceiling observations	20,00%

ASPB: SOY PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-52,17%
Protection effect:	0,08%
% of under floor observations	35,00%
% of on band observations	31,67%
% of over ceiling observations	33,33%

ASPB: CRUDE SOY OIL PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	-57,34%
Protection effect:	-0,68%
% of under floor observations	35,00%
% of on band observations	36,67%
% of over ceiling observations	28,33%

ASPB: CRUDE PALM OIL PRICE BAND
(Constant US$ of June 1994)

ANALYSIS OF THE BASIS PERIOD JULY 1989 - JUNE 1994	
Stabilization effect:	55,93%
Protection effect:	0,15%
% of under floor observations	28,33%
% of on band observations	36,67%
% of over ceiling observations	35,00%

JUSTIFICATION AND BENEFITS OF THE PRICE BANDS

XXV. The main function of price bands is to stabillize the import costs of agricultural and livestock products affected by strong swings in their international prices.

XXVI. The band is justified since extreme swings in international prices have undesirable effects: higher instability of domestic prices, higher uncertainty for the producers, instability in domestic production, higher external food dependency.

XXVII. Unstable international prices are not an appropriate guide for the allocation of resources in agricultural activities, since they do not reflect changes in the costs of production. Food import at depressed prices discourages the production of the said food products and of many substitute products which may be competitive at normal prices.

XXVIII. As a result of the agricultural policies in industrialized countries (subsidies to production and exports, or border protection to maintain the prices for the producer or the agricultural revenues), the agricultural supply in these countries is partially isolated from the swings in international prices, in such a way that they have lost their orienting function regarding resource allocation.

XXIX. As a consequence of the said policies, international prices do not reflect the real production costs in low price trends. For example, the export monthly price of wheat from the United States has fallen to 110 dollars per ton during the last five years. However, the American farmer has obtained a minimum price of approximately 150 dollars, guaranteed by the State, throughout that period. Additionally, when Argentinian wheat is quoted cheaper (it has gone down to 73 dollars), the US government provides its exporters with an additional subsidy so that they can compete with the Argentinians. This policy has frequently caused price-depressive vicious circles, since the Argentinians are obliged to sell at low prices because of the US subsidies, and the United States grants subsidies because the Argentinians sell at low prices. The same kind of vicious circle tends to take place between the United States and the European Union.

XXX. The Agreement on Agriculture of the Uruguay Round represented a step in the right direction. However, this step was too short, considering the existing distortions. The reductions agreed on in tariffs and subsidies are not a significant change in the current situation, since many of the said reductions had already been made.

XXXI. The price band benefits not only the importers, but also the producers and the consumers of the stabilized product. In fact, as a result of the band:

- ◊ The importer benefits, due to the fact that the import cost is less uncertain since a large number of the swings in the international price are counteracted by the automatic adjustments of the tariff. This smaller uncertainty enables the importer to schedule his imports more rationally.

- ◊ If the imported good is a capital good or an intermediate product, and the importer is a processing company, the band enables it to project its production costs with less uncertainty, as well as to plan the distribution of its purchases between domestic capital goods and foreign capital goods.

- ◊ The importer and the processer also benefit since the band implies a complete freedom of import, and substitutes the former mechanisms of direct and discretionary control on imports. The freedom of choosing what to buy, from whom, how much, and when represents more benefit opportunities for everybody.

- ◊ The consumers benefit, since the stabilization of the costs of the importer and the processer is expressed in less unstable sales prices. Also because the freedom of import implied by the band system guarantees a better and more varied supply.

- ◊ The consumers can also benefit from lower prices, since the monopolistic revenues which characterize the import restriction regimes disappear.

- ◊ The producers benefit since the floor price prevents products with extremely low prices, non-connected to production costs, entering the country.

- ◊ Everybody benefits since the band implies a stronger connection between the domestic market and the mid-term trends of international prices and the average level thereof.

- If everybody seems to benefit from the bands, who loses? That depends on the specific parameters of each band.

  - ◊ First, the losers are those who obtained revenues from the former system of import control. In other words, the former beneficiaries of the import quotas and licenses, among them: some importers, the bureaucracy of the importer state firms, and, probably, foreign suppliers.

  - ◊ In a neutral band, from a fiscal point of view (this is, if in the mid-term the revenues from surcharges are compensated by tariff reductions), the government loses, since the higher cost stability for the private sector has to be paid with a higher instability in the

fiscal revenues, regarding the tariffs. This is a minor cost, since tariffs have a decreasing weight in the structure of the State's overall revenues.

◊ In a non-neutral band, from a fiscal point of view, for example, if the government's revenues for the mechanism overcome the expenses, the government benefits. Particularly, the Ministry of Agriculture benefits, if it is the entity which manages the revenues obtained from variable surcharges. Of course, the sectors to which the expenditure of these resources is oriented also benefit. The losers in this case will probably be the aforementioned agents, which used to benefit from the former regime.

◊ If the bands are biased in their design, there can be many losers.

SESSION 7. MACROECONOMIC AND LABOR MARKET ADJUSTMENTS AND HEMISPHERIC FREE TRADE

The Social Challenge of the New Economic Era in Latin America

Albert Berry, University of Toronto, Canada

Introduction

The last two decades have been traumatic ones for the countries of Latin America and the Caribbean (LAC). Virtually all have confronted major economic crises and the related social and political strains. For many of them the international debt crisis of the early 1980s signalled the arrival of their own economic crisis, though in a few the timing was different for reasons related to country-specific policies or exogenous shocks. Crises involved macroeconomic imbalance, hyperinflation and the resulting need to stabilize; international payments imbalance calling for structural adjustment away from production of non-tradables to that of tradables; output losses associated with the need to stabilize and curtail imports; and, due to the above combination of events, rapidly falling absorption, real wages, and living standards. In an extreme case like Peru, per capita income fell by 21% over 1974-85, while real wages fell by over 50% (Verdera, 1994; Cox Edwards, 1992). For the region as a whole, per capita output in 1990 was about 8% below the 1980 level and per capita income about 15% due to the negative shift in the region's terms of trade over that decade (Table 1).

The 1990s have promised better things. Though per capita output is still a bit below that of 1980 (see Table 2) and per capita income nearly 10% below, the regional growth rate has returned to the 3-4% range, hardly dramatic but enough to begin the recovery of per capita incomes-- up by about 6% over 1990-94 (CEPALC, 1994, 11). A few really strong performers--especially Chile and Argentina--have created the hope that others should be able to follow and that the region as a whole might be able to get back to the healthy growth rates of the 1960s and 1970s. Some of the return of optimism is based simply on the better growth performance of the early 1990s, some on the dramatic return of capital, both flight capital which had previously left, and new foreign capital coming in (Culpeper, 1993), some on the entry of Mexico and the planned entry of Chile into NAFTA and the expectation that other Latin countries will benefit either from entry into a trading block or the closer integration of countries in the block, and some on the widespread more general belief that the currently more market-friendly economic policies have been a change for the better vis a vis those of the pre-crisis period. How well-founded are these hopes? Will a return to healthy growth bring a quick reduction of poverty and a gradual decline in the historically high levels of inequality characterizing this part of the world? This is an apparent implication of recent analyses (erg. Morley, 1994) which conclude that inequality tends to rise with recession and fall with prosperity. What policies will be most important to achieve growth with rapid poverty alleviation? Are the market-friendly economic reforms currently being widely adopted in the region promising for both growth and improved distribution? This volume focuses on the question of how labour market outcomes, and especially the distribution of income, have been related to economic events and to policy changes in Latin America and the Caribbean, with a view to predicting the distribution of the benefits from expected future growth. Its immediate raison d'etre is the accumulating evidence that the market-friendly policy shift has been systematically associated with an abrupt and important deterioration in income distribution. The pivotal question is whether this association is or is not a causal one. If so, it is urgent to ascertain which

components of the typical policy package are most responsible for this outcome; hopefully it is not those same ones as are most important to a strong growth performance. If not, it is nevertheless crucial to understand the source of worsening, and to plan remedial steps. The volume does not focus on the implications of the end of the debt crisis and the above mentioned policy shift for economic growth. Whether growth will or will not be rapid (say 5% per year for the region) is tremendously important, of course, since even a fairly severe worsening of income distribution over the medium term might not be too difficult to weather if average incomes were rising fast enough to spread some of the fruits of growth accruing to those at and near the bottom of the income pyramid. At this time, however, it would be foolhardy to assume that growth will be rapid enough to push distributional concerns into the background. One reason is that most of the impressive growth performances in the Third World have taken place in less market-friendly contexts, with Hong Kong and post-1975 Chile perhaps the only very notable exceptions. Another is the obvious problem which a number of LAC countries have been suffering in the management of their exchange rates, the continuing proclivity towards overvaluation and the resulting sluggish growth (Helleiner, 1994). Finally, in spite of the new-found access to foreign capital, gross domestic investment has not yet approached its pre-crisis level of about 25% (Table 1). All of these problems might be substantially resolved within five years or so, but the grounds for such an expectation are not overly strong[1], so the prudent response is to "be worried" about the possible implications of any sharp deterioration in distribution, along with the other unwelcome evidence–that temporary jobs, part-time jobs, and more generally job insecurity are a growing feature of labour markets in the region.

Until their respective crises, most LAC countries had, with varying degrees of intensity, pursued import substitution strategies of development put in place or fleshed out in the early post-war years. By the time the crises arrived, opinion among economists–in the industrial countries, the international institutions and the developing countries themselves had, again in varying degree, begun to shift against this strategy. Some felt that for countries like those of LAC it had already made such contributions as it could make; others felt that it had been a mistake from the start and that free trade would have served these countries better all along (Corbo, 1988). In fact several of the countries of the region had been shifting towards more outward oriented policies, Brazil and Colombia undertaking clear moves in that direction in the late 1960s. In any case, when the crises were upon them, their restricted policy space, perhaps combined with a lack of opportunity to consider policy alternatives, led to widespread adoption of the by-then-conventional policy prescription: trade and foreign investment liberalization; labour market reforms to reduce the degree of regulations and constraints on business; privatization and downsizing of the public sector; financial sector reforms; and tax reforms designed to simplify the systems, reduce the apparent progressivity built into income taxes, replace direct with indirect taxes.

The most-discussed and perhaps (though less obviously) the most important of these policy changes is the liberalization of trade and foreign investment, which increases the integration of the Third World countries into the world economy. While many analysts feel that such integration will foster better growth performances in the LDCs, predictions as to the employment and distributional impact of market-oriented reform packages in general and trade liberalization in particular have varied widely and on balance been less positive. The popular view that freer markets generally increase inequality has been countered by the view that trade liberalization should have the opposite effect, based on the simple Hecksher-Ohlin theory that the freeing of trade should shift factor demand in favor of unskilled labour and of agriculture and

[1] One interesting element of the optimistic school of thought is that a more outward oriented economic system promotes faster rates of productivity growth. Most of the studies undertaken to date have suffered from severe quality problems, and, in my judgment at least, add up to very little at this point.

thereby improve the distribution of income (e.g. Krueger, 1990). The main reason that the balance has shifted towards pessimism on this front, however, is not the predictions of the theory which are in any case ambiguous, but the empirical evidence on the aftermaths of liberalization experiences within the region and around the world. It is not only that the transition towards market economies in the Eastern European countries appears to have led to rapidly widening income inequality, but that such experiences have been frequent elsewhere also, including both industrialized countries and a number of developing ones, most prominently several from Latin America (Berry and Stewart, 1995). Dramatic increases in inequality occurred in Chile, Argentina, and perhaps also in Uruguay, the Dominican Republic and Mexico, concurrent with market- oriented policy packages which included trade liberalization as a central feature. It is natural that such increases would give pause to other countries contemplating similar reforms. While it remains to be seen what has happened or is happening in some of the other countries which have introduced the reform packages, and there is a possibility that Costa Rica has somehow avoided paying the price of increased inequality (see below) the regional record as it now stands suggests that any optimistic expectations with respect to the distribution impact of the reform package should be discarded. The important question now is whether the impact in a given country will be negative and large; a neutral outcome should be cause for satisfaction. Hence the importance of assessing the possible dimensions of this threat and the ways it might be avoided or attenuated.

Latin America has long been noted for the extreme inequality of incomes and opportunities characteristic of nearly all countries of the region. The urgency of dealing with this region's unnecessary poverty--unnecessary because average incomes are generally high enough to imply that there would be little poverty if the income share of the bottom few deciles were not so low--has naturally been heightened by the economic crisis of the 1980s and the sharp declines in per capita income observed in many countries.

The negative events of the last twenty years have changed the expectations with respect to the future of distribution in LAC from a cautiously optimistic one to a more worried one. During the 1960s and the 1970S the literature made much both of the high level of inequality in Latin America and of the perception that it was worsening. In the event there seem to be few well confirmed cases of negative trends during this time (Brazil's experience over the 1960s-early 1970s appears to be one--see Pfefferman and Webb, 1983). The more striking feature of the 1960S and early 1970s was the absence of any general trend either towards equality or inequality and the stability of distribution over time (lack of volatility) within nearly all countries (Berry, 1988). In the 15 year period 1975-90 Colombia's urban distribution showed a clear shift toward equality, with the narrowing of earnings differentials by level of education an apparently important factor. This experience suggested that a number of other countries might be close to a "turning point" in the evolution of their income distribution[2] since the rapid expansion of the upper levels of education was a widespread phenomenon in the region. The slowing of population growth added another element of optimism that excess supply at the lower-skill end of the labour market would be a less

[2] Whether interpreted as the Kuznets turning point or in some other way. Many countries of the region may have been close to the end of their "labour surplus" phase by the time the debt crisis put an end to the earlier growth process; assuming they have not slipped back too far from that turning point during the years of stagnation, it might not take many years of healthy growth for them to enter the tight labour market situation at which low skill wages begin to rise quickly.

significant factor in future than in the past. It was thus against a reasonably optimistic assessment of recent and expected future patterns that the new evidence of worsening has emerged to muddy the waters.[3]

In his important study of the distributional outcomes of the 1980s in Latin America, Altimir concludes that the "normal" distributive patterns in the coming phase of hopefully sustained growth will tend to be more unequal, at least in the urban areas, than in the last stages of the previous growth phase, during the 1970[4]. Few students of distribution in LAC countries seem now to question this view; the main issues are (i) how much more unequal will the new post-adjustment patterns be, (ii) whether continued growth under the new structures will eventually bring about a reduction in inequality, a question which could be phrased in terms of whether the Kuznets hypothesis or other "stage of development" related considerations will eventually come into play, and (iii) whether policy steps can substantially improve the distributional trends of the next few decades without disturbing the growth prospects of these countries.

Altimir's overall conclusion with respect to the future is that "the prospects for poverty alleviation through growth alone, without improvements of the relative distribution of incomes and vigorous social policies, appear so limited as to be disheartening and seem likely to be counterproductive for social integration and, ultimately, for sustainable growth"[5] ..."the abatement of absolute poverty will have to lean much more on social policy and its effectiveness." (ibid, 29). This is an especially sobering assessment, when one considers that the only case in which inequality has begun to abate after the full implementation of reforms is Chile, that at least 15 years passed from the beginning of the process before this happened, and that the current distribution remains far more unequal than the pre-crisis level. If other countries are to suffer the distribution-worsening pressures which have been so powerful in countries like Chile and Argentina, it would require major offsetting policies even to hold distribution constant. If the new model does not generate fast growth for some time--and on this one can only wait to see, given the relatively untried character of the model and its important differences from the policy package which proved so successful in East Asia--the short and medium run could hold many tensions and strains.[6]

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[3] This discussion sweeps the many data deficiencies under the rug. In fact, one must admit that all statements with respect to distribution trends in Latin America are subject to many qualifications, and the best one can do is make good guesses.

[4] Altimir (1994, 26-27) singles out Colombia, Costa Rica, Uruguay and perhaps Mexico as the countries where circa-1990 inequality was not significantly greater than that of the late 1970s or early 1980s and suggests that this may be due to these being countries in which "social justice values have traditionally inbred institutions, objectives of equity have been quite consistently incorporated in policy design throughout the adjustment phase, and both adjustment and policy reforms have been approached gradually and pragmatically". He notes that gradualism was abandoned in Mexico in the last phase of the reform process, but that this shift coincided with the special event--entry into NAFTA.

[5] He cites ECLAC, 1990, which takes a similar position.

[6] Though it is easy to identify many elements of the new model which should improve efficiency and growth performance vis a vis which should improve efficiently and growth performance vis a vis the old one, the relatively hard evidence that such has been the case remains thin. For example, most of the analyses of total factor productivity growth and its positive association with the policy reforms are fragile and unpersuasive.
None of the micro level analysis of this sort constitutes per se a source of strong confidence in the model. The growth records which countries achieve will this be the main test of its merits. Thus far Chile stands out as the only strong success, and that after a lengthy gestation period.

The research reported in this volume is designed to contribute to our understanding of the impact of liberalization-integration and other components of the reform policy package on the labour market and labour market outcomes (employment and unemployment, the character and quality of employment, and income distribution), through detailed looks at the experience of a number of countries of the LAC region, comparison among those experiences and selective use of other information. Special attention is directed to impact on income distribution, both by earners and by families, on the grounds that the trends in these variables are the most meaningful summing up of the labour market impacts in question. We draw on Canada's experience for comparative purposes because of its high degree of integration with the U.S. economy and its recent entry into a free trade area with that country. One of the major foci is the patterns of wage differentials between more skilled and less skilled workers, a matter much discussed in the United States and other developed countries over the last decade during which inequality has increased in the majority of such countries (Berry and Stewart, 1995).

This chapter summarizes the empirical evidence on recent income distribution trends in the LAC countries, focusing especially on the timing of changes in distribution and the hypotheses suggested by that timing. Before turning to evidence, we review some of the hypotheses put forward to explain the recent negative trends in distribution and/or other worrisome aspects of labour market outcomes.

Possible Explanations for Negative Distributional Trends

As a-result of deficient data bases and limited quantitative analysis directed to the explanation of levels and trends in inequality in Latin America or in developing countries generally, there is little by way of verified theory. The Kuznets hypothesis has received a great deal of discussion, but remains controversial.[7] Limited discussion has also revolved around the Lewis labour surplus model and the proposition that as countries reach the point at which the labour market begins to tighten up the distribution of income may be expected to improve (Berry, 1983). Among structural features, the distribution of agricultural land as well as of other productive assets, the distribution of education (Knight and Sabot,), the size structure of firms and the degree of openness to international markets have all received some attention either in a static sense and/or as features whose change over time may be predicted to contribute to distributional trends over time (Bourguinon and Morrisson, 1989; Fields, 1984). It has of course long been recognized that the speed and pattern of technological change could have a significant effect on distribution. There has been less analysis in developing than in developed countries of the impact of the economic or business cycle, partly because the sort of cycle so prevalent in the industrialized countries has not been generally present in a similar form in the LDCs, but Morley's recent work (1994) presents an important analysis of the record of the 1980s in LAC.

One can distinguish three broad methodological approaches to achieving a better understanding of the factors underlying changes in income and consumption distribution: cross country comparisons of

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It is as easy to conclude that human capital formation will be pivotal in the new world towards which the countries of LAC are moving as that the reforms will provide certain benefits. But the empirical analysis and the understanding of how various types of human capital accumulation affect economic performance are also in their infancy and hence not a strong reed to build policy on at this time.

[7] Note the Williamson books and Bigsten and Fields, etc.

distribution outcomes[8] and hypothesized determinants thereof; over-time studies of the experience of individual countries; and micro-type analysis designed to test for the evidence that a particular hypothesized mechanism was indeed at work.[9]

A important aspect of the study of determinants o distribution involves the relationships among the various relevant "distributions". Probably the three main ones to bear in mind are: (i) the distribution of income among earners (sometimes limited to those with labour and/or business earnings, i.e. excluding those receiving only rents); (ii) the distribution of income among families or persons (usually ranked by per capita family income or some variant thereof); and (iii) the distribution of consumption among families or persons--often argued to be the most useful as a guide to the distribution of material welfare. The distribution of income among earners is of special importance because it most directly reflects the functioning of the economy. The mapping from this distribution to the other two is however a matter of great importance, since any social assessment of how good or bad distribution is has to be based on them. With the increasing prevalence of multi-earner households (or at least with the increase in the share of adults who work outside the house) the correlation between the distribution of earner income and that of family or personal income may have been weakening. Finally there is the functional distribution (that between factors of production-- labour, capital, and natural resources), long a prominent tool in the economic theory surrounding distribution but much less central to contemporary analysis of distribution in LDCs.[10] Given the sharp drop in many wage series in LAC countries during the crisis considerably more marked than the falls in per capita output or income), and their halting recovery, an obvious hypothesis is that the capital share has risen markedly. But it would be dangerous to take this for granted until one can claim better measurement of capital income than we can claim at this time. In summary, the assessment of any hypothesis on the determinants of distribution and its trends, should, whenever possible be carried out using the full battery of "distributions"; there is no guarantee that the impact identified on earner

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[8] It is of course important not to forget that country-specific features may be very important and may make it difficult to learn from cross country comparisons of experience.

[9] Thus a test of the impact of trade levels or trade policy on distribution would tend to distinguish tradable and non-tradeable goods sectors, assess their relative factor intensities, etc.

[10] It is less important in empirical work than much earlier theorizing would have suggested it should be for two reasons: first, there is a much greater variance of incomes earned from "labour" in the broad sense of the term than was built into early models, hence it is clear that the whole story about distribution is not incorporated in a simple concept like the labour share; second, it is hard empirically to estimate the labour share with great precision, because much labour income is imputed (part of the general category "business" income) and because the distribution of capital income is the least understood aspect of overall distribution because of the very faulty data. Here too, no simple assumption such as homogeneity among recipients of capital income could be taken seriously. All this notwithstanding, it is important to focus on the functional distribution of income when one can do so with any success. One of the striking weaknesses of most of the analyses of distributional trends over the last couple of decades in LAC, the period of the phenomena of interest to us here, is the lack of attempts to asses trends in the capital share. A basic methodological problem lies in the fact that one must, as one approach to it estimate, calculate capital income as the residual after the estimate of labour income; the estimate of net capital income (net of depreciation, the relevant concept) is complicated by its dependence on the estimate of depreciation. In most national accounts the rules for estimation of depreciation are arbitrary, probably not very valid, and especially misleading during periods when the investment rate is changing quickly and hence the ratio of net investment to gross investment is also changing quickly. Serious analyses of this matter for LAC countries are few or non-existent.

income will necessarily show up also in the family income or consumption distributions, and none of the survey based distributions are likely to effectively identify the role of capital income.

Since there is an obvious tendency for income differences across groups to perpetuate themselves through the process of bequest (of capital, human capital, work attitudes, social contacts, etc.), measuring the overall distributional impact of any given factor which can be shown to have an effect at some point of time involves understanding the dynamic process which underlies the way distributions change over time. It has thus far proven difficult to assess the long run distribution impacts of presumed determinants, because of our very incomplete understanding of the dynamic process surrounding distribution. What does seem clear is that there is a very high level of inertia in income distributions, so that if one country achieves a high level of inequality at an early stage of development and another a high level of inequality, those differences will tend to persist for a long period, perhaps becoming accentuated or perhaps becoming damped but in either case staying strong. One no doubt oversimplified interpretation of the Taiwan-Brazil contrast in current levels of inequality would be that Taiwan had a major agrarian reform early in its development process and Brazil did not, with the resulting differences persisting strongly over time.

While our main interest as in the impacts of the policy reforms and related structural changes on distribution, in order not to run too great risks of misreading the evidence it is important to have all major possible determinants in mind. A suggested list is presented below. The interaction among factors and between policies and background factors can be very important, and some flavor for main hypotheses of this type is provided below. The categories distinguished are not mutually exclusive, and it may be best to think of them as alternative ways of organizing the range of mechanisms which may come into play. Trade-related hypotheses can also involve structure (since a country's size and its factor endowment help to determine how trade-oriented it will be), as well, obviously, as policy.

"Stages of Development" hypotheses have been important since Kuznets (1955) argued that there was a general tendency for distribution to worsen in the early stages of development, then improve later on. He explained this pattern primarily as the result of the transition process whereby an economy evolves from a condition in which it is the traditional, rural low-income sector dominates through a middles phase in which both the traditional sector and the much higher-income modern sector are important, to the final stage in which the modern sector dominates. In the middle phase, the importance of the two sectors, each with its own income variance but around quite different medians, raises the overfill level of inequality. Kuznets' own discussions of the historical evidence from now-industrialized countries has subsequently been complemented by the work of Williamson ( ) and others. In the LDCs, cross-country studies have in general been consistent wit the hypothesis (e.g. Alhuwalia, 1976) but over-time analyses have not (Fields), perhaps however because the periods of time for which data have been available are relatively short.

Various aspects of the economic structure of a country are expected to affect income distribution. Most apparently relevant is the agrarian structure (distribution of land, tenure system, etc); a strong case can be made that it not only underlies the degree of a country's inequality in the early stages of development but also, through the inertia which characterize the evolution of distribution in most countries, many later developments as well. More generally, the distribution of assets appears almost tautologically to be an important determinant of inequality (Adelman, 1975?; Adelman and Robinson, 1978); the size distribution of firms or plants, generally correlated with the ownership distribution of assets, has also been suggested as a determinant and built into various models of distribution.

Openness as measured by export and import ratios, is affected both by such structural features of a country as its size and resource endowment, as well as by its policies.

Elements of societal structure like the ethnic composition of the population, the prevalence and impact of the extended family, and the evolution of the nuclear family may also have significant impacts.

Although not our focus here, the relationship between distribution and the cycle of recession/recovery is important both as a hypothesis in its own right and because the coincidence of timing between the economic cycle and policy reforms can make it hard to sort out whether it is economic downturn or policy changes which lies behind the observed increases in inequality. If economic downturns were the main factor underlying the large increases in inequality observed in many LAC countries, a positive prognosis for the future would be plausible. Both Morley (1994) and Altimir (1994) put considerable emphasis on the relationship of distribution to the cycle. Altimir notes that the fast growing countries tended to see improvements in distribution during the 1970s whereas the slow growing ones saw the opposite. He also sees some ties in the 19805, but does not draw much optimism from his reading of the evidence.[11] Morley's stronger conclusion is that during the 1980s improvements almost always coincided with economic growth and worsening with downturns. Our own case studies suggest the relationship is less tight than he argues, with exceptions (at least partial) being urban Colombia, where inequality fell through the downturn of the early 1980s but rose in the context of growth in the early 1990s; Brazil, where the most recent downturn (1990-92) saw a lessening of inequality; Costa Rica, for which Trejos and Sauna (1994) report a decline in the Gini coefficient (among families ranked by per capita income) during the early 1980s crisis and some worsening during the recovery which followed; Dominican Republic and possibly Uruguay (see below). Fields and Newton (1994) reach a similar conclusion based on their look at the evidence from Venezuela, Brazil and Costa Rica. While further research will no doubt throw more light on this issue, the most likely general conclusion would seem to be that, though there is probably some average tendency for downturns (upturns) to be associated with increasing (decreasing) inequality, there are many exceptions to this relationship and, more important from our point of view, the cycle cannot explain the majority of the observed changes in inequality over the last couple of decades in the LAC countries.[12] From our practical perspective, the main concern with the cycle hypothesis will thus be to try to normalize for it as well as

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[11] While noting that the countries still wrapped up in recession and instability at the end of the 1980s (Argentina, Brazil, Panama and Peru) showed levels of inequality higher than at the beginning of the crisis, he also observed that "income distribution improvement-where they existed- only took place along with real wage increases....; these are less likely during the stabilization processes still faced by Brazil and Peru and have not yet occurred during the current Panamanian recovery.

"Consequently, one should not expect significant equity improvements in these countries as a consequence of stabilization and recovery. Indeed, full deployment of policy reforms and associated adjustment measures-particularly on the fiscal front may still bring a medium-term increase in income inequality." (Altimir, 1994, 26). Based on the experiences of Colombia and Chile, he concludes that only modest reductions can be expected when countries attain a sustained growth path.

[12] The only possible condition under in which this conclusion might not hold would be one in which some of the effects of the cycle occur with substantial lags. The same problem of not having a good idea of the lag structure of the causal relationships involved plaques the analysis of the policy changes as well; some effects may occur quickly, others more slowly. Most serious in this context is the possibility that some negative effects are short-term and to reverse themselves with time.

possible, so that the effects of the cycle do not become too confused with those in which we are more directly interested.

Hypotheses linking technology to increasing inequality abound at present since it is generally perceived that we are in the midst of a major burst of technological change involving both robotics and other innovations which displace blue-collar workers, together with computer-based displacement of certain types of white-collar jobs; the labour favored by these changes falls in the high skills category. These hypotheses are commonly put forward to explain for the rather general trend toward increasing levels of inequality around the world. At a world level as well as in LAC, however, it is difficult to disentangle the effects of such technological change from those of globalization, whose timing has been rather similar. Thus in the U.S. debate on the sources of the increase in inequality observed during the 1980s, these two hypotheses contend.[13]

In the Latin American context two related considerations must be borne in mind as one assesses the role of technological change. First, since virtually all of the countries of the region suffered serious economic setbacks, either in the 1980s or the 1970s or both, most have been in a recovery mode since those set-backs, which saw both their growth and their investment levels fall precipitously. Since the incorporation of new technology occurs substantially through new investment, technological change would presumably be concentrated during the recovery; a degree of technological updating which might otherwise have been spread out over a couple of decades might instead occur in a much shorter period. Second, the opening up to trade (with different relative focus on pushing exports vs. liberalizing the domestic market according to the country and, among other things, its exchange rate policy) has tended to coincide with recovery in quite a few countries. It too has pushed technological adoption and adaptation in certain ways and probably tended overall to accelerate that process. Sorting out the impact of the "technology factor" in the LAC countries thus involves both taking account of the evidence on its manifestations in other countries of the world and disentangling its effects from those of abrupt changes in the degree of openness, of the stage of recovery and of other possible factors.

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[13] In the U.S. context the initial studies (e.g. Revenga 1992; Murphy and Welch, 1991; Borjas, Freeman and Katz, 1992) put the spotlight on trade competition as a key factor in the decline of employment and wages of production vis a vis non-production workers in the U.S. More recent studies (Bound and Johnson, 1992; Berman, Bound and Griliches, 1994) conclude that the proximate cause is biased technological change, such as the introduction of computers. They identify the decreasing ratio of production to non-production workers within industries as the crucial determinant of the outcome. Lawrence and Slaughter (1993) rule out the stopler-Samuelson effect on the grounds that it predicts employment moving in the opposite direction to relative wages. Wood (1994) has argued that import competition is the dominant source of increasing inequality in the industrial countries generally.

The Policy-Related Hypotheses

Our central concern here is with the market-friendly policies adopted in varying degree by most LAC countries over the last decade or so, including trade and foreign investment liberalization, privatization and generally downsizing of the public sector, labour market reforms, etc. It is useful to specify some of the major ideas on the table.

(i) There are competing ideas as to why openness matters, and which aspects of it matter, but not much disagreement that it does not matter. The Heckscher-Ohlin theory emphasizes differences in factor proportions between exportables and importables. Other theories relate rate of technology adoption and the type of technology adopted to degree of openness (Pack, 1992). Less often mooted is the "economies of scale in trade" hypothesis whereby, regardless of what happens at the production level, there are important economies of scale in the commercial and financial aspects of international trade. This helps to explain why large firms dominate trade in many sectors and smaller firms are less involved. To the extent that factor proportions are closely related to firm size (there is much empirical evidence for this relationship) one would expect globalization to favor the larger firms and hence to raise the returns to capital and lower those to labour. Unlike the Heckscher-Ohlin hypothesis, which tends to suggest differing impacts of trade on different types of countries (e.g. labour abundant vs. capital abundant) this theory might suggest a negative effect on distribution in all countries, though a more marked one in those where the static Heckscher-Ohlin effect also worked negatively.

A debated aspect of the trade policy question is the appropriate way to think of economies in Heckscher-Ohlin terms, in particular the number of factors of production which must be distinguished. Results can be reversed according to whether a model with a single labour factor is closer to the facts than one with two or more Categories of labour which bear different relationships of substitution or complementarity with other factors. Simple two factor or three models tend to view agriculture as the sector most penalized by protection, whereas the evidence from several LAC countries has suggested that some agricultural activities are among the most protected.

(ii) Symmetrical with traditional two-factor trade theory is the proposition that foreign investment should improve the functional distribution of income in the host country by raising the capital/labour ratio and hence the ratio of wages to returns to capital. Fenestra and Hanson (1994), who link foreign investment to widening wage dispersion between higher skilled and lower skilled workers in Mexico, is thinking of a different mechanism, one in which activities which are shifted from the source country to the host country are less capital intensive than average in the former and more capital intensive than average in the latter.

(iii) There is a considerable literature in developed countries which reports that unions, minimum wages and other types of labour market legislation usually have the effect of narrowing earnings differentials. Among the interpretations are that they prevent the exploitation of relatively undefended workers, that they prevent differences in ability from being reflected in different earnings as much they might otherwise do, etc. In developing countries, though this view has also been prominent, there is a competing view that the protection of the labour elite increases the inequality of labour income. What it does to overall distribution is theoretically unclear; it depends in part on how much of the rents taken by protected labour are at the expense of capital (and which among the groups of capital owners pay them), and the extent to which they are at the expense of the rest of labour (if indeed they are). This issue has been very little addressed from an empirical point of view in LAC countries or other LDCs, but the evidence from Chile, Argentina and other countries makes it clear that it must receive serious attention in general. Also relevant to this

hypothesis (and to some of the others) is the common recent finding that the intra-cell variance of income has risen substantially in recent years, i.e. the income differentials not explained by level of education, experience, sector, etc. The technology hypotheses could suggest that previously unimportant differences among people in training, education, and skills among people become important as a result of the change in technology; differences in capacity to adjust to new technology could show up in short-run differences in productivity which were not previously present. To the extent also that labour institutions tend to damp the variance of income within categories defined by variables like these, the waning influence of those institutions could let differences appear which were previously constrained away from appearing.

A very important research issue at this time is the relationship between trends in wages, wage differentials and income distribution. This is so partly because much of the important research on the impact of trade and other reforms in industrialized countries has focused in the first (and usually also the last) instance on their impact on wage structure (by industry, by job position, by level of education, etc.). The assumed link from say a widening of observed wage dispersion to a worsening of income distribution may not be too risky in such countries, but the situation is more complicated in LDCs. Often the wage series available are not representative of the labour force in general, e.g. formal sector manufacturing wages may not move too closely with average wages in the formal and informal sectors taken together. With the large informal sectors and a high level of self- employment, wage series are not reliable guides even to the distribution of earner income, let alone those of family income or consumption. Also, with the sectoral and occupational Composition of the labour force sometimes changing fairly fast (a tendency accentuated by the rapidly rising female participation rates in some countries), average wages of all employed workers may move rather differently from those of specific categories. Analysis of wage structure is as important in LDCs as in developed countries, but the subsequent mappings from those trends onto income distribution is an important challenge.

(iv) Public sector activities create incomes (or "rents", depending sometimes on how one views them) for the type of worker hired, and sometimes for those who are well connected. Most observers feel these are generally middle class and middle income people, and that the shrinking of this sector will accordingly be felt mainly by the middle deciles of the distribution. But much may also depend on the indirect effects of the downsizing. If former public sector employees proceed to "bump down" some in lower income categories, the ultimate (general equilibrium) effect might be more complicated.

(v) To the extent that the prevalence of small (and medium) enterprise has a lot to do with the demand for labour, especially relatively less-skilled labour, its size and growth rate will be possible determinants of income inequality. One hypothesis to explain Taiwan's income equality is the dominance of small farms and small firms over the formative part of its development process. Brazil is at or close to the other end of this spectrum, and so its level of inequality.

(f) Much income inequality is directly related to an unequal distribution of human capital, which in turn reflects the functioning of the education/training process. Educational access is related to income distribution, especially in countries with important private educational sectors. Both the predictions based on the character of the ongoing technological revolution and some evidence from industrial and developing countries that wage dispersion by education and skill levels has recently been rising, imply that this is a major issue for the future. Though educational and training policy does not figure prominently in our analysis of the sort of sudden changes in distribution witnessed over the last decade or so (even 10-15 years is a short period for the impact of policy to manifest itself) it must obviously be assigned a central role in planning for the future.

While all of the above possible causal factors no doubt play some role in the evolution of income distribution, some are unlikely to be behind the sharp changes witnessed in so many LAC countries. This probably includes educational policy and performance, small enterprise policy and performance (though less clear are the latter since SSE may have suffered disproportionally from liberalization and or/recession). Trade policy, labour policy, size of public sector, technology change, and business cycle factors are all obvious possible candidates.

The Distribution Record of Latin America and the Caribbean. Growth and Trickle-Down Prior to the 1980s

As the Latin American countries progressed through the 1960S and 1970s, it appeared that severe poverty might be more or less eradicated by another decade or so of "growth without redistribution"-- that is, growth within the context of an essentially unchanged and very high level of income inequality.[14] This outcome was a possibility because of Latin America's higher average income than in most of the Third World.

Over the period 1950-80 the region's per capita income rose by about 3% per year. With the poverty line which Altimir (1982) attempted to apply across countries for 1970, poverty incidence was about 38% of households (Table 2).[15] The growth record over 1950-70 would suggest that poverty incidence in 1950 (using the same poverty line) was around 65%[16] ; over 1970-80 it probably fell to somewhere around 25%. Had per capita income growth continued over the last two decades of the century at the 3% per year observed over 1950-80, poverty incidence would probably have fallen to about 10-15%[17]; with reasonably effective poverty redressal policies (targeted employment schemes, food schemes, etc.) of the sort which can more easily reach a large share of the poor when the incidence of poverty gets down to this relatively low level, it would have been realistic to think that no more than a few percent would have been critically poor.

Although most countries of the region did not witness major shifts in income distribution during the 1970s, some patterns hinted at possible changes in the not too distant future. Thus, the sharp increase in real wages

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[14] As of the 1960s and early 1970s all of the Latin countries had very high levels of inequality by the standards of other less developed countries, with the exceptions of Cuba, by then a centrally planned socialist economy, Argentina and Uruguay; somewhat less inegalitarian than those but still better than the regional average were Chile, Costa Rica and probably Venezuela. The most common explanations of the lower inequality in the Southern Cone included their higher level of development (e.g., farther along in the Kuznets cycle) with associated development of social security systems, wage protection, etc. and their greater racial homogeneity.

[15] Data were not available for all countries, but those excluded had only 12% of the region's population and were not obviously atypical in terms of degree of inequality. Since the data relate (in all or nearly all cases) to the distribution of households ranked by household income. the share of people below the poverty lines might be somewhat different from what these figures show, though it is not clear in which direction they may be biased.

[16] Assuming the distribution of income for the region as a whole was not dissimilar to that observed for Colombia in 1970; Colombia's Gini coefficient was in the middle of the pack at that time.

[17] If this extra period of growth brought with it a significant tightening of the labour market, it might have been realistic to expect the income share of the bottom few decides to rise (though perhaps not the very bottom decile).

of lower skilled workers in Brazil during the "economic miracle" of the late 1960s and early 1970s, and the less dramatic increase in real wages in agriculture and some other sectors of the Colombian economy suggested that these two economies might be on the verge of a tighter labour market and continuing wage increases, especially among those lower skilled workers (Pfefferman and Webb, 1983; Berry, 1990).

The Crash, the Halting Recovery and the Policy Response

This happy outcome was of course not forthcoming, courtesy of the debt crisis and the periods of decline and difficult recovery which followed. The timing of the economic crises varied somewhat, with the Southern Cone countries already in difficulties by the mid-1970s, while for most of the others the onset was signalled by the international debt crisis of the early 1980s. Particularly severe short period (2-4 years) declines in per capita income were suffered by Costa Rica, Chile, Peru and Venezuela, while GDP per capita fell by over 20% during the 19805 in Argentina, Venezuela, Peru, Bolivia and Nicaragua (though the first two regained some of that ground in 1991-92). For the region as a whole per capita national income fell by about 13% over 1980-85 and has fluctuated a little with no significant movement either way since then (Table 1). A brief spurt of modest growth over 1985-87 petered out by the late 1980s, the last three years of which all saw average growth of less than 1%. 1991 and 1992 were better again, with an average of around 3%.

With this sort of macroeconomic performance it was obvious that there would be many "losers" during this period. The only countries which did not suffer a net decline in gross national income per capita between 1980 and 1992 are Colombia and Chile.

In one important sense the poor have been the big losers from the "lost decade" since the fact of being poor means that income declines and/or lost opportunities to advance hurt more.

The debt crisis provided the push to induce and/or oblige the region to jettison its trademark import-substitution strategy for a more liberalized trading system, as well as to move towards adoption of the other elements of what is now a standard package of reforms to labour markets, financial markets and the public sector. Some countries had already taken significant steps away from the traditional combination of protectionism and overvalued exchange rates and the resulting bias against trade. Both Colombia and Brazil moved to encourage exports in the late 1960s; Colombia's adoption of a crawling peg exchange rate put an end to the systematic overvaluation of earlier years. These approaches were qualitatively similar to the East Asian practice of encouraging exports while continuing to protect imports. Chile went much farther as the Pinochet regime introduced the most free-trade free-market system in the region, including a real import liberalization bringing tariff rates down to lot by 1980; though they were raised somewhat in the mid-1980s the average was back down to 15% as the decade came to a close (UNCTAD, 1992, 44). Argentina had an important liberalization episode between 1976 and 1982, in which the average effective rate of protection fell from 158% to 54% (Gelbard, 1990, 46). In the second half of the 1980s most of the countries of the region have initiated significant reforms, varying in detail and in timing, and having few if any close precedents in the developing (or the developed) world.

Distribution and Poverty Effects of the Policy Reforms: Evidence from Country Experience

In any attempt to predict the medium-term future of income distribution and poverty in Latin America one can draw both on analysis of how recent trends in structural variables and in policies would be expected to affect income distribution, and on a reading of the record of countries which have undertaken some or

all of the reforms far enough back in time to make their experience useful. Although considerable uncertainty still surrounds the precise evolution of income distribution during the crisis and adjustment periods in most of the countries of Latin America, and it is difficult to sort out the effects of policy changes from those of the crisis itself and of longer run structural trends dating back to the pre-crisis years, analysis of the record is nevertheless quite rewarding. In spite of data problems in some countries and uncertainties with respect to the causal processes at work in others, one is left with the powerful impression of a preponderance of negative shifts in distribution around the time of the introduction of policy reforms, and the feeling that this negative impact is not fully explicable by other obvious candidates like stage of the cycle, rate of inflation, etc.

With the exceptions noted, the evidence discussed below suffers from a number of defects, including in particular:
(i) changes in price vectors are not allowed for;
(ii) usually data are available only for urban areas;
(iii) capital incomes are inadequately measured so changes in the capital share might go largely undetected[18]; wealth effects are, as always, absent;
(iv) incomes from secondary incomes are not well recorded;
(v) there are the usual, numerous, sources of misreporting;
(vi) apparent effects of inflation on distribution may be illusory related to lags in the adjustment of the wages and prices which are important to different groups of people.

The evidence which, taken together, points a large finger at the policy package as the source of increasing inequality, comes from Argentina, Chile, Colombia, Dominican Republic, Ecuador, Mexico, and Uruguay. In no case with satisfactory quality data do we have clear evidence of the opposite pattern. Costa Rica is a special and important case since it appears to be an exception (distribution constant rather than worsening); unfortunately its data suffer a flaw just at the time liberalization was being introduced. Several other countries have not undertaken the reform package far enough back in time to generate useful data by now, and for others the data are simply of too questionable quality. We organize the discussion around group A of countries whose experiences appear to share a number of relevant characteristics.

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[18] Usually the most useful and reliable information comes from household income surveys, but their main defect is the systematically weak reporting of non-labour incomes. When there is no reason to believe that the labour share has changed markedly or that the distribution of capital income has been altered, this underreporting is unlikely to greatly bias the estimated trends. During the 1980s, however, there is some reason to believe that the capital share has risen, as the result of higher interest rates, on government domestic debt among other things (Felix and Caskey, 1989). During the crises themselves, a common pattern was government borrowing abroad or locally to shore up the exchange rate; this facilitated massive capital flight. Governments (e.g. those of Chile and Ecuador) essentially socialized private foreign liabilities, which are the domain of the rich; the Chilean Central Bank, pushed by the international banks to act as guarantor of private non-guaranteed foreign loans, subsidized debtors to the tune of about 4% of GDP over the period 1982-85 (Meller, 1992, 60). Later, when the crises had passed and structural adjustment begun, high interest rates remained the order of the day as part of the new financial orthodoxy. Our understanding of the net effects of the various impacts on capital incomes during this period is not adequate to say with certainty that the capital share has risen by enough to imply an overall trend to worsening since the onset of the crises but that possibility must be borne in mind.

Chile Argentina and Uruguay

These three Southern Cone countries differ from the rest of the LAC nations in that all introduced significant liberalizing economic reforms in the early or mid-1970s, before similar efforts were undertaken in the other LAC countries.[19] These cases thus offer a longer period during which possible impacts of the reforms might have been felt. In all cases serious deterioration of distribution seems to have occurred, though the Uruguayan data are somewhat suspect in terms of quality/comparability over time. Argentina and Chile suffered unusual worsening of income distribution, with high unemployment an aspect of the period in question in Chile, and falling labour incomes for the lower decides the dominant feature in Argentina.

Chile's experience is the most important from our perspective, since the policy experiments date well back in time and, despite some vacillations, the basic strand of policy has been maintained subsequently. The country has had two severe recessions since 1970, the first associated with Allende's overthrow, as GDP fell by 23% over 1972-75, and the second with the international debt crisis, when GDP fell between 1981 and 1982. After each collapse growth resumed quickly and was strong, but their impact was still to hold average annual growth over 1970-92 to only 3.2%, though registering an impressive 6% since 1984. Since 1973 the economy has undergone the most radical policy "reforms" of any nation in the region.

As of the late 1960s inequality was a little less severe than in most other Latin countries.[20] The data for greater Santiago indicate a sharp improvement during the Allende administration, followed by a sharp reversal such that by 1976 household income inequality was markedly worse than in the pre-Allende period and no longer superior to the levels observed in most other Latin countries (Table 3).[21] Less frequent but

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[19] As noted above, Brazil and Colombia had already taken serious steps to encourage exports by the late 1960s, but had not (at this time) undertaken an important liberalization of imports, nor imposed changes on the institutions governing the labour market.

[20] As of 1967-68 the comparable data from the ECIEL study revealed a Gini coefficient for the distribution of income among households of .451 in Santiago, compared to .487 in Lima, an average of .473 in four Colombian cities and an average of about 0.43 in two Venezuelan cities (Musgrove, 1978, 36). Brazil's cities would have presumably recorded higher figures and those of Argentina lower ones.

[21] Paradoxically, the data on distribution among income recipients, while showing the same cycle as for the household distribution, do not indicate that the level of inequality was greater in the late 1970s than in 1970. This anomaly, still to be fully explained, does not greatly diminish the likelihood that household distribution did worsen significantly.

A problem with the Chilean information, as with that for Argentina, is that published distribution data over time are only available for greater Santiago, not for the country as a whole. But Santiago is probably fairly representative of the country, as suggested by the similarity of measured inequality for the few years for which both city and national data are available. There is no automatic inconsistency in the different trends shown for the income recipient and the household distributions, since the relationship between the two can change with family composition or with the participation of secondary workers. Still, of course, it would be possible to have more confidence in the conclusions suggested here if this difference were already satisfactorily explained.

Another inadequacy of the available calculations is their failure to take account of changes in the relative prices of the consumption items purchased by different income classes. Over the course of the 1980s the increase in the relative price of food may have made the distribution trends worse than the figures on nominal distribution of income make them out to be.

hopefully more comparable data on the distribution of consumption among greater Santiago households show one of the largest deteriorations ever recorded statistically in a developing country, occurring primarily between 1969 and 1978 but also over the decade which followed (Table 4). Since it is reasonable to assume that distribution at the end of the Allende years was better than that of 1969 (to which the data refer), it would appear that the worsening occurred very sharply over the next 5 years, consistent with the evidence on the household distribution of income. If the national trend in consumption distribution were like that of Santiago, the consumption decline in the bottom quintile of households over 1969-78 would have been 40%.[22] [23] Meller reports an increase in poverty incidence from 17% in 1970 to 45% in 1985 with poverty lines not more than 6% apart (Meller, 1992, 23). Even if this may somewhat exaggerate the trend, there is no doubt that poverty increased sharply.[24] A special and interesting feature of the Chilean experience was the combination of make-work policies for low income groups and targeted poverty redressal which seems to have helped to limit the most serious poverty impacts of the negative income trends just discussed. A number of the policy steps taken by the Pinochet regime would be expected to foster inequality. The extensive privatization, mainly carried out during the severe recession of 1972-74, led to acute concentration of ownership and the formation of large conglomerates (Melter, 1992, 27).[25] Curtailment of agricultural credit to small farmers led to land concentration as well. Preferential financing to small entrepreneurs was cut back. Perhaps most important was the reform of the labour legislation,

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Note that the suddenness of the increase in recorded inequality between 1975 and 1976 may be related to the severe inflation at that time, which can produce volatility in the estimates.

[22] Over that period average private consumption per person fell by about 13% and the share of the bottom quintile by 32%

[23] In summary, the short-run movements of the various distributions coincide rather closely and the main problem with the Chilean data is the fact that for the most part they are restricted to Santiago. The main question is how much of a total shift occurred between the pre-Allende period and the late 1980s before the level of inequality began to diminish. Judging by the consumption distribution figures (important both because of their presumed greater accuracy than income figures and because they should be a good measure of welfare) there was an incredible increase in the Gini coefficient of twelve percentage points (from 0.31 to 0.42). The household distribution series suggests an increase of about five points between 1970 (which seems representative of late 1960s, judging by the series for income recipients) to 1987-89; the Gini of the household per capita distribution rose by about 6.5 points. (In all cases, of course, the difference would be somewhat greater relative to the low point of inequality around 1974.) It thus appears that the likely increase in the Gini of the most interesting distributions was somewhere between important (6 points) and dramatic (12 points). Further work is needed to clarify the magnitude of the worsening; the pace and degree of the improvements now apparently underway obviously deserve attention as well.

A strange feature of the observed record is that the distribution among earners (recipients) appears to have changed little from around 1970 through at least the early 1980s (Riveros, 1985, 334 has data up to 1983). This puts a premium on understanding the relationship among the various distributions, and in particular that between the distribution among earners and among families.

[24] The high incidence of television sets (over 70%), refrigerators(49%), radios (83%) and bathrooms(74%) even in the lowest quintile throws some question on the 45% figure, though it is true that some of these items probably became much more prevalent due to the low prices which came with the import liberalization around 1980.

[25] Note that the direct effects of this concentration might be felt almost entirely within the top 10% of the income distribution.

which relaxed worker dismissal regulations, suspended unions (to 1979, when they were again authorized to operate, but with many restrictions), greatly reduced the social security tax paid by the employers and reduced other non-wage costs as well. After the second crisis (1981-1983) wage indexation was abolished, replaced by a real wage "floor", specified to be the real wage prevailing in 1979. Wealth and capital gains taxes were eliminated, profit tax rates substantially reduced, and public employment greatly cut back. Unemployment rates (for greater Santiago) rose to unprecedented levels in the neighborhood of 20-25% (depending on the definition used). Only in 1989 did this rate fall below 10% but since then the fall has been continuous, to just 5% in 1992 (ECLAC, 1992, 42). According to Ffrench-Davis (1992, 15) average wages in 1989 were still 8% lower in 1970; as on 1992 they were probably marginally above the 1970 level[26], a very slow recovery indeed. The coverage of the minimum wage was restricted considerably and its level fell in the 1980s. Fringe benefits had been greatly reduced from their 1970 level and public expenditure per capita in health care, education and housing had also decreased (Ffrench-Davis, 1992, 14).

One striking feature of the post-1973 period in Chile and an important aspect of the evolution of the labour market was a sharp increase in the relative income of persons with university and vocational secondary vis a vis those with less education (Robbins, 1994). This shift was clearly a proximate cause of the worsening in income distribution, but it remains to be explained exactly why it happened. Robbins' analysis indicates that it was not primarily the result of shifts in the composition of employment among industries, but rather a "within sector" phenomenon. It may reflect a greater relative payoff to higher education under a more open economy, a possibility hinted at by the apparent importance of university training for small or medium firms to achieve success in manufacturing exports in Colombia (Berry and Escandon, 1994) and other countries. It may alternatively be more a result of the dismantling of union power and changes in labour legislation in Chile.

Argentina has a by-now lengthy tradition of relative income equality together with a singularly weak growth performance. Between 1974 and 1988 GNP grew by only 4%; at the heart of the crisis (1980-82) it fell by a dramatic 13%. Accompanying this macroeconomic failure has been an unusually sharp increase in income inequality, the Gini coefficient among income earners in greater Buenos Aires rising from about 0.36 over 1974-76 to somewhere within the range 0.41-0.46 from 1978 on (Marshall, Chapter, Tables 4A and 4B).[27] The dramatic increase occurred very suddenly between 1976 and 1978 Marshall, Table 4A). Since then the level of concentration has fluctuated without clear trend; after falling in the early 1980s it reached a temporary peak in 1989 (under intense inflation), fell back to the previous level from which it has varied little, although the share of the bottom 30% has continued to fall somewhat; from an average of 11.6% over 1974-76, it fell to the 10.5 range in the early 1980s and was by 1994 down to 8.5%.

One apparent determinant of short-run movements in the level of inequality is the real exchange rate, whose role is suggested by the short run inverse relationship, over 1970-87 at least, between the real

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[26] If the series cited by Ffrench-Davis (the source of the wage data is INE) is consistent with that reported by ECLAC (1992, 44), which shows an increase of 11.7% over 1989-92, then the 1992 figure is 3% above that of 1970.

[27] Data on the distribution among households in this same greater Buenos Aires region and among income earners in the country as a whole seem to move in parallel with those just cited for those time periods when they are available, which does not in either case include much beyond 1980. As a result it has been necessary to use the Buenos Aires earner data, but with considerable confidence that they do not misrepresent the trends which actually occurred among households in the nation as a whole (Berry, 1990)

exchange rate (Argentine currency per dollar) and both the real wage and the ratio of the real wage to per capita income berry, 1990, 31). It is plausible, given the prominence of wage goods among Argentina's exports, that an increase in the real exchange rate (through devaluation, for example) would, ceteris paribus, lead to a decrease in the real wage rate and a worsening of the distribution of income. But it is clear that the longer-run worsening of the income distribution cannot be fully explained by this link with the real exchange rate since net worsening occurred over periods when there was no net increase in the real exchange rate. Other factors must therefore have been at work. Possibly structural changes wrought by the change in trade policy worsened inequality; the liberalization episode referred to above led not only to a fall of 11% in manufacturing output between 1976 and 1982, but to a employment reduction of 37%, as output per worker rose by a striking 41% (Gelbard, 1990, 54). Many small and medium firms exited, while many large firms cut employment, increased capital stock and improved technology. It is also possible that the very large capital flight from the country played a role, by lowering the amount of capital available to complement the labour force. Changes in labour policy almost certainly played a significant role; the bulk of the increase in inequality since the mid 1970s occurred between 1976 and 1978 as the new military government fixed wages, repressed trade unions, eliminated collective bargaining and the right to strike, and reformed the labour code to the detriment of workers (Cortes and Marshall, 1993). Unlike Chile, Argentina's experience at this time was not characterized by high levels of unemployment.

Among the issues in the interpretation of the Chilean and Argentine cases are whether the traditional (and still relatively) high levels of social expenditures in these countries mean that the poor are in fact less so than they might appear to be, and better able to weather the storm of economic adjustment and the effects of a worsening distribution of private income. Table 5 presents some relevant evidence on this point. Chile, fourth behind Uruguay, Venezuela and Mexico in terms of 1988 per capita GDP (expressed in constant purchasing power dollars), ranked higher by such other criteria as average years of schooling for adults of 25 and up (first as of 1980 with 6.1 years), adult literacy (tied for third in 1985 at 92%), access to health services (first in 1985-87 at 97%) and among the leaders in share of national income spent by the state on health services, education and primary education, and expenditure on and coverage of social security benefits. As a reflection of all of these, the life expectancy of about 72 was fifth in the region, and was significantly exceeded only by Cuba and Costa Rica; the improvement of 14.7 years between 1960 and 1990 was exceeded only by a few countries which started much lower, like Peru and Guatemala. The UNDP's Human Development Report of 1991 ranked the country second only to Uruguay in Latin America in terms of overall "quality of life". Ffrench-Davis (1992, 12) comments positively also on the country's capacity to build low-cost housing effectively and on the massive food programs for pre-school and school children. Indicators like child mortality continued to move favorably during the 1970s and 1980s (though short term movements in these figures may not be accurate).

Whatever welfare interpretation one places on the income distribution shifts of these last two decades in Argentina and Chile, it is important to consider their causes. In Chile it may be presumed that wealth shifts associated with the "socialization" of the debts of important economic actors were a factor, as was the general favoritism towards the rich relative to the earlier period (through tax policy, credit policy, the undoing of land reform, etc.). Although they do not have easily predictable effects, the fact that there were such sharp policy shifts in trade and in labour market policy naturally puts the spotlight on them as possible causes. For many observers the tearing down of labour market institutions is an obvious source of worsening; though this prediction would be far from obvious in a country with a relatively small "protected" segment of the labour force and a large unprotected one, in relatively advanced and highly urbanized countries like Chile and Argentina a negative effect is quite plausible. Such a worsening might be especially strong in an economy where large rents come from a high productivity mining (Chile) or

agricultural (Argentina) sector and where the public sector and other service activities might be thought of as living off those rents. When the public sector shrinks and wages are more closely linked to the marginal product of labour in the private sector, one might expect wages to fall more than in many other types of economy.

The "economic cycle" has some potential explanatory power both countries. The first crash in Chile was very sharp, with the decline over 1972-75 focused in 1973 and 1975, especially the latter. Among both recipients and households the big increase in inequality came in 1976, suggesting the possibility of a short lag. Household per capita inequality did not rise at all in 1975 according to Riveros' data, though household distribution did and so did earner distribution. Riveros (1994, 195) notes that distribution worsened during the boom related to financial inflows over 1978-82. The other big output drop was in 1982, with earner distribution unchanged and household inequality up a little. Eventually inequality has come down in the wake of fast growth, though this could more likely be a tightening of the labour market. In Argentina the tie between weak economic performance and worsening distribution is also partial.

Distribution worsened sharply in both 1977 and 1978; the first of these saw growth of nearly 5% (albeit a recovery from two bad years) and the second a comparable shrinking. The severe downturn Of 1988-89 brought a marked but quite temporary worsening, which had disappeared again even as the economy continued to shrink in 1990.

As for Uruguay, its story has fascinating similarities and differences with each of the other two countries, especially with Chile. Protectionism and monetary mismanagement have prevailed over most of the post-war period, and average growth has been very slow. For a small economy, Uruguay has been relatively closed, with the export/GDP ratio sometimes as low as the 10-14% range. Economic stagnation and high inflation rates gradually engendered social and political instability in the 1960s. Inflation was high and growth negative in the early 1970s, just before the military coup of 1973. The new economic team installed in 1974 introduced a program of price stability and relaxed some of the existing controls on foreign trade and capital movements. Stabilization attempt were only partially successful in cutting the deficit; one problem was the increase in military spending. A military priority was to liberalize labour markets (Gillespie, 1991, cited by Allen and Labadie, 1994, 10). They had a severe distaste for strikes as damaging to the nation's well-being. The National Confederation of Workers (CNT) called a general strike; a few days later it was disbanded and employers given the right to fire anyone who did not return to work (Allen and Labadie, 1994, 11). 12,00 public and 4000 private sector workers were fired, with employers taking the opportunity to rid themselves both of trade union officials and of workers they were unhappy with for other reasons. The general strike lasted for two weeks, after which neither the union movement nor collective bargaining played any visible role for 10 years.

Meanwhile, import licensing and quotas were abolished between 1974 and 1977, the level and dispersion of tariffs was reduced and export taxes on agricultural goods cut. The average growth of just over 4% per year over 1974-78 was led by export-oriented industrial activities--clothing, leather goods, shoes and fishing (Favaro and Bension, 1993, 195); the investment rate rose from 10% to 19%. The deficit remained high, however, due to increased spending on the military and on public investment projects, which offset the fall in the areas of wages and transfers. Attempts to restrict monetary growth were offset by inflows of cash, especially from Argentina.

The initial trade reforms of 1974 were followed by a trade liberalization program that attempted to simplify the tariff structure and gradually to reduce the level of protection to the target level of 35%. The stages of

the program were announced in advance to rive the private sector a better chance to plan effectively. Implementation was begun in 1979; with inflation soaring the government elected to reduce tariffs ahead of schedule, but by the time the 1982 crisis set in the push was derailed (Favaro and Bension, 1993, 281). The trade liberalization, intended to shift resources toward the tradables, did not have this effect because its impact was more than offset by the exchange rate overvaluation which was part of the stabilization effort.

The policies pursued between 1979 and 1982 together with the overvaluation of the Argentine currency led to an increase in aggregate demand that induced a rise in both wages and employment. Before the crash appeared in the second half of 1981 the investment ratio got as high as 18.7% and the export share was above 18% (Favaro and Bension, 1993, 283).

The 1980 referendum called by the military on constitutional change was defeated by a significant margin; this event marked the first step toward the re-opening of the political system (Allen and Labadie, 1994, 14). The macroeconomic crisis became increasingly evident as the pre-announced rate of devaluation (Tablita) became unsustainable and external public debt shot up from 9.2% of GDP in 1982 to 40% in 1985. Unions started to reappear as it became clear that the military wanted to hand the reins over to the civil society, and the new movement proved at least as militant as the old. Wage councils were reinstituted in 1985, along with the return to democracy (Allen and Labadie, 1994, 15).

A couple of years of fast recovery were once again followed by stagflation. Though the budget deficit was down to 3.2% of GDP in 1990, as of 1994 only the trains and buses had been privatized; a bill for wider privatization passed congress but a petition led to a referendum which killed it. Williamson (1990) cites the lack of deregulation in the labour market, where firing was again almost impossible, payroll taxes heavy and trade unions still strong, as a possible source of the still sluggish growth performance. Authors like Allen and Labadie also suggest that the labour market institutions are likely to render the labour market less efficient. The evolution of income distribution in Uruguay is less well laid out than for most of the other countries discussed here. It seems clear that a net worsening has occurred since the early 1960s, but neither the timing, the degree nor the characteristics of the worsening are well understood. The data for the Montevideo household distribution suggest a very large increase between the early 1960s (Gini around 0.37) and 1984 (Gini of 0.48). The pattern is not at all continuous however (Table 6), and some of the early 1980s observations have the appearance of outliers. The average of the three figures for the period 1961-62 to 1967 is 0.385 while the average for the three over 1980-84 is 0.441 for an increase of 5.6 points. The reported inequality of earned income among Montevideo households rose very fast over the 1970s, but the sources consulted have no observations for the 1980s.[28] It will be important to get observations for the period since 1985 when the unions were able to get back into the act.

The distribution pattern of the 1970s is of particular importance because of the important policy changes introduced at that time. Most of the evidence, as noted, points to a substantial increase in inequality, and this is the general consensus among students of the issue. The sharp fall in wages during that decade is

[28] If one believed in the end point observations for the Montevideo distribution of total household income, one would conclude that the net increase over 1963-84 was at least 10 pointes. If one also accepted the validity of the figures on the distribution of earned income among households (it is not easy to accept both because of their apparently different patterns over time), one would conclude that inequality dipped sharply in the 1980-82 period. 1980 was the last year of fast growth; in 1982 output dropped sharply in 1982 and was dramatically lower again in 1984.

consistent with it,[29] as is the apparently sharp widening in the earnings differentials across people of different educational levels. Figures presented by Indart (1981, reported in Favaro and Bension, 1993, 286) show a tremendous increase between 1972 and 1979; for example, the earnings ratio for persons with completed university to those with incomplete primary rose from 2.1 (extremely low, by the standards of other countries, making one wonder whether there is a data problem) to 5.6.[30]

Favaro and Bension (1993, 199) suggest that the opening of the economy[31] , the reduction in the relative size of the government, and the prohibition of labour union activity all contributed to increasing inequality. They believe that the behavior of the labour market during previous decades was greatly influenced both by the unions and by the state's participation in the wage boards, in the determination of wage levelly and as employer of a significant share of the labour force. These factors, they feel, weighed in favor of a more uniform wage structure than would have resulted from market forces, created disincentives for more skilled workers and led to considerable emigration by this group. This view, expressed with different details, is

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[29] The real wage indexes calculated by the Direccion General de Estadistica y Censos (DGEC) and the Banco Central del Uruguay (BCU) show tremendous declines (around 35-408) during 1970-7 (Favaro and Bension (1993, 199). The national accounts showed a sharp drop in the (paid?) wage share over 1974-78, from 40.4% to 31.7% (ibid, 275). The authors note that, although the wage series point to immiserization of workers, the other indices (infant mortality, water supply, etc) indicate improvements.

[30] Allen and Labadie (1994, 112) do not report the raw data they use, but their earnings coefficients for Montevideo suggest something between the two earlier estimates cited above. Buchelli (1992) shows a ratio of 4.8 (monthly income) for males with 4 or more years of tertiary education vs. those with completed primary and a ratio of 7.8 for females, very high by comparative standards. The male figure is almost identical to the 1979 figure of Indart though we have not been able to find whether that source refers to both sexes or to males alone; in either case it appears that education-related earnings differentials may not have changed too much in the 1980s, even after the return of unions etc. This is consistent with Allen and Labadie's reported earnings function coefficients for the decade; these fall but not very sharply.

[31] Though citing the opening of the economy as a possible factor contributing to the increase in income differentials during the 1970s, Favaro and Bension (1993) describe a scenario in which the effect might be expected to be the opposite. "The changes in relative prices observed after 1973 led to an expansion of export-oriented activities, which were relatively more labour intensive than import-substituting activities and which made more intensive use of unskilled laborers. Export-oriented firms were, on average, newer and smaller than firms oriented toward the domestic market. The power of unions and the role of pre-existing wage structures as determinants of absolute and relative wages were thus less important in these firms. Thus, the rapid expansion of the economy after 1973 produced an uneven increase in wages for different labour categories because of the scarcities of different labour skills and their short-run supply elasticities. Highly educated workers benefited." The evidence presented is certainly consistent with the last point. But data reproduced by the authors (Table 12-8, p.286) show that those employed in small firms (perhaps in fact plants?) with fewer than 50 workers) had average wages still just 65% those of workers in large ones (200 and up). The average in export oriented sectors was 76% that for import substitution sectors. To assess this interesting argument, some quantitative evidence of the greater labour intensity of the export sectors would be needed. It appears unlikely that the trade opening would have had a major impact on distribution. If it did, then such positive influences as it had must have been overwhelmed by the other ones, coming from changes in the institutions governing the labour market, from the downsizing of the public sector or from other sources.

also held by Allen and Labadie.[32] The Uruguayan experience is widely interpreted as one in which, whatever their impact on distribution, labour market rigidities and imperfections have been an important drag on economic growth.

Mexico and the Dominican Republic

Unlike the southern Cone countries discussed above, Mexico and the Dominican Republic did not undertake major policy reforms until the 1980s. In each case the crisis hit in the early 1980s. The Mexican experience is much the more studied of the two, and of special importance given the country's recent entry into NAFTA, making it the first developing country to enter a free trade area with large developed countries. Mexico may have an unusually fast integration into this larger external economy.

Mexico grew rapidly during the 1970s (second only to Brazil), but then ran afoul of its debt build-up and achieved an average growth of only about 2% since 1980, with the 1990s performance still in that range in spite of the major policy reforms of the late 1980s. In contrast to Brazil, whose balance of payments was negatively affected by the oil price hikes, Mexico eventually benefitted from the high price of oil, but by the latter 1970s was attempting to maintain a level of expenditures inconsistent with its tax effort, and turned to heavy foreign borrowing to mike up the difference. The debt crisis brought an output decline of about 8%, a serious bout of inflation, and a sharp decline in real wages of about 30% over 1982-86. Students of Mexico are currently waiting to see how the set of policy reforms and the accession to NAFTA will affect the country's performance. The slow growth of the early 1990s has been associated with the large capital inflow and resulting overvaluation of the exchange rate.

Mexico's industrial development was nurtured in a rather typical import substitution policy regime which provided moderate levels of effective protection to manufacturing, and which included a number of sector specific programmes in infant industries which gave increasing emphasis to export targets and to price competitiveness (Ros, 1994, 208). By 1980 the structure of industrial production and trade was radically transformed vis a vis a few decades earlier. Policies were overhauled in the 1980s in response to the debt crisis, with liberalization undertaken in the late 1980s. Current trends in the trade pattern and in the industrial structure are for the most part a continuation of past trends, this "smooth" transition attributed by some (e.g. Ros, 1994, 209) to a combination of successful import substitution in the past and the fact that the debt crisis and declining terms of trade forced macroeconomic policy to provide unprecedented levels of exchange rate protection which facilitated the adjustment of industrial firms to a more open economy.

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[32] They suggest that narrowing of various differentials since 1985 may be the result of the return of the wage councils and unions to action after being suspended during the years of military rule. For Montevideo males, returns to schooling (the coefficient of the Mincerian earnings function fluctuated without trend over 1981-87 (the range was 9.1-9.7), then fell to the range 0.84-0.88 (Allen and Labadie, 1994, 112). For females this coefficient dropped in 1982 and rose over 1989-91. The earnings gap between Montevideo and the interior gap from 44% in 1981 to 28% in 1988 before rising again to 398 in 1990. The authors suggest that all of these results are consistent with the greater role played by collective bargaining after 1985, but in fact it is hard to see any break in the trends at this time, and would seem quite easy to explain the compression of differentials by changes on the supply side.

Based on a regression model, they find real wages in all manufacturing to be 7.7% higher in the first quarter of 1985 in a model with a variety of other variables (Allen and Labadie, 1994, 132). An additional 3.68 increase occurred in industries that became fully unionized relative to those that stayed union-free possibly an underestimate of this effect. How these wage effects might impact on income distribution is, however, not clear.

Over Mexico's long period of rapid growth up to the debt crisis in the early 1980s it appears that most wages rose substantially (Gregory, 1986) and that inequality either fell (as argued by Hernandez-Laos and Cordoba (1982) or stayed about constant.[33] Alarcon and McKinley (1994) report that the Gini coefficient of total household income (grouped data) rose from 0.43 in 1984 to 0.475 in 1992, most of the increase having occurred by 1989 (Table 7).[34] [35] The five point increase in the Gini coefficient of urban inequality over 1984-89 is comparable to that in many of the other countries discussed here, for which typically the data are limited to those areas or even to the capital city. During this period the main shift in distribution favored the top decide, whose share in total household distribution rose from 32.8% to 37.9%. (Alarcon, 1994, 87). This share presumably rose more markedly in the urban areas, based on the greater overall increase in inequality there.[36]

The increased inequality among households has been significant but not out of line with that observed under similar circumstances in other countries of the region. What is unusual about the Mercian case is the increased concentration among wage and salary earners; for this group the Gini coefficient rose moderately from 0.419 in 1984 to 0.443 in 1989, then leapt to 0.519 in 1992 (Table 8), probably one of the highest Gini coefficients of wage income observed anywhere.[37] The variance within virtually all groups exploded over 1989-92 (Alarcon and McKinley, 1994, Table 4), but most especially at higher levels of education, in the border states, in export manufacturing industries and, surprisingly, among union workers. There was an increase in rural areas but it only made up for the decrease over 1984-89, so all of the country-wide increase over 1984-92 is accounted for by the urban areas. By occupation there was no increase in income variance among "poor" workers (in domestic service, helpers and unskilled laborers in industry and street

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[33] Because Mexico's income distribution data have until recently been less complete than those of most other major countries of the region, it is not possible to trace the record back in time with a high degree of confidence. Fortunately the household surveys of 1984 and 1989 do provide valuable and hopefully fairly comparable evidence relating to the crisis period and the first part of the adjustment process.

[34] For households ranked by per capita household income (individual data), the increase for 1984 to 1989, from 0.488 to 0.519 (Table 7), was a little smaller than that just cited.

[35] The evidence that the number of super-rich has increased rapidly in Mexico (two Mexicans were included in Forbes magazine's 1991 list of billionaires, but the 1994 list included 24) may mean that these data understate the increase in inequality, since household surveys essentially never include evidence from that very small group of very rich families. Only after more detailed analysis, involving a wider range of methodologies, will the Mexican story become clearer.

[36] As for the completeness of reporting, Lustig and Mitchell's (1994) comparison of the 1984 and 1989 survey suggest a considerable improvement in income reporting coverage between the two years, from 40% in the former to 55% in the latter (their Table 2). The two survey's exported about the same share of wage to total income, while this share was substantially lower in the national accounts for 1989. One wonders about the national accounts validity here. Non-wage income is of different types and so overall it is hard to judge whether the apparent change in reporting would in fact have led to a upward bias in the reported Gini trends. This is clearly possible, but hard to assess. it sounds as if a look at the national accounts may be needed or at how these authors did their calculations.

[37] The Gini coefficient for urban wage earners leapt from 0.37 in 1984 to 0.41 in 1989 and up to 0.528 in 1992. (I presume that these figures refer to wages and not to other income and that the persons in the comparison are those whose main income is from wages.)

vendors or urban agricultural workers (Alarcon and McKinley, 1994, 18); at the other extreme, in the "elite" occupations (professionals, mangers, supervisors, etc) the Theil L indexes more than doubled.[38]

In terms of many of the known correlates of wage income, differentials actually narrowed over 1984-89 (Compositional changes may have shifted things in the opposite direction), while for the later period higher education and elite occupations saw considerable relative increase, though in the latter case this less than offset the sharp decline in the previous period. The category most clearly achieving a relative gain over the two periods was the people with higher education,[39] but the ratio of 3.8 via a vis those with no education (is this interpretation correct?) in 1992 is not high by international standards (Alarcon and Mckinley, 1994, Table 7).

Table 9 suggests that some of the increase in inequality between 1984 and 1989 did come from widening gaps in wages across traditional segments of the market, in particular between poorer states and others and between border states and the rest; the former lost ground and the latter gained. The rural/urban gap also increased markedly. But several factors were working in the opposite direction, in particular the narrowing gaps between union and nonunion workers and between nontraded goods sectors and traded goods sectors. There was, however, a sharp decline in the share of income in agriculture/livestock and an increase in profits from industrial and commercial enterprises.

At least two puzzles need to be solved before the picture of wage structure changes since the early 1980s will be clear. An independent source of evidence (data from the annual industrial surveys) indicates that the earnings gap between non-production and production workers in manufacturing has been widening, but it suggests an earlier turning point from a previous trend towards narrowing to the present one--about 1985. These data show a long trend of declining relative wages prior to the recent survey, from nearly 3.0 in 1965 to a low of about 1.85 in 1985 and back up to close to 2.2 by 1988 (Fenestra and Hanson, 1994, Figure 3).

Fenestra and Hanson also make use of a special SECOFI sample of 2354 plants, where they find an increase in relative annual earnings of non-production to production workers of 29% over 1984- 90, with 24 percentage points occurring over 1987-90.[40]

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[38] Note that these figures are described by the authors as not comparable over time because their maximum value varies with the log of average monthly wages (Alarcon and McKinley, 1994, Table 6) but it seems that the standardized Theil rises by about as much, --see their Table 5. In any case the relative variance can probably be read fairly well from this.

[39] The sort of increase in wage variance observed in Mexico during 1989-92 suggests that human capital as traditionally measured has much lower value now than before; it explains a considerable smaller share of variance, though the implicit rates of return may not be lower since the gaps have widened. It clearly means that among the people with higher education some are now doing astonishingly well; it will be important to sort out who these people are.

[40] It is worth noting that both the household survey data and the industrial survey data point to a dramatic increase in wage differentials within a three year period; the problem is the at for the former it is 1989-92 and for the later 1987-90. (We have not seen the industrial survey figures for 1991-91). Assuming both sources do have a story to tell, it will be important to find out why the increase was so concentrated in a short period of time.

The second puzzle involves the relationship between the distribution of earner income and that of household income. If we accept that income dispersion among paid workers increased dramatically over 1984-92, and especially over 1989-92, why has this not shown up in a larger increase in the concentration of household income? More puzzling perhaps is the fact that the pseudo-Ginis of wage income among households show only a modest increase over 1989-92 and actually fall a little over 1984-89 (Table 7).[41] on the other hand the pseudo Gini for profits from industrial and commercial enterprises and from services rose dramatically over 1984-89, fuelling the overall increase in household inequality observed during that period, a story similar in kind though more striking in degree to that reported below from Colombia. If all of the data are reasonably accurate, the implication appears to be that the sharp widening of dispersion of wage income among earners has been largely offset in the household distribution by the fact that a considerable share of the individuals moving up in the earnings hierarchy belong to families which are not high in the family distribution. This important question warrants further probing.[42]

The confusing Mexican story lends itself to a variety of policy-relevant interpretations. Though the stresses of the crisis beginning in 1982 were severe, and though certain income gaps (e.g. between poor and non-poor states) did widen, the overall increase in inequality was modest, if we trust the household distribution data. But the sharp widening of wage dispersion in the 1989-92 period, and the evidence of widening gaps between more and less skilled workers call for analysis. Has increased openness had something to do with the latter expansion? Has the declining importance of traditional labour market institutions played a role? Where does technological change come into the story? Such a large and sudden increase in wage dispersion would seem hard to explain by something like technological change alone, although it could be interacting with other factors.

Fenestra and Hanson suggest that the widening wage gap by skill may be due to the inflow of capital. In their model a movement of capital from the North to the South (or more generally a higher rate of investment in the latter) lowers the relative wages of unskilled workers in both countries. (Whether they will be worse off in absolute terms depends also on the impact of the capital movement on the relative prices of goods to wage.) The key idea is that the activities transferred from the North to the South when capital moves in that direction will be more skill-intensive than the average of those formerly found in the South but less skill intensive than the average of those formerly found in the North. Mexico's FDI boom of the late 19805 was large in relation to the existing capital stock, hence provides a good laboratory test. As predicted in the theory, the relative wage movement in Mexico parallels that observed of the U.S. In Mexico the increase in the skilled/unskilled wage ratio was greatest in the border region (50% for both hourly and annual wages –Fenestra and Hanson, 1994 33).

Liberalization of trade (begun in 1985) is considered complementary with the foreign investment flow and the authors do not try to disentangle the effects of the two phenomena. They doubt that the relaxation of

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[41] Whether judged by the small change (a decline) in the log variance of earnings of wage workers (Table 8) or the constancy in the pseudo-Gini for wages in the household income distribution (Table 7), the wage structure appears not to have been behind that increase in overall inequality, not even in the sense of the wage share having fallen, since according to this evidence it did not

[42] Should one, given the very different stories being told here according to which distribution one looks at, look into the mappings among distributions and consider using a distribution by adult equivalents? (The next draft of the Berry-Tenjo paper on Colombia will include results of such an exploration.) Also it would be very interesting to know what happened to the distribution by consumption.

minimum wages, begun in 1983, was important in the widening gap. The real product minimum wage fell by 30.8% over 1984-90. Bell (1994) finds no evidence of a negative correlation between minimum wages and employment, suggesting that the minimum wage decline was not behind the fall in relative wages of production workers.

At least two studies have addressed the relationship between trade liberalization and employment and/or wages, using models involving regressions estimated with pooled cross-section and time series information (true?). Feliciana (1993) finds no impact of liberalization on industry-level employment. Revenga (1994), however, uses firm level data and obtains a negative and significant coefficient for the impact of the tariff (or tariff equivalent) on employment. She includes a wage rate in the employment equation, unlike Feliciana (1993). The wage equation estimated suggests that lowering tariffs raises real wages; wages of non-production workers do not appear to be very responsive to changes in protection levels whereas those of production workers do (Revenga, 1994, 18-19). The author finds this positive effect on wages puzzling, and concludes that it may reflect changes in the composition of labour towards higher-skilled workers. This line of study needs further work to verify that the equations have been well specified, and that longer run effects have been adequately picked Up. [43] If the result holds up that employment effects are modest[44] and more especially that the average wage impact is positive (though she does not claim this strongly), then one may conclude that the main worrisome impact of liberalization is that on income distribution. It would be interesting to "blow" her results up to a global level to see whether they might account for much of the worsening which has taken place.

The Dominican Republic's economy grew rapidly until 1977. The external crisis hit in the early 1980s and led to an adjustment program composed of fiscal, monetary and exchange rate elements, that continued until 1986 by which time the adjustment had taken place and growth returned. The new 1986 government stimulated the economy through an ambitious programme of public investment, in pursuit of which it shrunk real current expenditures, contributing to a fall in the real wages of government workers (Sanatan and Rather, 1993, 54). Inflation broke loose in this period, after relative stability up until 1984.

Sanatan and Rather (1993, 55) report that after a small k decline in inequality between 1976 and 1984—the Gini apparently falling from 0.45 to 0.43, there was a sharp jump to 0.51 in 1989. The authors blame the inflation, among other things for the deterioration.[45]

Colombia and Ecuador

Colombia, Ecuador, and Peru are among the relatively late-comers to the market-friendly policy package, both doing so only in the 1990s, and Colombia has the distinction of being perhaps the only country to adopt the package even though it was not under severe pressure of circumstance to do so. It is also special

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[43] Cross-section analysis is likely to miss some of the impacts of trade, as suggested by the fact that Revenga's results do not seem consistent with the fact that there has been little change in the national ratio of non-production to production workers though there are substantial changes across regions (Fenestra and Hanson 1994, 27).

[44] The paper finds that a 10 point reduction in tariff levels, such as that experienced between 1985 and 1'990 is associated with a 2-3% reduction of employment, though for production workers the elasticity is 0.27 (18).

[45] It would be important to have more recent data to see if the high Gini coefficient reported for 1989 was a blip.

in that the distribution record of the previous 15 year period was a positive one. With respect to the labour market effects of the apertura and other policy reforms, the evidence is mixed, and the period involved is in any case too short to provide definite answers, though most of the effects of the gradual liberalization underway from the mid-1980s may already have been felt. Though some industries have clearly been hurt by the import liberalization, urban unemployment has remained low by Colombian standards. Most important, however, there appears to have been a relatively sharp reversal of the previous equalizing trend in the urban distribution of income. If the negative trends apparent through early 1993 (the most recent data we have been able to incorporate here) were to continue for a few more years the accumulated worsening could become comparable to extreme cases like Chile and Argentina.[46]

Colombia's experience over the 1970s-1980s appears to have been unique within the region, since a good case can be made that income distribution showed some net improvement, while the country was also recording one of the few good growth records over that span. Since the late 1960s Colombia's macroeconomic performance has been among the best (or least bad) in Latin America. Over 1970-93 average GDP growth was 4.4%, placing the country second only to Brazil at 5.1% (Berry, Mendez and Tenjo, 1994, Table 2.1). Growth was also the least unstable among major countries in the region, as the debt crisis and the accompanying recessions hit Colombia much less hard than most other countries. In the early 1990s (through 1994) has been a little above average for the region, at about 3.5% per year. This creditable record dates from the late 1960s and has been based on generally good exchange rate management since the switch to a flexible rate in 1967, a trade regime offering incentives both for import substitutes and for exports, and a relatively prudent fiscal and monetary policy, under which fiscal deficits never reached the unsustainable levels of several other countries of the region and monetary growth was accordingly more modest.

The administration of Lleras Restrepo marked an important turning point for the economy. The 1967 trade and exchange rate reforms ushered in one of the most successful periods of industrial and export growth in Colombia's history, and put an end to a liberalization episode which had taken place since 1965 under severe pressures from the donor agencies (Diaz-Alejandro, 1976, Ch.7). The Lleras government refused to devalue and instead adopted the crawling peg, stringent import and exchange controls, and a stable export promotion policy (Ocampo, 1994, 136). This process was interrupted since the late 1970s by the Dutch disease effects of the coffee and foreign indebtedness booms between 1975 and 1982, reflected in the real appreciation of the peso and a mini-episode of import liberalization around 1980. As industrial and overall growth slackened (hitting bottom in 1982-83 with little or no growth), export coefficients declined and structural change ceased. Since the mid-1980s there has been renewed growth in the industrial sector, but the presumably falling returns from the ISI elements of the model and the acute change in the external conditions facing the country led to a radical turnabout in policy in 1990-91, and the adoption of a more explicitly outward-oriented strategy (Ocampo, 1994, 145). It is still too early to do more than guess at the growth effects of this strategy.

Protectionism, though well embedded in policies since the 19th century, played a somewhat secondary role during the first phase of import substitution, while real exchange rate fluctuations provided the most important price signals to industrial entrepreneurs Ocampo, 1994, 134). Ocampo sees the 1967 package as the consolidation and rationalization of the mixed strategy followed since the late 1950s. In 1969 the

[46] There has been growing concern in Colombia that the new "model" is having an adverse effect on income distribution (Sarmiento, 1993).

Andean Pact introduced ISI in a regional context, but dissatisfaction with it spread in the early 19705 and most of its mechanisms proved inoperative. The Pastrana administration (1970-74) was not favorably disposed to ISI and placed more emphasis on export growth. Over the years a gradual import liberalization occurred. By the mid-1970s inflation was a serious threat; the Lopez government (1974-78) addressed it via tight monetary and fiscal policy, which however was reversed by the Turbay administration in favor of expansionary fiscal policy, tight monetary policy and import liberalization, leading to a consolidated public sector deficit of 7.1% by 1982 and massive public sector borrowing abroad. Real appreciation deepened in the early 1980s debt boom and export promotion was downgraded, not as a result of an explicit decision but of short-term macroeconomic considerations. The deteriorating situation led the Betancur administration (1982-86) to rapidly reverse more than a decade of import liberalization. The average nominal tariff level was raised from 32% to 49% between 1982 and 1984, though the average collected tariff did not rise until 1985, and peaked at around 24% between 1986-88 from the earlier level of around 15% (Berry and Tenjo, 1995, Table 1). As of 1991 it was back down to 13.3%, a little below the 1970s level. The tariff equivalent of the QRs rose quickly over 1982-85 from 11% to 31%, though falling back quickly in the years to follow. The liberalization during the rest of the decade was moderate (Ocampo, 1994).

During the early 1980s, thus, the economy had become more closed; from a high of 22% in 1982 the constant (1975) price import/GDP ratio fell to 14.4% in 1984, then fluctuated in the 16-18% range through 1991 (Berry and Tenjo, 1995, Table 2). The comparable current price series declined and rose more smoothly. The time profile on the export side is similar; after the lows of 1982-83 of under 15% (constant prices) or 12.0 or less (current prices) the recovery brought the shares to around 19% over 1986-89.

The two principal goals of policy in the 1980s were to overcome the dangerous fiscal deficit (which reached as high as 7% of GDP) and to overcome the balance of payments deficit which led to a rapid decline of reserves (Becerra et al, 1993, 106)- Industrial growth was slow and unstable during the decade. By the end of the 1980s, slowing growth and accelerating inflation were increasingly interpreted as the result of a structural blockage based on two factors, stagnation in the growth of factor productivity and lack of dynamism in investment, frequently blamed in turn on the inward looking development model (Republica de Colombia, 1991, 7; Montenegro, 1991, cited by Lopez, 1994, 19). This contributed to a perception that trade policy required a radical change towards an explicitly outward oriented strategy, a perception that was consistent with a generally more market friendly ideology in Latin America at this time.

The Gaviria administration (1990-94) came to power committed to continuing and accelerating the already initiated process of liberalization, which was accompanied by a partial freeing of exchange controls, more open access to foreign investment and a liberalization of the labour market. It war aware that distributional problems might result from the liberalization, a concern derived both from an understanding of the sorts of adjustments which would be involved in the process of "apertura" and related reforms, and from the experience of other countries of the region, Europe and elsewhere.

The apertura was carried out quickly, though its effects on imports were delayed.[47] While in December 1989, 38.8% of tariff positions were free, 60.1 required previous permission, and 1.1% were prohibited; by Nov. 1990 these numbers were 96.7, 3.3% and 0. The long postponed liberalization of intra-Andean Pact trade was accelerated and virtually completed by Jan. 1992, and the decision was made to put a customs union in place in 1992 with tariffs slightly lower than those adopted by Colombia in 1991 (Ocampo, 1994, 145). The ratio of tariffs (including surcharges) collected to GDP, around 1.5% at the beginning of the decade, fell to 1.1% in 1984, recovered to 1.7-1.9% over 1985-88 (when a CIF tax on imports was added to the customs and surtaxes), fell to 1.0% in 1992 but then rose to 1.3% in 1993 as imports surged. The average tax[48] on imports of goods and non-factor services ranged between 10 and 14% over most of the 1980s, and fell only in 1992 and 1993 to the neighborhood of 5% (Berry and Tenjo, 1995, Table 1). Thus, though the import taxes did fall sharply in 1992, the decline is less than might be suggested by the data on tariff positions.

The crawl of the peso was accelerated to prepare the ground for the liberalization and some external funding was arranged in expectation of an import surge. The import surge came much later than expected, and foreign exchange reserves grew. The tight money policy pushed real interest rates quite high and since the government opened the capital market at an early stage of the apertura this helped to flood the economy with foreign exchange, rendering the monetary policy unsuccessful. With inflation accelerating and imports not growing, and believing that the main factor in this situation was the expectation of further tariff cuts, the government decided to accelerate the program, dropping rates in 1991 to the levels previously planned for 1994 (Becerra et al, 1993, 123). After a further delay, imports finally jumped in 1992 (by 30%) and surged in 1993 (by over 50%). The export quantum rose sharply in 1990 (mainly due to coffee), since which time growth has been moderate. The current price export/GDP ratio appears to have levelled off at around 20%.

Growth, which had recovered to average 4.5% over 1985-90, fell to a low of under 2.5% in 1991, from which it has gradually accelerated to somewhere in the range 4-5% in 1993-94. The fixed investment ratio (current prices) was quite stable at 17-18% of GDP during the 1980s until it jumped in 1988 to 19.58, since which it fell systematically to 14.2% in 1991, recovering to 15.5% in 1993. As noted above, it is fairly generally accepted that income inequality decreased in Colombia between the early 1970s and the 1980s, both in urban areas and for the nation as a whole, and both for earners and for households.[49] An important part of the story is the unusually marked decline in earnings differentials across educational levels and between genders, declines especially concentrated in the late 1970s while the economy was still growing rapidly and in the early 1980s when it was not (Tenjo, 1993). Rural earnings were also showing considerable improvement at this time (Ministerio de Agricultura y Departamento Nacional de Planeacion,

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[47] There has been some difference of opinion with respect to how fast Colombia's wade liberalization has taken in comparison with those of other countries of the region. Lora and Steiner (1994) conclude, as does Edwards (1994) that it has been fast. Edwards reports that the Chilean reform took about five years in the 1970s while that of Colombia took just one year after being initiated in 1991. Others, like Sheahan (1994) view the Colombian liberalization as gradual, from back in the mid-1980s. Clearly the issue is partly one of whether one focuses on the tariff and QRs or on the Size of trade flows.

[48] Excluding the value added taxes applied also to domestic goods.

[49] Londoño's detailed study suggests a decline in the Gini coefficient between 1971 and 1978, from 0.53 to 0.48, with essentially no change from then until 1988, for which his estimate is 0.475 (Londoño. 1989).

1990, 228). Though some ambiguity remains as to the trends in the 1970s due to data problems, our main concern here is with the period beginning in the late 1970s, during which the economy went through a brief period of liberalization (early 1980s), then a sharp reduction in openness followed by a gradual re-opening through the rest of the 1980s and the abrupt apertura of the early 1990s. Labour market reforms occurred mainly around 1990, though union power was clearly weakened by the recession of the early 1980s.

Our estimates of income distribution in three of Colombia's largest four cities (Bogota, Medellin and Barranquilla) reveal a quite significant and continuous[50] decline in inequality between 1976 and 1990, more striking among earners (whose Gini coefficient fell from 0.50 to 0.41) than among persons ranked by per capita family income (where the decline was from 0.52 to 0.46--see Table 10.[51]. Among earners, the relative income of the top to the bottom decile fell from 28.6 fold to 18.8 fold. The distribution among earners is of interest because it reflects directly the way the economy determines the incomes of factor owners, while the distribution among persons (a variant of the distribution among families) is of ultimate concern since it is most revealing of the welfare distribution in the society. Inequality bottomed out in 1990 (our data refer to March) after which it has increased sharply, especially that among earners (where the Gini coefficient rose from 0.41 to 0.47), but significantly also among persons (Gini up from 0.47 to 0.51). Earner inequality thus returned to the 1980 level (with the top decile to bottom decide ratio back up to 27.3), but remained below that of 1976, while inequality among persona now exceeded that of 1980 and was close to the 1976 level, reflected in a Gini coefficient of 0.52. In each case the largest deterioration was that between 1990 and 1991. Among earners the 1990-93 period saw significant declines in the income share of the first six decides (30.8% to 27.4%), while the only major gainer was the top decile (36.2% to 40.4%--see Berry and Tenjo, 1995, Table 4a). In percentage terms the biggest losers were the lowest deciles the first saw its share fall by 23% from 1.93% to 1.48%, about the level of the late 1970s. Among persons, all decides lost except the top one, whose share jumped from 37.3% to 42.5%, to nearly recover the 1976 level (Berry and Tenjo, 1995, Table 4b). Percentage share losses at the bottom were less than in the earner distribution, with the first decile losing 17%, from 1.75% to 1.45%. Most of the bottom deciles still had a slightly higher share than in 1976, as reflected in the marginally lower Gini than in that year.[52]

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[50] Though the smoothness of the trends might disappear were all of the years to be included in the series.

[51] Since it is universally the case that capital incomes are less fully reported than labour incomes, we presume that our estimates of inequality understate the actual levels, probably by a few percentage points in the Gini coefficients (See Altimir, 1987, for a discussion). Our assumption and hope is that this and other sources of errors in the estimates will not have changed much over time; in one respect where we feel this assumption might not hold--related to the introduction of the "salario integral" around 1990--we have undertaken some sensitivity analysis to verify that it does not explain much of the observed increase in inequality since 1990. Another possible bias could result from failure to take account of differences in the cost of living index relevant to different income classes.

[52] Other authors have reported quite different trends in urban inequality from those presented here. Thus the series reproduced in Table 10 shows a pattern virtually the opposite of that reflected in the conceptually similar Col (1), in that the Gini coefficient rises through 1989, after which it falls, especially in 1992 (whose observation does however correspond to a different month (June) than that for the other years (September). (Another source, presumably drawing on the estimates using this methodology, reports a decline in the urban Gini from 0.47 in 1988 to 0.44 in 1992 -- Banco de la Republica, 1994). Although, other things being equal, one would attribute greater meaning to the series covering the wider population base (those of Col.3 refer to the urban areas as a whole) for a variety of methodological reasons we doubt the validity of these estimates and hence disregard them in this discussion. The differences in methodologies between these differing estimates probably explain an

It is interesting that the trends in level of concentration of each of the major components of personal income parallel those of total income (Table 11). Note also that business income has become more important over time at the expense of labour income.[53] Since the latter is the most equally distributed of the components distinguished here, its falling share of total income probably contributes an upward push to the overall level of inequality. (Business income is in the middle with respect to the Gini coefficient while "other" income, which includes rental income, interest income, dividends, pensions, and other transfers is the most concentrated of the three.) Business income is most important in the lowest and the highest deciles, while labour income is predominant in the middle of the distribution (Berry and Tenjo, 1995, Table 6). At lower levels of the distribution, however, business income probably reflects income from informal activities, and to the extent that these activities use very little capital, it is mostly labour-based income and its level is likely to be heavily influenced by the outcomes of the labour market. More generally, the very similar time patterns of the distributions of labour and of business incomes suggest close links between the markets in which the two types of income are determined. The reversal of the former positive trend in the level of inequality mainly reflects the increasing concentration of business income.

Unfortunately, Colombia does not have systematic national household surveys allowing the sort of analysis just carried out for urban areas to be undertaken at the national level. Rural data available for 1988 and 1992, suggest little change in inequality between those two years (the respective Gini Coefficients being 0.46 and 0.45). But a serious cause for concern is the evidence that while urban incomes rose by 18% between 1990 and 1993, rural incomes fell by at least 5% over this period (Lora and Herrera, 1994). It would be natural to interpret such an outcome as due in part to the production problems of the agricultural sector in 1992 and in part to the price impact of the apertura. Together with the sharply increasing inequality in the urban areas and the constant level in rural areas (at least over 1988-92), this widening gap between the two distributions would suggest an even larger increase in inequality at the national level than for the urban areas;[54] it also suggests that, depending on where the poverty line is drawn, percent of population in poverty was probably increasing over the early 1990s.

Although the available evidence suggests that Colombia's experience seems to fall clearly in the category of those cases in which distribution was improving prior to the economic reforms and then worsened significantly, several caveats and additional twists are worth noting. First, it is possible that the introduction

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important part of the difference in results (Berry and Tenjo, 1995, appendix).

[53] Taking the figures literally, the same could be said of "other" income, but as noted earlier, this may be due to a chanGe in reporting procedures. Since it seems safe to assume that some of the reported increase is due to those changes, it would appear that the business component has had a continuous upward trend.

[54] Another attempt to measure trends in distribution and poverty at the national level, that of Fresneda (1994, Cuadro 5), reports estimated Gini coefficients of 0.481 for 1978 and 0.472 for 1992 (distribution of households ranked by per capita household income); a significant increase in income shares for the bottom three deciles (e.g. 4.2% to 5.4% for the bottom quintile) was offset by the increasing share of the top decide. At the same time he reports that according to the income measure of poverty, the share of people in that state fell only from 56.3 in 1978 to 53.5% in 1992 (and from 23.3 to 20.5% for the extreme poverty line), though according to the unsatisfied basic needs criterion the share fell from 70.5% in 1973 to 45.6% in 1985 and to 32.2% in 1993.

Although Fresneda does not present comparable figures for intervening years, if we assume that his figures, like others, show an improvement over the late 1970s and early 1980s, they are consistent with a sharp increase in inequality in the early 1990S for the country as a whole.

of the Salario Integral,[55] together with any impact it has had on the correctly measured distribution of income and other labour market outcomes, also created a bias towards the observation of increasing inequality among labour incomes. Some evidence is consistent with this hypothesis, though as noted above, what dominated the movements both in total monthly income and in its concentration was the business component (Berry and Tenjo, 1995). Second, it seems likely that the use of nominal price measures of inequality understate the increase since 1990 since it appear that the relative prices of luxury goods have fallen with respect to those of necessities. In his analysis Fresneda (1994) distinguishes three factors affecting the trend in poverty incidence over 1978- 92: an increase in average per capita income of 18.1% which reduced the poverty incidence by 7.2 percentage points; the small improvement in (current price) distribution which lowered it by 0.4 points; and an increase in the relative price of the bundle of goods purchased by the poor, which raised it by 4 points. The last figure implies a faster increase in the price of the bundles of goods consumed by the poor relative to the rich over this period as a whole; it would not be surprising if the increase was concentrated in the period of "aperture".

Ecuador's experience with adjustment and liberalization is only now under serious study by C. Larrea. His initial findings suggest that a sharp increase in urban inequality occurred between 1989 and 1991, reflected both in the distribution of income among recipients and that among households. In the latter case the Gini rose from an average of 0.412 in 1988-89 to an average of 0.461, the share of the bottom decide fell from 2.15% to 1.53% while that of the top decile jumped from 31.2% to 34.9% and that of the top 5% from 20.35% to 23.0%. The country embarked on import liberalization in 1990 and imports boomed.

Costa Rica: Reform Without Widening Gaps?

Judging by the evidence available and reviewed above, Costa Rica may be the only LAC country which has undertaken the market-friendly set of reforms without suffering a significant widening of income differentials--say an increase in the Gini coefficient of five percentage points or more.

Costa Rica brought a tradition of social and political stability to the trials of the 1980s, and came off a strong post- war economic performance in which average GDP growth exceeded 6% over 1950-80. A good social service system gave the country the highest life expectancy in Latin America, with the exception of Cuba, and the absence of an army allowed it to allocate more resources to civilian uses. Growth in the 1970s was fragile, however, based on an expansionary monetary and fiscal policy, a fortuitous increase in coffee prices in 1976-77 and much investment financed by foreign savings. There was a continuous expansion of public sector employment (Gindling and Berry, 1992). The second oil price hike, rising interest rates and the world recession brought a sharp 14% decline in GDP over 1980-82, a 23% fall in income per capita and a 25% cut in real wages. At the depths of the trough a new president with ties to labour and (through his party) to (previous social legislation took office, buoyed by a high level of public support and confidence. Over the next few years an adjustment program was put in place, including tax increases, weakening of the power of unions (union strength had lain mainly in the public sector), privatization, and new incentives for exports, especially non-traditional ones. It has been relatively successful in reestablishing a decent growth performance, about 4% per year (through 1992) after returning to its pre-crisis GDP level in 1985- Policy changes were less extreme, more gradual and less erratic than in Chile. In contrast to both those cases (especially Chile), real wages did not long remain low, as the

[55] The system by which a single payment replaces the complex system of base wages and fringe benefits which was in place before the labour market reform of late 1990 (see Berry and Tenjos 1995).

indexing mechanism which linked nominal wage increases to past inflation was left in place with only mild modification so that when tightened monetary and fiscal policy brought inflation quickly to heel real wages moved back to or near their previous peak in only three or four years.

The national unemployment rate also returned quickly to its normal range, around 5%. Overall this must tentatively be counted one of the more Successful adjustment performances in the region, in the sense of reestablishing growth without a lengthy period of significantly higher poverty than before.

Although Costa Rica's distribution record is somewhat ambiguous because of data problems, it seems likely that it has not suffered a significant worsening of inequality over the period from before the crisis (late 1970s) to the present. The data (Table 13) suggest a marked worsening of the household distribution between 1985 and 1987 (over 4 percentage points in the Gini coefficient) at about the time that the export push begins in a serious way, but this may have been due to the change in the sample and the questionnaire--an issue obviously requiring further analysis.

Income distribution in Costa Rica has traditionally been unequal, but substantially less so than in such extreme cases as Brazil. Estimates of the Gini coefficient of household income (with households ranked by income, not per capita income) have typically fallen in the range 0.43-0.50. Trejos compares 1971 and 1983 data,[56] reporting that the Gini coefficient rose from 0.44 to 0.47, including increases in both urban and rural region.[57] If a worsening did occur,[58] we do not know from this comparison whether it was during the 1970s or during the crisis of the early 1980s. The only reasonably comparable household distribution estimates from just before and after the crisis (which set in 1980) refer to the labour incomes of families headed by paid workers; in 1979 the Gini coefficient for this group was 0.45, in 1982 0.42 (Table 13).

Most of the bottom decides showed significant gains in their income share, with the exception of the lowest.[59] The sharp drop in real wages in the formal and public sectors would be expected to lower labour income most sharply for the decides near the top of the distribution, consistent with the significant share declines for deciles eight and nine over 1979-82. As those incomes rebound in later years the shares move

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[56] Most earlier estimates are insufficiently comparable with; those of 1983 to provide much of a clue as to trends; Trejos chose # 1971 to maximize such comparability.

[57] CEPAL (1987) reports a Gini coefficient of 0.43 for 1971, citing Cespedes, 1973, the same source cited by Trejos and Elizalde (1986). Trejos and Elizalde (1986, 89-90) highlight the markedly higher share of the top decile (overall, but especially in urban areas--37.1% to 32.9%) and the widening gap between it and the 2nd decile. But the top decile had dropped back again by 1986 to near its 1971 share.

[58] The difference between 0.43 and 0.45 is small, and may overstate the true increase in inequality since income coverage may have been less in 1971 than in 1983.

For 1971, CEPAL (1987b, Cuadro 4) notes that the income reported in the survey was 21.3% below the corresponding national accounts figure, 16.5% below disposable income and 14.1% below consumption. In 1983 the income reported was _____ below disposable income and 2.4% above consumption. This differential in reporting, which usually involves weaker reporting of capital incomes, could explain a 1 or 2 percentage point difference in the Gini Coefficient.

[59] Severe under-coverage of income in 1982 is explained by CEPAL as being due to the accelerated inflation of that year (nearly 100% vis-a-vis 1981). So this source may be creditable in spite of the high figure.

back up again. The behavior of the share of the bottom defile or so is not clear. The 1977 survey showed lower shares than earlier or later ones but it remains to be seen whether this was due to data inadequacies.[60]

As for the post crisis period, the recent study by Trejos and sauna (1994) provides the most reliable evidence, though like all sources it suffers the uncertainties due to a change of data collection practice between 1986 and 1987,[61] doubly unfortunate since the process of economic liberalization was just getting underway at that time. To achieve the maximum of data comparability over the period since 1980, these authors decide to use the household surveys, and to limit the analysis to primary monetary income in wages and business income of the self-employed[62] (Trejos and Sauna, 1994, 1)[63] These authors date the crisis as 1980-82, the period of stabilization with some moves towards adjustment as 1982-86, and the adjustment period as post-1986. They report that inequality fell during the crisis, both overall and in urban areas, and suggest that it may reflect the relative success of the minimum wage policy designed to protect those with

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[60] Altimir (1984) reports a decline in the Gini coefficient of wage and salary income of paid worker households (households ranked by per capita income) from 0.376 to 0.346 between July 1979 and June 1982 with significant share increases for each of the bottom deciles--from 2.0 to 2.6 for the lowest deciles.

[61] Both the Household Survey design and the staff carrying out the survey and its processing changed between 1986 and 1987.

[62] Though the authors refer to independent workers in this context, it appears that in fact they mean the self-employed, since data are presented for employers in their Cuadro 2 and the rest of the discussion seems to suggest this.

[63] The income concepts reported have become more complete over the years. Transfers were included in the survey from 1987 and capital income from 1991. Income in kind is included in the Surveys but not computed by Trejos and Sauma for paid workers, though it is partially included in the case of business income since 1987.

To improve comparability over time the authors work with a subset of 90-92% of the families in the survey, those with an employed or unemployed head and if non-participant, having positive primary income. At first glance it would appear that the exclusions might affect distribution a lot, since capital incomes are not included. But those incomes are presumably very badly reported in any case. There is also a problem of increasing non-reporting, rising from 4% of the employed in 1980 to 17% in 1993, and for families from 2% to 20% (Trejos and Sauna, 1994, Cuadro 2). It all happens between 1980 and 1985 after which these ratios fluctuate around the high levels cited. For the self-employed and employers the rates are very high, for thee latter 30-40% for most years since 1985. All figures were much lower before that. This problem was confronted by using imputations based presumably (not quite explicit here) on an earnings function. Some additional sensitivity analysis might be worth while in this context, since otherwise the estimated trends over 1980-87 could be suspect.

(Gindling-Berry found that the share of employees not reporting incomes rose from a range of about 2%-5% over 1976-79 to 15-30% over 1981-86 before falling to under 10% in 1987-88. Their analysis of the characteristics of these non-reporting employees does not suggest a higher degree of non-randomness, but one cannot demonstrate that the trends in inequality were unaffected by fluctuations in the share who did not report. Incomes from second jobs seem to be very ill reported, so a valid series on household income distribution might look rather different from anything shown in the table A used here.)

The survey data were adjusted to that of the population censuses with appropriate factors, in order to compare reporting coverage with that of the national accounts. This confrontation suggests variable coverage, increasing considerably in all categories over 1980-87, then falling in each category and for overall primary income (Trejos and Sauna, 1994, Cuadro 3).

The authors describe an adjustment to 81% of the national accounts primary income figures, to allow for capital income of corporations, etc.

low incomes. Some further improvement in distribution took place through 1985, followed by the big increase in measured inequality over 1985-87, which could however relate to the change in methodology of data collection. Alternatively it could reflect the first effects of the aperture. After 1987 the tendency of inequality is down.

With Gini's usually in the range 0.35-0.40, the distribution of income among earners appears to be substantially less unequal than that among households when all sources of income are included in the latter estimates; problems of comparability are probably also somewhat less severe. Figures from CEPAL' 8 (1987b) review of distribution data suggest little change over 1976-80 for the distribution among paid workers, possibly a mild worsening over 1980-1982, and then a rather marked improvement in the next two years. Our estimates of distribution among workers (paid or unpaid) (Table 13) reveal the same pattern through 1986, whose Gini coefficient of O.36 is below the pre-crisis figures, followed by the same sort of abrupt worsening in 1987 as characterizes the household estimates.[64]

As for the period of macroeconomic crisis, the earner data indicate some worsening, while the more problematic household data suggest the opposite. The marked increase in non household heads as a share of employed workers would by itself produce some worsening in the earner distribution, but might in fact improve household distribution.

Given its importance as a possible exception to the pattern of increasing inequality in Latin America, Costa Rica's distributional history warrants further scrutiny and analysis in an attempt to overcome the problems of data non-comparability. The statistical regime change between 1986 and 1987 could have produced the observed worsening at that time; further, the combination of the high and varying share of families not reporting incomes and the need to focus only on primary labour and business incomes in order to achieve a modicum of comparability over the 1980s leaves open the possibility that the real distribution trend was substantially different from that estimated by Trejos and Sauna, the most definitive study available at this time.[65]

These qualifications notwithstanding, the best guess at this time is that there was no significant, lasting impact of the post-1986 reforms on the level of inequality in Costa Rica. Trejos and sauna report Ginis of essentially the same magnitude in 1993 as in 1980 (Table 13). The nearly three percentage point decline between 1980 and 1985 is balanced by the four point increase over 1985-87. Since there is some likelihood that the latter increase is illusory, there is a corresponding possibility that this Gini (i.e. the Gini reflecting these families and the types of income included) actually fell between 1980 and 1993, and that it was about constant between 1985 and 1993.[66] The Gindling-Berry estimates of Ginis for the earnings data show a more abrupt increase between 1986 and 1987, but they too show only a small net increase between 1980 an: 1988. While not impossible, it therefore seems unlikely that a correctly measured distribution of

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[64] In both 1987 and 1988 the share of the bottom decile is very low (1.5%) and that of the top deciles higher (at around 34%) than for year since 1975.

[65] One hint that this may be the case comes from the fact that the estimated Ginis using the set of families and the forms of income they used are much lower than most other estimates of household inequality.

[66] Note that these Gini coefficients are close to those of Colombia for wage income, but assuming that a significant amount of business income is indeed included in the Costa Rica data (Trejos and Sauna do not show the distribution of households by activity of head) than the latter is considerably less.

household income would show an increase of, say, five percentage points from the pre-reform period or perhaps the pre-crisis period and the post-reform period. If this is the case, Costa Rica stands as the sole exception to the otherwise universal tendency for such reforms to be associated with increased inequality of that magnitude.

What might lie behind this unusual record? Gindling and Robbins (1994a) throw some interesting light on this question, at least in the context of the earnings distribution among individuals. Their various measures of salary and wage inequality show a steep fall between 1976 and 1980, an increase during the recession, a fall in the recovery of 1982-85, then a more gradual fall from 1987 to 1993.[67] In the problematic period 1985-87 there was a very sharp increase. If that increase were accepted as real, the variance of monthly salaries over the whole period 1976-93 would have declined slightly; the variance of wage earnings, which in any case increased much less during 1985-87, shows a clear and very marked decline.

Gindling and Robbins decompose the observed changes in earnings inequality into those related to observables (i.e. to the distribution of observable determinants of incomes, including education and experience), changes in the prices of those Observable and changes in non-observables. Over the period as a whole the observable quantities component showed an upward trend, i.e. its effect was to increase overall inequality within each of the two categories of workers. For salaried workers the price effect shows a downward trend, not interrupted in 1985-87, which seems to level off from 1988 but resume again in 1992 and 1993 (Gindling and Robbins (1994a, Figure 2). The time profile of the coefficients of education and experience are similar to those for inequality--a sharp reduction over 1976-80, fluctuations, and then downward but more slowly from 1987 (Gindling and Robbins, 1994a, 25). The increase in university enrolment over 1970-80 was dramatic, that between 1985 and 1990 considerably smaller. The deceleration (or termination) of the fall of returns to education may also be due to changes in the pattern of labour demand. After 1985 little reduction in inequality occurred, though the increase in relative supply did continue, suggesting that "demand may have become skill-based after 1985, coincident with the gradual implementation of trade liberalization policies in the form of devaluations and reduction of tariffs' (Robbins and Gindling, 1994a, 7)

One broad interpretation of the Costa Rica story is that it shares many features of those for other LAC countries but differs in degree. For example, while the earnings differentials by skills does cease to fall measurably, it does not increase sharply as in the case of Chile.[68] And though the variance of salary incomes rose for a couple of years after liberalization began, it then continued its downward movement.

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[67] Results are presented only for salaried workers, but the authors undertook the same analysis including the self-employed and note that the results were similar (Gindling and Robbins, 1994a, 12).

[68] Note that, after the possible spurious increase between 1985 and 1987, the log variance of salaries continues to rise between 1987 and 1989 (that of wages does not). If this increase reflected the sort of "stretching out" of variance among higher earning white collar workers which has been observed in other countries of the region in the wake of economic reforms, the striking thing here is that it lasted only a couple of years and was fairly quickly reversed.

Note however that the pattern emerging in Table 1 of Robbins and Gindling (1994b) shows a recent widening involving only university, not secondary-trained people. If true, this seems very consistent with the Chilean story. But with all university lumped together (incomplete and complete) it could also be an artificial product of the fact that average years of university (for those with at least some) was rising.

Other countries: Peru, Brazil, and Venezuela

A number of country experiences have not been reviewed in the above discussion, either because the statistical evidence on their income distribution trends is weak, or because their particular history is less revealing of the relationship between economic reforms and distribution. It is nonetheless worth looking quickly at the evidence with respect to their patterns of distributional change.

Peru, always one of the poorest countries in Latin America, had followed an export-led growth strategy until the late 1950s, and had been one of the slower growing countries of the region. It then moved to an ISI approach, using levels of protection for manufacturing activities which were high even by regional standards (Paredes, 1994, 217). Initially this approach led to high rates of both industrial and overall growth, but the increasingly protectionist steps of the late 1960s and early 1970s introduced strong anti-export and anti-agricultural sector biases. Compounded by a sharp deterioration of the terms of trade and serious macroeconomic mismanagement, this led to stagnation and then a plummeting of economic activity, and produced a strong political consensus that the country needed to liberalize its economy (Paredes, 1994, 217).

Given the small size of this country and its market, and the fact that the easy ISI industries had expanded to their limits by the mid-1970s, a greater recourse to exports was the only logical outlet. But the country did not pursue this objective in an organized fashion; the export booms and the episodes of active export promotion have, rather, been short-term policy responses to balance of payments crises. Manufactured exports, most with a high natural resource content, showed promise when they enjoyed a boom between the mid-1970s and 1980, rising quickly from 4% to about 20% of output (Paredes, 1994, 234). But by 1988 that share was back to 8%, due substantially to Peru's failure to devalue in a way sufficient to maintain competitiveness. The real exchange rate was also highly variable during this period.

In their efforts to confront the country's economic problems and challenges, Peruvian governments have oscillated between forceful state intervention and reliance on the market, with disastrous economic and political consequences. The well meaning Velasco military government (1968-75) continued the traditional discrimination against food agriculture and was seriously inadequate in policy management and execution. The liberal policies of 1981-82 had a dramatic impact on industry. The Garcia administration was noted for its lack of realism. Among the many stabilization and liberalization programs in Latin America, the Peruvian version (beginning in 1990) has been the most extreme (Sheahan, 1993). Results have been mixed. Adoption of a floating exchange rate and the elimination of controls on capital movements under conditions of tight liquidity appreciated the currency, blocking exports and stimulating imports.

Peru has thus registered one of the poorest growth performances among Latin countries, combining a mediocre record in the 1970s with a disastrous one since then. Although it is not clear whether distribution has changed significantly (for want of conveniently comparable data at different points of time[69]), the real incomes of workers have suffered more than in any other major country, and these started at a low level to begin with. As one of the category of recent (1990s) reformers, it is not surprising that Peru's recent distribution record is too hazy for anything to be drawn from it at this time.

[69] For a useful recent review of the distribution evidence see Rodriguez, 1994.

Brazil's macroeconomic story involves the well-known history of deficit finance and inflation, and the heavy borrowing during the 1980s which set the stage for this country's debt crisis. On the trade side the heyday of classical ISI lasted only until the mid-1960s (Fritsch and Franco, 1994, 105) and was marked by a dramatic decline in the import ratio, related both to the size and potential self-sufficiency of the country and to policy. The second period, which lasted until the first oil shock, was Characterized by a slow import liberalization, decisive export promotion and a stable real exchange rate, with the result that both import and export propensities underwent noticeable recoveries. In the third (ongoing) period there has been a return to import-repressive policies, but accompanied by the reinforcement of export promotion instruments. Broadly speaking, the policy regime has been mixed, somewhat like Colombia's until 1990. Brazil has not, as of this time, embarked on the major set of reforms recently implemented in Colombia.

Brazil's fast growth of the pre-1980 period was not capital- saving and relied on a high investment rate to fund some of the more capital intensive industries. During the 19708, the increased oil-import bill contributed to a need for foreign exchange. Brazil's subsequent borrowing was not unreasonable given the low cost of capital at the time and the feasibility of the plans for its use, though the country did not help its fiscal situation or the balance by payments by keeping the price of oil and substitutes well below the world level.

Brazil's current stabilization program is very recent 1994) and although important structural reforms have been undertaken-- tariffs often over 100% in the late 1980s have been cut to a maximum of 35% and an average of just 14% and the restrictions on foreign investment greatly reduced--the whole process is too new to have generated evidence on the possible impact of economic policy reform. The country eschewed major policy reforms during the 1980s although its economic performance was very erratic. Between 1980 and 1983 per capita income fell by about 15%, after which it recovered fairly strongly through '986, then slipped again; there were bouts of extreme inflation a;_ a major heterodox attempt to bring it under control. Income distribution, which worsened somewhat between 1960 and 1970, has shown no trend since then. Through 1987 the reported Gini coefficient for the distribution of income among Brazilian households (ranked by total household income) never moved outside the range 0.584-0.597 while the share of the bottom 50% of the population fluctuated within the range 12.2-12.9% (Hoffmann, 1989a and 1989b). Since then the indicators of inequality have been somewhat less stable, but no net change has been registered.[70] Some social indicators continued to advance during the 1980s, albeit less rapidly than before. World Bank data on life expectancy, infant mortality, food production per capita and the share of the population with access to electricity all show improvements between 1980 and 1987, whereas the share with access to safe water fell. Some improvements may be the result of past investments; low levels of current investment will take their toll in the future.

Brazil's growth performance during the 1980s was comparable to Colombia's, and the level of development not far from Colombians (per capita income somewhat higher but most social indicators about the same), leading one to ask why that country did not see the narrowing of earnings differentials and accompanying improvements in income distribution observed in Colombia. One hypothesis is that the high prominence

[70] Fluctuations in the measured Gini coefficient have been associated with the rate of inflation and the real exchange rates and the Gini did reach historically high levels around 1990-91 but has since returned to the normal range (see the data presented in Cardoso, 1993).

of the public sector contributed to keeping up the wages of high income occupations.[71] Another is that the capital intensive character of industrialization played a role.

Per capita income rose rapidly in Venezuela during the 1970s due to the terms of trade shift as oil prices jumped up; though GNP per capita rose by just 11% (or 1% per year), gross national income per capita increased at 3.4% per year and per capita consumption jumped by 68% (5.3% per year). Between 1980 and 1983, GNP fell by 10% but gross national income by a much sharper 21% and gross national income per capita by 28%, the steepest decline of any country in the region. Despite very limited growth through 1986, per capita consumption remained 36% above the 1970 level. One special feature of Venezuela's 1980s problems was thus the very sharp decline from earlier high levels of income and consumption.[72] Another was an economic structure which makes balance of payments adjustment particularly difficulty.[73]

The fall in oil prices in 1986 deepened the crisis but the government, elected in 1983 and facing the electorate again in 1988, opted against prudent economic policy in favor of budget and trade deficits. By 1989 the economy was in crisis and the government announced a radical economic reform, supported by the International Financial Institutions (The world Bank and the International Monetary Fund). Effects were quick--both fiscal and trade equilibria were brought to heel, though GDP fell by 8% in 1989 and inflation reached 81% that year before ceding in 1990. The urban riots of February, 1989 were followed by an ambitious package of social policy measures. Higher oil prices in 1990 (due to the Iraqi invasion) took care of the balance of payments and allowed a resumption of growth. In 1991 an ambitious expansion program in oil generated strong growth than continued into 1992, and Venezuela was coming to be viewed a case of successful adjustment under democratic government and the darling of the international financial organizations. But macroeconomic imbalances, helped along by a 30% fall in the terms of trade since 1990, brought the expansion to a halt and led to another cumulative fall in output (of 8-9%) in 1993 and 1994 (ECLAC, 1994b, 39).

Household income data, available on a systematic basis since 376 and reporting on monetary income from labour and self- employment (CEPAL, 1988, 12) suggest a lower level of inequality than in most other Latin American countries. The Gini coefficient of household income has varied within the range 0.39-0.44, and the share of the bottom decile of families from 1.55 to 2.0%. There was a gradual decrease in all the household inequality indicators over 1976-81, in which the Gini coefficient, for example, fell from 0.44 to 0.39. In the year of the greatest economic decline, 1983, the Gini stood at its lowest level, 0.39. It then rose to 0.43 by early 1985, as per capita income eased down a little further, but by late 1987 it was back at about the same level as in the early 1980s. Overall the picture was one of striking stability.

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[71] A hypothesis communicated to me by Ricardo Paes de Barros.

[72] Poverty has unequivocally increased in Venezuela to the Point where it now affects a third of the population.

[73] Morley (1994, 45) notes that this is a country in which the poor are likely to be hurt by devaluations in their role as consumers but not helped in their role as producers. The output of the major export is unlikely to be influenced by the exchange rate (being mainly determined by quota) and the price of imported food is pushed up by devaluation; its relative price rose very sharply, by 89%, over 1980-89. Adjustment to balance of payments deficits are likely to be long, "require extended periods of recession, and venerate bitter disputes over real wage reductions."

Marquez et al (1993, 151 and Table 5.2) report a worsening of distribution between 1981 and 1990, raising the possibility that it occurred just at the end of the decade, and may have been related (to either to the recession of 1989, to the adjustment, or to the liberalization. The estimated Gini coefficient of total household income rose from 0.398 in 1981 to 0.418 in 1990, but the more relevant Gini of "per capita income of members of the household– rose from 0.397 to 0.444.[74] Anomalies in the figures presented detract from the confidence which can be placed in these figures.[75]

Lessons, Challenges, Implications and Questions

Such confidence as old school Latin American leaders had in the future of their countries a couple of decades ago evaporated in the trauma of the debt crisis and its painful aftermaths. Though the record of growth and poverty reduction over 1950-1980 was a strong one, much ground was then lost in the next decade and poverty indices have increased seriously. Now the countries of the region are launched in a different, more outward-oriented and less interventionist economic model, which shows clear signs of working well in some countries but has been slower than might have been hoped in allowing the region to recover its former growth; ECLAC's 1994 estimate of GDP expansion for the region is 3.7% (ECLAC 1994b, 38). Unless growth accelerates quickly in the next few years, and in some countries even if it does, it will once again be overoptimistic to assume that growth will prove an adequate antidote to poverty. The reasons are Summarized below.

1. Distribution has worsened significantly, if not dramatically, in most countries undertaking market-friendly economic reforms.

Slower than expected growth is one source of dampened hopes. But the main one is the accumulated evidence, reviewed above, that the economic reforms have been systematically associated with severe accentuation of (primary) income inequality; in the LAC region the only probable exception to this generalization is Costa Rica. Insufficient data are available to judge whether the distribution of secondary of income (after allowing for taxes, transfers, public provision of goods) has moved differently from the primary distribution or not. Effective targeting has made a positive impact in some cases, but the reduction of government activity may have had a regressive effect, as may the changes in tax systems toward the greater use of indirect taxes. This question deserves much more study than it has thus far received.

The country experiences reviewed above suggest that the "normal" observed increase in inequality accompanying reforms is 5-10 percentage points as measured by the Gini coefficient of primary income (Table 14). Though published evidence detailed enough to permit such comparisons is available on only a subset of the countries, it seems likely that this increase is typically the result of a jump in the share of the top decile, most of this accruing to the top 5% or perhaps to the top 18 (as in the cases of Colombia

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[74] The authors also effect a classification of the households into four socio-economic groups, reporting that between 1981 and 1990 the lower class group lost 1% of GDP, the lower middle lost 4.4%, upper middle 0.6% and the upper gained 5.9%.

[75] While the text seems to reflect understanding of the possible differences between the two and the fact that families will be differently ranked (Marquez et al, 1993, 147), it is not explained why the 1981 indicators are the same for both (this clearly suggests that something is wrong), nor whether the unit in the second case is the person or the family. In the second figures the increase over 1981-89 is sharp with some recovery in 1990.

and Ecuador households) while most of the bottom deciles lose.[76] In the three Colombian cities analyzed by Berry and Tenjo, the ratio of the income of the top 5% of households to the bottom decide rose from 13 fold to 20 fold. The share of the bottom decile (the biggest loser in percentage terms) fell from 1.75% to 1.45% of total recorded income. At a moderate GDP per capita growth rate of 2% per year, it will require nearly 10 years of distribution neutral growth to recover the "lost ground" implicit in this income share decline. If per capita income growth could be accelerated to, say, 5%, the recovery period would be only four years. In Ecuador, where the percentage decline for the bottom decile was sharper (from 2.2% to 1.5%), nearly 20 years of distribution-neutral growth at 2% per year per capita would be needed and about eight years at 5%. It must be remembered that these estimates are imprecise, and probably include some biases towards an overestimate of the increase in inequality and some in the opposite direction. If the true figures were one-half of those reported here, the overall importance of rising inequality would not be too worrisome, as long as one could be reasonable confident of good growth performances in the coming years. If the true increases are twice those reported here (also possible), then the phenomenon would be of threatening proportions.

Although no one would argue that the typical Latin pattern of economic expansion with extreme inequality is anywhere close to ideal, growth of that sort is certainly better than no growth at all when it comes to poverty alleviation. Hopefully more equitable growth can be achieved at some point in the future: indeed, some evidence suggests that a continuation of the earlier growth patterns would soon bring a number of Latin countries to a phase of declining inequality. The sharp increase of unskilled real wages in Brazil during the "economic miracle" of the late 1960s and early 1970s suggests that fast growth may have a large "trickle-down" at the stage where such an economy now finds itself. A tempting hypothesis is that several of them are approximately at a "turning point" to labour scarcity; every year that their attainment of that point is delayed by weak macroeconomic performance can have a heavy cost in terms of poverty unalleviated.

While the picture as a whole raises very serious questions t about the implications of the sort of policy package now being widely adopted in Latin America and elsewhere, the fact that the two cases of sharpest increases in inequality are relatively high income countries with traditionally moderate levels of inequality and with strong systems of social services means that the social cost of increasing inequality has been much less than it might have been. Comparable increases in inequality in the poorer countries of the region would have had a much greater impact on poverty and, accordingly, much higher social cost. In most of those countries many of the poor are found in agriculture, so trends in their incomes would weigh more heavily in the overall distributional and poverty outcomes than was the case in Chile and Argentina.

2. Something other than economic recessions has accounted for manor worsening of income distribution in many LAC countries.

Though it may be true, as argued by Morley (1994) that economic downturns were the main factor underlying the increases in inequality observed in many LAC countries during the 1980s, this conclusion would not by itself imply that distributional concerns can be safely left aside for the time being. As noted in section 2 above, the 1980s evidence on the inequality-growth link appears to be somewhat less tight than Morley judged it to be. Still, his conclusion that the best policy to reduce poverty in economies mired in stagnation and underutilization of capacity is to get the economy moving is certainly valid. Our main

[76] For Colombia, detailed data are presented in Berry and Tenjo, 1995, Tables 4A and 4B.

concern here is not with that issue, nor with the impact of crisis, stabilization and adjustment on distribution; the crises are hopefully now history and stabilization and adjustment were necessary. Our focus is on the question of how economic reforms have affected distribution, so the empirical evidence on which we rely include observations from both before and after the whole crisis-stabilization-adjustment sequence. In Argentina, Chile and Uruguay, the main events occurred in the 1970s; in Mexico and the Dominican Republic in the 1980's and in Colombia, Ecuador, Peru and Brazil at the end of the 1980s or the early 1990s. Our review of those countries where enough evidence is available to say something on this count indicates clearly that, though the economic cycle has certainly been a factor in some countries' short-run distribution patterns, most of the observed worsening on which we focus here has other origins.

3. While the causal relationships have not yet been well understood, the close association between adoption of market-friendly economic reforms and accentuation of inequality is evident and a cause for serious concern.

No definitive conclusions as to what underlies the observed increases in inequality can be derived from the comparison of country experiences alone. Drawing on both those experiences and the limited microeconomic evidence on the various elements of the reform package and on other hypothesized causes of worsening, we tentatively suggest that ongoing technological change, more open trade regimes, the dismantling of labour institutions, and the "socialization" of debts (whereby the state makeR itself responsible for certain private debts which might otherwise threaten macroeconomic or financial stability) have all had negative impacts on distribution. The effect of the scaling down of the public sector (directly and via the privatization of public enterprise) seems more open to question. Increasing foreign investment has also been proposed as a source of worsening (in Mexico, for example), but judgment should probably be reserved on this point also. Many questions remain with respect to how these various factors interact among themselves and/or complement each other, both in terms of their growth effects and their implications for income distribution.

Trade and labour market reforms have been consistent elements of the reform packages instituted in the LAC countries where distribution has worsened significantly. In each case it is easy to see mechanism whereby their effects on distribution might be negative, and in each case there is at least some empirical evidence suggesting that those mechanism are at work. In the case of trade, for example, it appears likely that the comparative advantage of the region does not lie in unskilled labour-intensive products. Import liberalization appears to shift the price vector in favor of better-off families. Although optimists have argued that the opening up of trade should be expected to raise the relative incomes of agricultural workers, recent evidence on this point is not encouraging. A significant feature of the 1984-89 period in Mexico was the contribution of a widening gap between urban and rural incomes to the overall increase in inequality, and of the sharp decline in income from agriculture and livestock as a share of rural income (Alarcon, 1993, 139, 148). In Colombia an unprecedented increase in the gap between urban and rural incomes has appeared within the last two years, coincident with the process of liberalization. It is increasingly clear that in such countries there is a major part of the agricultural sector which cannot compete easily with an onslaught of imports and whose labour resources are unlikely to be quickly mobile to other sectors. Meanwhile, labour market reforms appear to open the way for wider wage and salary differentials among individuals. A tentative guess would be that these two elements of reform packages may underlie most of the negative trends in distribution.

The "socialization" of international and other debts in order to save teetering financial and other enterprises has doubtless had a significantly negative impact on distribution, as shown in the case of Chile by Meller

(1992). This was, however, a crisis-response policy, less germane to our present concerns than the now ongoing financial liberalizations (assuming that such liberalization does not henceforth lead to financial crises as they sometimes did during the 1970s and 1980s–see Diaz-Alejandro, 1985). Solid evidence has yet to come in ar to their distribution impacts, but there are plenty of reasons to suspect that these could be negative, and that the optimists will here, as in the area of trade policy, prove to have been excessively optimistic.

The impact of foreign investment is another area in which the conventional wisdom, based on a two-factor model in which an increase in the capital stock would raise the relative returns to labour, may be off base for the LAC region. But further analysis will be necessary before much can be said with confidence in this area.

The downsizing of the public sector is widely believed to be a factor in worsening distribution, ar witness the literature reviewed in the cases of Uruguay, Chile and other countries. There is little doubt that many middle income groups could lose in this process. But in some countries (e.g. Colombia) where there is detailed evidence on the relative incomes of public and private sector employees, the gap in favor of the former is large enough to make one guess that the distributional effect would as likely be positive as negative. Clearly a fairly good understanding of the indirect as well as the direct effects of such a downsizing are necessary for any predictions to be Persuasive.

4. Neither theory nor the record has provided much evidence on how "lasting" are the negative distributional effects which have been recorded.

This is a major drawback. Enough of the economic reform episodes are recent 50 that it might be hoped that many of the accompanying negative effects are temporary, associated with the transition to a new model, and likely to peter out with time and the adjustment of economic actors to the new reality. The only ray of hope thus far in this area comes from Chile, where distribution has improved noticeably in the last five years or so. But the period between initial worsening and beginning of improvement is almost 15 years, long by any standard, and it is not clear that the recent improvement should be interpreted as the reversal of those initial impact or simply the result of another process, such as the tightening of the labour market predicted by labour surplus theory. Even if the latter is the case this outcome is reassuring since it might imply that distributional losses resulting from the economic reforms will, fortuitously, be offset after some time by other aspects of the growth process; though distribution may remain less equal than it would have been without the reforms, it will not permanently remain more unequal in absolute terms.

The need to better understand the likely future of income differentials is thus further highlighted by the need to know what impacts are permanent and which ones are not.

5. It is urgent to learn from the record, in order to achieve better combinations of growth and distribution than those of the last two decades.

All country experiences no doubt have valuable lessons built into them, but those of Chile, Colombia and Costa Rica are perhaps the most interesting from the perspective of learning how to guide policy more effectively in future. Costa Rica is the one country which may have come through a reform process without a major deterioration of distribution- Colombia appears to have achieved the most significant pre-reform Improvement in distribution, at least in the urban areas. And Chile undertook the reforms earliest, suffered high social Costs thereafter, but has also pioneered a number of impressive policy experiments of relevance

to other countries. Chile is of interest both for what went wrong and for what appears to have been done right. Riveros, for example, emphasizes in his contribution to this volume, that the high social costs were due in part to the lack of a coherent labour market policy, and the corresponding lack of clear institutions governing that market.

Possible lessons from Costa Rica, assuming further analysis confirms its status as the happy exception to the general experience of increasing inequality, might involve some or all of that country's commonly commented on special features: its middle- of-the-road democratic governments, the absence of a military and the relative strong system of social services; the gradual ways in which most reforms have been adopted; the combination of union weakness (since the early 1980s) with considerable government control over wageR and salaries; the relatively high levels of education; the low levels of unemployment.

6. Some priority policy areas seem clear from the recent record in the LAC region and from our partial understanding of how those economies are now functioning. Among these are education/training systems--clearly important in light of the danger that low skilled persons are being left behind; small and medium enterprise policy, important given the major role this sector plays in the creation of productive employment; poverty redressal, whether through better targeting or otherwise, in light of evidence that considerable social spending has not in the past been very efficiently carried out, and the fact that under conditions of rapid economic change such systems must be unusually adept in order to do their job well.

While their general importance may be easily accepted, the precise policy formula most likely to bear fruit in each of these areas is much less clear. Designing it has obviously high priority.

Some progress has been made toward the goal of appropriate support the microenterprise or informal sector with the concerned assistance of non-governmental organizations of both national and international origin. Less attention has been directed to the fairly small but not micro-level firms; there is some concern that the trade, fiscal and capital market reforms will be applied in ways not conducive to the success of this group, whose potential is little understood and whose interests have received little attention from the key policy makers in most countries of the region. In increasingly open economies it will be important that its capacity to export, either directly or indirectly through effective intermediaries or through subcontracting arrangements, be fostered; evidence from countries like Korea and Indonesia strongly suggests that this will require proactive government policy.[77] Each of the major elements of the economic reform package already instituted or now being instituted in the LAC countries also deserves priority attention. In most cases there were reasonably persuasive arguments for reforms of the general character actually undertaken, though in all cases the extent of reform and the precise elements making up the package could be questioned, since the design was inevitably based on mainly untested theory. Now that the evidence is clear that the distributional outcomes have been unfavorable, and even the growth results rather more modest than many had hoped and expected, it is clearly important that each component be reassessed. It will therefore be a challenge to design and to carry out necessary reforms with an eye on avoiding significantly perverse effects on income distribution. Together with the importance of more careful and professional design of policy packager will be prompt and in depth monitoring of welfare outcomes and their relationships to policy. For example if capital inflows are prone to worsen distribution in Latin America, hints of this should become apparent in the not too distant future.

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[77] Based on the conclusions of an ongoing World Bank study of the export success and support systems of small and medium manufacturing firms in Korea, Indonesia, Japan and Colombia (levy et al, 1994).

7. Better information and more analysis in the distribution area will be needed for policy to become more professional.

The full story on how the trauma of these past years ha affected the distribution of income, poverty, and welfare in Lat. America and whether it will leave a permanent imprint on those variables in future cannot be told until there is better information on the distribution of capital incomes, of aura incomes, and of social services. It is conceivable, though not likely in my own judgment, that the capital share has risen region wide by enough to suggest even more acute worsening then current available figures indicate; it is also possible that relative rural incomes have moved positively enough so that the record reviewed here appears unduly negative. The fact that some welfare indicator other than recorded incomes have evolved differently, and usually more positively, than incomes per se, is reassuring but needs to be better understood. It may mainly reflect the fact that there are significant lags between investment and payoff in these areas, it may imply that service provision fell significantly less than did expenditures during the crisis years (plausible since wages are the main cost of education and those wages fell), or it may suggest that some of the improvements (e.g. in child mortality) are substantially independent of macroeconomic performance and/or increasingly influenced by efficient targeting programs.

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Table 1: Trends in Output, Income, and Other Macroeconomic Variables Since 1980 in Latin America and the Caribbean
(Indices: 1980=100)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1980-1990	1990-1994
GDP (Market Prices)	100.0	102.6	106.3	110.6	111.5	112.6	112.9	116.8	120.3	124.1	128.7		
GDP growth rate		2.8	3.7	3.2	0.8	1.0	0.3	3.5	3.0	3.2	3.7	1.2	3.3
GDP Per Capita	100.0	91.8	93.3	95.6	94.5	93.6	92.1	93.6	94.6	95.8	97.8		
Absorption of Goods & Services	100.0	93.9	98.1	100.3	100.9	101.4	101.7	107.6	112.4	116.4			
Consumption	100.0	100.4	104.3	106.4	107.4	108.4	108.9	115.0	118.6	121.9			
Investment	100.0	72.1	77.6	79.6	79.0	77.5	77.3	82.8	91.8	98.3			
Gross Nat. Income	100.0	97.5	99.6	103.0	103.6	104.8	105.2	110.0	113.3	116.2			
GNI per Capita	100.0	87.2	87.4	88.5	87.1	86.4	85.2	88.2	89.1	88.3			

Sources: For the first two rows, ECLAC, 1992, pp. 40-1 and 1994b, p. 37; for the other rows CEPALC, 1991, p.37 and CEPALC, 1994, p. 88. There are slight inconsistencies (of about 0.5%) in the figures for 1986 and 1987 between the earlier source (used for years 1985 and 1986) and the more recent one.

Table 2: Poverty Incidence by Country. Latin America, 1970

Population (Millions) Percent			Regional Incidence of Poverty 1970
Brazil	96	36.3	49
Mexico	52.8	20.0	34
Argentina	24.0	9.1	8
Colombia	21.3	8.1	45
Venezuela	10.6	4.0	25
Peru	13.2	5.0	50
Chile	9.5	3.6	17
Uruguay	2.8	1.1	
Ecuador	6.1	2.3	
Guatemala	5.2	2.0	
Dominican Republic	4.4	1.7	
Bolivia	4.3	1.6	
El Salvador	3.6	1.4	
Paraguay	2.4	0.9	
Costa Rica	1.7	0.6	24
Panama	1.5	0.6	39
Nicaragua	2.1	0.8	
Honduras	2.7	1.0	65
Latin America[b]	264.2		38.53

Source: Altimir (1982).

Table 3: Summary of Distribution Data for Chile: Gini Coefficients and Quantile Shares

	Greater Santiago			Chile				
Year	R (EOD) (1)	H_{hy} (2)	Share 40% (3)	H_{pcy} (4)	H_{pcy}[a] (5)	Share 40% (6)	H_{hc}[b] (7)	H_{hy} (8)
1957	.48							
1958	.50							
1959	.50							
1960	.48	.459	13.69					
1961	.51							
1962	.51							
1963	.50							
1964	.48							
1965	.49	.475	12.87					
1966	.49							
1967	.52							
1968	.52	.498	11.70					.455[c]
1969	.52						.312	
1970	.52	.501	11.50	.434				
1971	.50							
1972	.46							
1973	.46							
1974	.46	.450	12.78	.423				
1975	.48	.471		.413				
1976	.53	.538		.489				
1977	.52	.526		.476				
1978	.51	.520 .440[d]		.466	.485	10.77	.390	
1979	.51	.518						
1980		.526	10.28					
1981		.522	11.24					
1982		.539	9.95					
1983		.542	10.07					
1984		.555	9.33	.515				
1985		.532	10.13	.501				

	Greater Santiago				Chile			
Year	R (EOD) (1)	H_{hy} (2)	Share 40% (3)	H_{pcy} (4)	H_{pcy}[a] (5)	Share 40% (6)	H_{hc}[b] (7)	H_{hy} (8)
1986		.539	10.00	.500				
1987		.531	10.22	.495				
1988		.573 .487[d]	10.91	.501	.519	10.91	.428	
1989		.552 .454[d]	11.61	.500	.522	9.95		
1990		(.54) .460[d]			.514	10.26		
1991					.488	11.36		
1992								
1993								
1994								

Symbols: R-distribution of income among income recipients
H_{hy}-distribution of household income among households ranked by household income
H_{pcy}-distribution of income among persons ranked by per capita household income
H_{hc}-distribution of households ranked by household income or consumption (not clear--see note "b").

a) Gini coefficients calculated from quintile distribution presented in Ritter (1992, 81). The true Gini's, based on the ungrouped information, would be a couple of points higher. We assume the figures of Cols. 1,2, and 4 are based on ungrouped data (to verify).

b) Figures from Meller (1992, 22) suggest that families are ranked by family income (not per capita income or consumption). Data from source are for the bottom and middle 40% groups and the top quintile. Accordingly they underestimate the Gini coefficient considerably. There may even be a possibility that the ranking criteria were different as among the years for which the figures are reported.

c) Average of two figures for 1968.

d) Figures estimated on the basis of the data presented in Ritter (1992, 81).

Sources:

Col.1: CEPAL, 1987). Whereas the other figures in this column were estimated by CEPAL's Division of Statistics and Quantitative Analysis, an alternative figure (0.49) was presented for 1973; it was estimated by the "Programa de Actividades Conjuntas "ELAS/CELADE".

Cols. 2-4 are from Riveros, this volume. It remains to be clarified that the definitions given here are the correct ones. The figure for 1988 would seem to be a typo, given that the bottom 40% share rises rather than falling in that year. The 1990 figure has been added tentatively to the series on the basis of figures reported by Morley (1994, 8), who shows the same 1987 figure as does Riveros (0.53) and adds this one, citing Pardo et al.

Col. 8 is from CEPAL, 1987, cuadro 5.1.

Table 4: The Quintile Distribution of Consumption Among Households in Greater Santiago, 1969, 1978 and 1988
(Percent of total consumption)

Quintile	1969	1978	1988
1	7.6	5.2	4.4
2	11.8	9.3	8.2
3	15.6	13.6	12.6
4	20.6	21.0	20.0
5	44.5	51.0	54.9
Total	100.0	100.0	100.0

Source: Ffrench-Davis, 1992, 16.

Table 5: Indicators of the Standard of Living and of Social Services in Selected Countries of Latin America

Country	Life Expectancy at Birth		Percent with Access to Health Services (1985-1987)	Adult Literacy Rate (1985)	Real GDP per Capita ($PPP) (1988)	Mean Years of School (25+) (1980)	Public Health Expend. as % of GNP		Public Educ. Expend. as % of GNP		Percent of Public Educ. Expend. to Primary (1987-1988)
	1960	1990					1960	1986	1960	1986	
Cuba	63.8	75.4	..	92	..	5.7	3.0	3.2	5.0	6.2	20.4
Costa Rica	61.6	74.9	80	92	4320	5.6	3.0	5.4	4.1	4.5	37.7
Panamá	60.7	72.4	81	86	3790	5.9	3.0	5.7	3.6	5.4	39.3
Uruguay	67.7	72.2	82	95	5790	6.1	2.6	2.7	3.7	6.6	35.8
Chile	57.1	71.8	97	92	4720	6.2	2.0	2.1	2.7	4.0	51.9
Argentina	64.9	71.0	72	95	4360	6.0	1.3	1.6	2.1	3.3	..
Venezuela	59.5	70.0	..	86	5650	5.3	2.6	2.2	3.7	4.3	20.7
México	57.0	69.7	..	85	5320	4.0	1.9	1.7	1.2	2.8	23.7
Colombia	56.6	68.8	60	85	3810	5.2	0.4	0.8	1.7	2.8	39.9
Brazil	54.7	65.6	..	79	4620	3.3	0.6	2.4	1.9	3.4	52.3
Paraguay	63.8	67.1	63	88	2590	4.6	0.5	0.2	1.3	1.0	36.6
Dominican Republic	51.8	66.7	80	80	2420	4.3	1.3	1.4	2.1	1.6	44.4
El Salvador	50.5	64.4	58	69	1950	3.4	0.9	0.8	2.3	1.9	60.3
Ecuador	53.1	66.0	64	83	2810	5.4	0.4	1.2	1.9	4.2	45.7
Perú	47.7	63.0	75	82	3080	5.7	1.1	0.8	2.3	2.2	31.1
Honduras	46.5	64.9	74	68	1490	3.0	1.0	2.6	2.2	5.0	46.6
Guatemala	45.6	63.4	34	52	2430	4.0	0.6	0.7	1.4	1.8	38.2
Bolivia	42.7	54.5	64	73	1480	4.0	0.4	0.4	1.5	2.9	54.4

Source: United Nations Development Programme (UNDP), Human Development Report 1991, Oxford University Press, 1991, 122-153.

Table 6: Evidence on the Distribution of Income in Uruguay
(Gini Coefficients, except as indicated)

Year	Montevideo		Rural	Uruguay Coeffic. of Variation	
	H_{hy}	H_{hye}	H_{hy}	Manu-blue	Manu-white
1961-62	0.366				
1963	0.371		0.424		
1967	0.418				
1968		0.369		30.59	36.99
1976	0.450	0.450			
1978				15.48	35.30
1979		0.491			
1980	0.424				
1981				20.60	19.10
1982	0.415		0.398		
1984	0.484		0.406		

H_{hy} Distribution of household income among households ranked by income
H_{hye} Distribution of earned income among households ranked by income.

Source: Favaro and Bension, 1993, 198-99 and 340. The main original source are Melgar, 1982 and Rossi, 1982.

Table 7: Selected Data on Distribution in México, 1984, 1989, and 1992

	1984		1989		1992	
	Share of Total Income	Gini and Psuedo Gini	Share of Total Income	Gini and Psuedo Gini	Share of Total Income	Gini and Psuedo Gini
Households Ranked by Household Income (Grouped data)						
Total	100.0	0.429	100.0	0.469	100.0	0.475
Wages	46.9	0.444	46.4	0.430	45.5	0.466
Profits	7.1	0.468	10.2	0.634	8.4	0.613
Services	4.7	0.427	6.5	0.623	7.3	0.635
Agric./Live.	10.4	0.395	4.9	0.257	4.5	0.328
Non-monetary	21.2	0.390	22.6	0.455	26.1	0.429
Urban[a]				0.453		
Rural[a]		0.407		0.410		
		0.407				
Households Ranked by Per Capita Household Income (Individual Data)[b]						
Total		0.488		0.519		
Urban				0.499		
Rural				0.442		

* Calculations are based on grouped data. Households are ranked by total household income.
[a] From Alarcon, 1994, 112.
[b] ibid, p. 87, 121.

Source: Alarcon and Mckinley, 1994, Table 2, except as noted.

Table 8: Measures of the Inequality of Wage Income in Mexico, 1984, 1989, and 1992

	1984	1989	1992
All Wage Earners			
Standard Deviation of Log Variance	1.036	0.978	1.299
Standardized Theil*	0.039	0.031	0.047
Gini Coefficient	0.419	0.443	0.519
Coefficient of Variation	0.930	1.092	1.319
Rural ware Earners			
Standard Deviation of Log Variance	1.144	1.0241	1.145
Standardized Theil*	0.051	0.032	0.038
Gini Coefficient	0.471	0.433	0.466
Coefficient of Variation	0.964	0.908	1.064
Urban wave Earners			
Standard Deviation of Log Variance	0.912	0.841	1.331
Standardized Theil*	0.031	0.024	0.047
Gini Coefficient	0.383	0.411	0.514
Coefficient cf Variation	0.870	1.020	1.288
Urban Manufacturing Wage Earners			
Standard Deviation of Log Variance	0.770	0.835	1.320
Standardized Theil*	0.026	0.024	0.048
Gini Coefficient	0.369	0.411	0.528
Coefficient of Variation	0.960	1.018	1.437

* Theil's L index divided by the natural logarithm of mean monthly wages
Source: Alarcon and McKinley, 1994, Table 5.

Table 9: Selected Data on the Structure of Earnings in Mexico.
1984, 1989, and 1992

	1984	1989	1992
Wage differentials			
Female/Male	76.7	71.6	74.7
Rural/urban	55.6	45.6	55.1
Nontradables/tradables	85.8	97.3	107.7
Nonunion/union	75.1	86.1	96.8
Nonborder states/border states	93.6	93.6	95.2
Poor states/nonpoor states	91.8	82.2	86.5

Source: Alarcon and McKinley, 1994, Table 3.

Table 10: Income Distribution Trends in Colombia Since 1976

Year	Persons Ranked by Per Person Family Income, 3 Cities [a], March (1)	Earners, 3 Cities[a] (2)	Persons Ranked by Per Person Family Income, Urban Areas[b], September (3)	Urban Households (4)
1976	0.520	0.500		0.496
1978				0.483
1980	0.492	0.464	0.46	0.461
1983			0.46	0.459
1984	0.475	0.442		
1985			0.47	0.474
1986			0.48	
1987			0.47	
1988			0.49	
1989	0.470	0.421	0.50	
1990	0.459	0.413	0.49	
1991	0.483	0.451	0.48	
1992	0.494	0.468	0.45[c]	
1993	0.507	0.467		

[a] Bogotá, Medellín and Barranquilla.
[b] The data refer to the major urban centres of Colombia plus a few small centres.
[c] Refers to June; methodology not comparable to that for earlier observations (communication from L. Sarmiento)

Sources: Columns 1 and 2 are calculations by the authors using DANE household surveys for March of each year. Income has been corrected for truncation problem (see appendix on methodology). Column 3 is from Sarmiento, 1993, p. 73. Column 4 is from Reyes, 1987, p. 81.

Table 11: GINI Coefficients of the Distribution of Income Among Earners, Various Income Components, 1976-1993 (March) Bogotá, Medellín and Barranquilla

Year	Labor Income		Business Income		Other Income		TOTAL
	GINI	Weight	GINI	Weight	GINI	Weight	GINI
1976	0.439	67.27%	0.577	26.13	0.829	6.60%	0.500
1980	0.373	63.77%	0.565	28.39	0.841	7.84%	0.464
1984	0.360	58.25%	0.510	27.35	0.644	14.40%	0.442
1989	0.341	57.20%	0.487	27.63	0.606	15.17%	0.421
1990	0.346	58.89%	0.466	28.74	0.688	12.37%	0.423
1991	0.371	56.09%	0.513	30.19	0.631	13.72%	0.451
1992	0.370	55.04%	0.533	29.47	0.694	15.49%	0.468
1993	0.374	54.92%	0.547	31.06	0.651	14.00%	0.467

Notes: The Gini coefficients for total income, labour income and business income are in each case calculated for that group of individuals receiving the type of income in question and on the basis only of that type of income. Thus a person with labour income and other income would appear in the labour income distribution as having only his/her labour income." Note that the surveys do not collect both labour and business income for anyone, i.e. it excludes this possible income combination from consideration and thus it leaves and unknown amount of income unreported.

Source: DANE household surveys.

Table 12:
(Available from Author)

Table 13: Indicators of the Concentration of Income in Costa Rica, 1969-1993

	Households Ranked by Per Capita Income[a] (Trejos-Sauma)			Households	Households of paid workers	Earners	Households	Households
	Total	Urban	Rural	Total[b]	Total[c]	Total	Total[d]	Total[e]
1969								
1970								
1971				0.44				
1972								
1973								
1974								
1975								
1976								
1977								
1978								
1979					0.45			
1980	0.348	0.325	0.310			0.395		
1981						0.403		
1982					0.42	0.420		
1983	0.337	0.317	0.330	0.47		0.383		
1984						0.376		
1985	0.322	0.293	0.316			0.375		
1986						0.372		
1987	0.363	0.336	0.353			0.360		
1988	0.369					0.420		
1989	0.348					0.419		
1990	0.348	0.324	0.337					
1991	0.361	0.334	0.352					
1992	0.348	0.333	0.334					
1993	0.354	0.334	0.339					

Note: Except as indicated, the GINI coefficients for households are calculated on households ranked by household income, not by household income.

Table 14: Summary of Relationships Between Economic Reforms and Distribution, Countries for Which Data are Available

Country	Main Period of Worsening	Degree of Worsening, main period	Degree of worsening, to present	Characteristics of main Period of Worsening
Argentina (Greater Buenos Aires)	1976-78	8 points, followed by some easing	8 points	Liberalization, labour repression, no net growth
Chile (Greater Santiago)	1974-76	7-9 points	7-9 points	Liberalization, labour repression, sharp recession
Uruguay (Montevideo)	1976-79 or 1982-84	9 points or 7 points	not available	Liberalization, labour repression, growth or ....., recession
México	late 1980s	3-5 points	3-5 points	Liberalization, some labour reform, slow growth
Dominican Republic	In period 1984-89	8 points	not available	May have coincided with adjustment
Colombia (Three major cities)	1990-92	4-7 points	4-7 points	Liberalization, labour market reforms, moderate growth
Ecuador (Urban)	1989-92	5 points	5 points	Liberalization, labour reforms, slow growth
Costa Rica	1985-87 (?)	0-4 points (?)	0-3 points	Liberalization, mild labour reforms (?), moderate growth

Note: (i) Distribution worsening measured in percentage point increases of the GINI coefficient.
(ii) Depending on data availability, the Gini coefficient may refer to income earners, households ranked by household income, households ranked by per capital income, or other distribution available. Completeness of income coverage varies with the case, as discussed in the text.

SESSION 8. EMERGING POLICY ISSUES AND RESEARCH PRIORITIES ON WESTERN HEMISPHERE INTEGRATION

Analysis for Western Hemisphere Integration

Lorna M. Aldrich, Economic Research Service, U.S. Department of Agriculture

Analysis for Western Hemisphere Integration

This conference has produced a valuable exchange of insights, points of view, and information on the Economic Integration of the Western Hemisphere. Several speakers have provided a broad historical context by describing the transition in the Hemisphere from the export substitution policies of previous decades to more recent trade liberalization policies. Others have provided detailed empirical analysis of specific trade issues and results of agreements. Within this context, Michael Gifford and Carol Goodloe provided insights into the challenges of bringing trade liberalization agreements into existence and the further challenges, not to be taken lightly, of monitoring and maintaining agreements.

What did we learn here? I think one lesson is that creating trade agreements for Western Hemisphere integration will require very specific information. First, researchers and negotiators need good data. To take one instance, Carol Goodloe mentioned that having tariff schedules in a spreadsheet would sometimes make a considerable contribution to negotiations. It takes an effort on someone's part to bring such a spreadsheet into existence and transfer it to negotiators. We are all aware that maintaining useful databases is a time consuming, and therefore expensive, task. Raw data from administrative sources--customs, international organizations, country program administration--must be edited and placed in usable form.

In addition to having data, it is important for each country to understand the basic structure of its own and its partners' economies. Understanding the basic structures of these economies is prequisite to estimating the consequences of an agreement for all countries. The relative importance of production that might need to be adjusted as a result of a trade agreement and the existing trade patterns that might be changed are essential pieces of information for negotiators.

Finally, knowledge of the policy and procedures of the countries are essential. Exactly how is a policy implemented and what changes will an agreement require? How will compliance be determined? Very detailed information about negotiating partners is necessary. As tariff barriers decline, and as attention focuses on monitoring existing agreements and removing potential administrative barriers to trade, the information requirements will become much more detailed. The problem of separating necessary health and safety restrictions from disguised administrative barriers to trade is information intensive, to say the least. The information covers basic scientific evidence, administrative procedures, knowledge of the specific parts of industries affected, and the potential effects of administered barriers to trade on them.

The list of requirements--of data, of knowledge of each others' economies, of understanding policy and procedures-- will not be easy to meet. How will the international community of trade researchers and public agencies go about providing the information? There will be benefits from pooling information and knowledge through conferences such as this one.

Fortunately, we face this challenge just as technology is making information exchange easier. The Internet is changing accessibility to research and, particularly, databases. ERS is now putting all of its data products and the text of scheduled reports out through the USDA Economics and Statistics System maintained by Mann Library at Cornell. Data products and reports from the National Agricultural Statistics Service (NASS) and the World Agricultural Outlook Board (WAOB) also are released through this system. These materials are available through gopher and anonymous ftp (usda.mannlib.cornell.edu). ERS, NASS, and WAOB reports also are available through e-mail subscriptions. (For information on how to subscribe, send an e-mail message to usda-reports@usda.mannlib.cornell.edu with no subject and the word "lists" as the body of the message.) These releases include information on the countries of the Western Hemisphere that arises from the recurring workload in ERS, which I will briefly sketch here.

The agency contributes monthly to the USDA World Agricultural Demand and Supply Estimates (WASDE) for the marketing year for field crops, livestock and products, and sugar. Regular situation and outlook reporting explains the forces forming these estimates. In addition, other reports discuss markets for fruits, vegetables and tobacco, for which there are not WASDE estimates. Fruits and vegetables account for a significant share of Western Hemisphere agricultural trade.

It is evident that this recurring work requires knowledge and anticipation of the effects of trade agreements and developments in the Western Hemisphere countries. Clearly, oilseed and products estimates must take account of policy and production in Brazil, and the same is true for orange juice in Brazil, wheat in Argentina and Canada, and fruit in Mexico, Chile, and a number of other countries. ERS maintains expertise for the country/commodity coverage required by this process.

In addition, ERS contributes analytical support to the annual USDA budget baseline, covering the same commodities as the WASDE. The international trade estimates behind the baseline include a series of country models for Argentina, Brazil, Canada, Mexico, and other Central American, Caribbean and Latin American countries.

The individual country models, and a Rest of World Sector, can now be integrated in the baseline work through ERS's system linked country models. This system supports the baseline by presenting internally consistent results that incorporate major factors, such as agricultural policy, income, and cross-commodity changes. The tabulated country projections and prices help to provide starting points for discussions between country and commodity analysts. The country-link system has also been adapted for use in analyzing the impacts of Western Hemisphere and other regional trade integration scenarios on world and U.S. commodity prices and trade.

The models require a large data gathering effort, which generates valuable information on trends and patterns of trade. At this conference, the paper on "Patterns of Trade for Agricultural Products in the Western Hemisphere," by Constanza Valdés and John Wainio draws from this source.

Finally, the recurring work on the Western Hemisphere includes reports focusing on the progress under NAFTA. These are a quarterly monitoring report focusing on the most recent trade data and policy developments, and an annual situation and outlook report focusing on more basic trends as well as discussions of the details of the agreement itself. The contents heading of the forthcoming annual speak for themselves: "The Agricultural Provisions of NAFTA," "The First Year of NAFTA Shows Expanded Trade," "North American Trade Vital for the United States," "Factors Affecting Future Development of Trade," and "Outlook for Agricultural Supply and Demand in 2005."

Although this recurring work in ERS, and recurring work elsewhere--in universities, international organizations, other governments, and other parts of the U.S. government--provides some basis for negotiations leading to Western Hemisphere integration, an important current task on Western Hemisphere is to expand the information base. One early step in ERS is the preparation of a report on Western Hemisphere integration which covers the relevant issues. Some of these are anticipated to be infrastructure--especially transportation links, tariff and non-tariff barriers to trade, exchange markets, sanitary and phyto-sanitary regulations, the provisions of existing and proposed regional trade agreements in the Hemisphere, and differences in consumer demand among countries. However, we anticipate that some issues that are not now being emphasized will emerge as significant as the study proceeds. The exchanges among professionals at this meeting and others are an important link in this process of giving the right emphasis and recognition to each issue.

Another step is assembling basic information. Following the model established with the Canada and Mexico negotiations and with our support for the upcoming Chile negotiations, we are starting the process of developing briefing books for MERCOSUR countries and most likely following that with briefing books for Andean Pact countries and Venezuela. The briefing books will be the first step in assembling the data, policy information, etc. necessary to improve the structure of the models.

Some new issues are becoming integral to trade discussions. ERS also is turning its attention to technical barriers to trade (TBT), "the new protectionism." These may include restrictions arising from environmental and safety concerns, but extend to packing restrictions, labeling, and product standards. The agency has started to collect data on technical barriers to trade and to study the importance of economic interests, scientific evidence, public opinion, and precedent as determinants of TBT's. The goal of this research is to build a knowledge base for understanding the dispute mechanisms for TBT's under NAFTA and the WTO and their effects on the post-Uruguay round environment.

Environmental and labor issues are another important component of ERS work on Western Hemisphere issues. ERS initiated work on the link between agricultural trade and the environment a few years ago, preparing several papers on the linkages between Western Hemisphere trade and the environment: general issue papers include a description of the environmental provisions of NAFTA and its environmental side agreement and the projected environmental consequences of NAFTA; and specific issues papers include environmental impact of increased horticulture production in the Mexican state of Sinaloa , costs and benefits of irradiation quarantine treatments for Western Hemisphere fruit and vegetable trade, and the linkage between worker safety regulations and fruit trade. Some of this work has been presented at previous IATRC meetings and published by ERS.

ERS has been preparing a major project that catalogues resource and environmental policies of various countries, with an emphasis on policies affecting agricultural production and trade. The project breaks policies into four categories: water, land, agricultural chemicals, and wildlife and natural areas. The "water" volume was published a year ago.

One paper was prepared for this conference, "Western Hemisphere Integration: Trade Policy Reform and Environmental Policy Harmonization," by Denice Gray and Marinos Tsigas.

We expect to continue to monitor and examine the effects of changes in multilateral and regional trade agreements (GATT, NAFTA, extended-NAFTA) and environmental policies.

The program of analysis and research that ERS and its clients have chosen is extremely broad--in coverage of topics, in the number of countries to be analyzed, and in the nature of the information and analysis we intend to provide. Therefore, our collaboration with colleagues and other institutions continues to be essential to success. We hope that collaboration with us is equally important to those colleagues and institutions because we will all face challenges that strain our individual resources as we analyze and anticipate the evolution of Western Hemisphere integration.

Emerging Policy Issues and Research Priorities on Western Hemisphere Integration

Douglas D. Hedley, Agriculture and Agri-Food Canada

Introduction

This paper outlines some directions and priorities for research related to trade and domestic policies for the agriculture and agri-food industries in the wake of the Uruguay Round of GATT negotiations, the extension of NAFTA to Mexico, and the further extension of NAFTA to Chile now underway. The perspective necessarily builds on where we are today, with the initiation of implementation in domestic and trade policies in a number of countries in response to those agreements. As well, other pressures, fiscal in particular, are shaping policies in trade and domestic economies. These changes indicate a substantial change in the information and analytical requirements in the years ahead. Yogi Berra summed it up nicely with the comment, "The future ain't what it used to be".

The paper begins with a stylized view of three stages of the trade liberalization process, along with the changing information and analytical needs in each of these stages. The three stages described are preparation and negotiation, liberalization and implementation, and finally market integration. By relating these needs to each stage, it is possible to identify more readily the range of effort and priorities we can expect. The second section explores the dynamics of each of these stages since for many countries, all three stages are being pursued simultaneously. The final section of the paper uses examples from Canada-USA trade relations to examine the range of issues for both domestic and trade policy and the nature of the information and analytical information required in the years ahead.

The Trade Liberalization Process

From the late 1970s to the signing of the GATT/WTO agreement in Marrakesh, Morocco in April 1994, global trade liberalization in agriculture essentially stood still. Even though Canada and the USA established the FTA, agriculture for the most part was set aside, pending the outcome of the GATT/WTO Round. The single minded focus was whether or not to initiate trade liberalization for agriculture. The trade research throughout this period, both conducted and stimulated by the IATRC, was directed to defining and measuring the nature and size of domestic and international impacts of lowering specific trade barriers. Along with this work was the creative efforts exploring alternative measures, both for the longer term and for transition, to employ in domestic and trade policies to replace the trade distorting ways that governments over the years had erected.

The efforts are characterised by the work of many members and friends of the IATRC around the world. The basic messages from this effort were:

-domestic policies had to be addressed as part of the trade liberalization negotiations in agriculture

-full trade liberalization offered overall economic gains to developed and developing countries

-partial trade liberalization offered gains as well

-both full and partial trade liberalization offered gains in market stability; recall that instability in markets was a major reason for erecting trade and domestic policies in agriculture

-unilateral liberalization offered mixed results

-gains from liberalization of agricultural trade occurred not only within the industry, but also in the overall economy

-for most countries, there were both winners and losers in the agricultural sector, an issue that needed to be addressed through domestic policies following the GATT/WTO Round.

Certainly other messages emerged from the years of work. However, the continued flow of results which confirmed and built on earlier results made a major contribution to reaching conclusions in the negotiations.

Added to this work were the efforts to seek new and different policies and tools for agricultural trade, such as decoupling, the PEG concept, the PSE and CSE measures that led to the AMS used in the negotiations and commitments in the Uruguay Round results. A new area of research began during this period as well. It was the work on the sanitary and phytosanitary policies and programs which resulted in new rules to prevent different ways of restricting trade.

All of this work was directed to preparation and support for the negotiations, convincing reluctant governments that trade liberalisation was necessary and possible. Since the GATT/WTO agreement represents a partial liberalization of trade in agriculture, this work will have to continue, in a steadily more refined way as the bilateral and regional trade liberalization efforts become the focus of attention in the years ahead. We are involved, for example, in the extension of the OECD's AGLINK model to Mexico and Chile, with work also getting underway on other countries in Latin America.

Let me stress that this basic work on gains from trade liberalization continues to be needed. The risk is that, without maintaining these messages, policy makers are going to return to skepticism and reluctance in continuing with trade liberalization.

A second aspect of the research needed in trade is the efforts began in the late years of the Uruguay Round, and the early years of the Canada-USA agreement, on the redefinition and re-engineering of domestic polides, based on the emergence of a more liberal trade regime. This is the implementation phase of the GATT and NAFTA agreements. To a great extent, this research is country specific, carried out by universities, research institutions and govemments. In Canada, for example, a great deal of attention was given to how to design domestic policies in grain transportation in light of the expected GATT/WTO agreement. Clearly, it was not enough to agree on trade liberalizing measures in the GATT or NAFTA. The additional step of recalibrating domestic policies to meet international obligations as well as to utilize fully the access won in the agreements, was also needed.

This research was different than the earlier work on preparation and support for the negotiations themselves. It required a great deal more detail on specific country policies, but also required integration across countries because of the deepening interaction that trade liberalization brought among countries. Not only is there the task of reshaping domestic policies to fit the new agreements, there is also the task of finding the right mix of national and regional adjustment policies. Again, this work will need to continue as new agreements are negotiated. A worry I note is that while the first stage of work in preparing for

negotiations is well underway, the adjustment problems and policies, particularly regarding small farmers, is not moving forward as rapidly.

A third stage of the research in trade liberalization is just getting under way. After convincing the world that trade liberalization is a preferred state, and working through the processes of re-design in domestic policies to respond to trade liberalization, the markets are telling us about two additional aspects of trade liberalization. The first is the horizontal market integration for products across national boundaries. The second is the integration at all levels in the food chain across national boundaries.

With trade restraints in place, individual firms, particularly in value added products, treated each country as a separable market. Plants were established to fulfil national and subnational market needs with little thought to exporting. Firms designed themselves to work in these separable markets. With trade liberalization, the increased integration of markets is changing substantially the behaviour of firms, the location of plants, the investment decisions for expansion or contraction, and the mandate of individual plants to produce for local as well as export markets. This integration of markets has received little attention by trade economists and their research. We have little evidence, for example, if the market integration occurring in North America will also apply to the Pacific Rim as barriers are reduced, or whether it is restricted to nearby or adjacent market areas. As well, we have very little consistent evidence about the behaviour of firms in the face of market integration. The explosion of value added products in international trade in the past ten years appears to have had little impact on the nature of research in international trade.

Market integration suggests that instead of trade equilibrating prices at only one level in the market, say live hogs, all levels in the market place must equilibrate. The result is that margins between different levels in the food chain must remain similar between two countries, or at least bounded by transportation cost differences. The example from the hog industry would be that input prices, particularly feed grains and protein meals, must equate across boundaries, just as live hogs, dressed carcasses, primal cuts, and retail ready packs must equate across boundaries.

This integration forces recognition that not only raw product prices are relevant, but also a host of other policies, many of them not specific to agriculture, are also at play. Examples include taxation policy, labour regulation, depreciation schedules, research and education policies, investment treatment in taxation, payroll and income tax levels, environmental policies, labelling and packaging requirements, and how social policy is treated within national policies. The difficulty lies in simple comparisons of specific policies, such as taxation of income. A direct comparison of income tax rates between Canada and the USA would reveal that Canadian income tax rates are substantially higher than in the USA, giving USA an advantage in trade. However, taking a wider mix of policies including income tax, payroll taxes and health care, for example, gives an entirely different view. Yet, this mix of policies is a substantial component in the choices of plant location, trade in value added products, firm behaviour, about which we know very little. An added component of this research includes the need for redesign of marketing structures and institutions, both those created by governments as well as those generated in the private sector and condoned by government. Complicating all of these issues is that technological change in products and processes for food and agricultural industries is also changing many aspects of location, production investment and marketing arrangement. Differentiating between trade liberalization and technologically driven change needs to be sorted out.

A final aspect of research on market integration I want to mention is the need to creatively explore a new policy set with respect to countervail, anti-dumping and anti-trust or competition policy. Where market integration is largely complete between two countries, the usual measures of concentration ratios in competition policy become meaningless. A firm, for example, may have a large share of a national market, but also face substantial competition from abroad, so long as open trade is possible. The question is whether this competition or the potential of competition from abroad replaces the need for policy worries by governments about excess concentration or unfair competition. On the international side, countervail and anti-dumping have been the historical tools for dealing with unfair competition. With integrated markets, a common competition or anti-trust policy may offer greater opportunity to discipline firms or industries and hold trade open, than continuing reliance on CVD, which by its nature reintroduces trade restraints.

In general, the theory, methodologies, practice and results of trade research in preparation for and support of negotiations is well advanced. The focus of attention will continue to change as negotiations centre on different issues and country participants, although models and approaches will remain similar. For liberalization and implementation, the approaches are also reasonably well known and well advanced in most instances. However, for the market integration stage, very little work has been done. The issues go beyond traditional trade theory and practice, with little integrating work between trade and other aspects of economic research on the horizon.

The Dynamics of the Three Stages

The three stages of negotiation, liberalization/implementation and integration set out above are described with the simplistic notion that each is separate and distinct. Very briefly, this section argues that all three stages are occurring simultaneously in many countries, and will continue to occur for a long period of time.

While countries around the world are examining ways to implement the GATT/WTO agreement through changes in domestic policies, many countries of the western hemisphere are also involved in preparation for the expansion of regional trade liberalisation, involving NAFTA, MERCOSUR, Andean Pact and others. Additionally, discussions are beginning regarding a Pacific Rim trade agreement sometime early in the next century. I note also that there appears to be some interest in greater trade liberalization between Europe and the western hemisphere. Finally, where trade liberalization was well advanced prior to the current agreements, market integration is occurring very swiftly, and demanding increased attention in research and policy.

In looking ahead, there is every likelihood that all three stages will continue to occur simultaneously. We should expect some form of negotiations to occur continuously for at least one to two decades, not only in multilateral fora, but also in bilateral and regional fora. The implementation stage will also be continuous as regional agreements come on line. And market integration will continue to occur as trade restraint becomes increasingly limited. We do not appear to have the luxury of the single focus available to us in the 1980s, with the GATT negotiations as the single largest issue we faced.

The Spectrum of Issues

In this section, I want to use examples across the commodity spectrum in relation to Canada-USA trade to examine the change in the nature of issues as trade liberalization occurs. If one arrays the major commodities in Canada-USA trade on a continuum from the greatest integration to the least integrated, one

starts with beef and oilseeds. For both these commodities, few restraints are in place. Following these are hogs and horticultural products, then grains, and finally dairy and poultry, sugar and peanuts. The issues at play in trade discussions between Canada and the USA on beef and oilseeds have to do with sanitary and phytosanitary regulations, grading, labelling and packaging. Even though the two markets are largely integrated, these trade issues persist. Moving on to hogs and horticulture, fair competition, domestic subsidies, seasonal trade and trade remedy measures, container sizes and packaging are at issue. In both of these products, trade integration is occurring over time, and domestic policies in the two countries are not central.

In the case of grains, dairy, poultry, sugar and peanuts, the basic issues of access remain the central debate. In effect, domestic policies in both countries are the issue, which must be addressed before substantial progress on trade liberalization is going to take place.

On the spectrum from least to most integration of markets between Canada and the USA, one can find all stages from negotiation through implementation to integration. The issues across the spectrum differ substantially, and offer a glimpse of the changing nature of research needed as trade liberalization occurs over time.

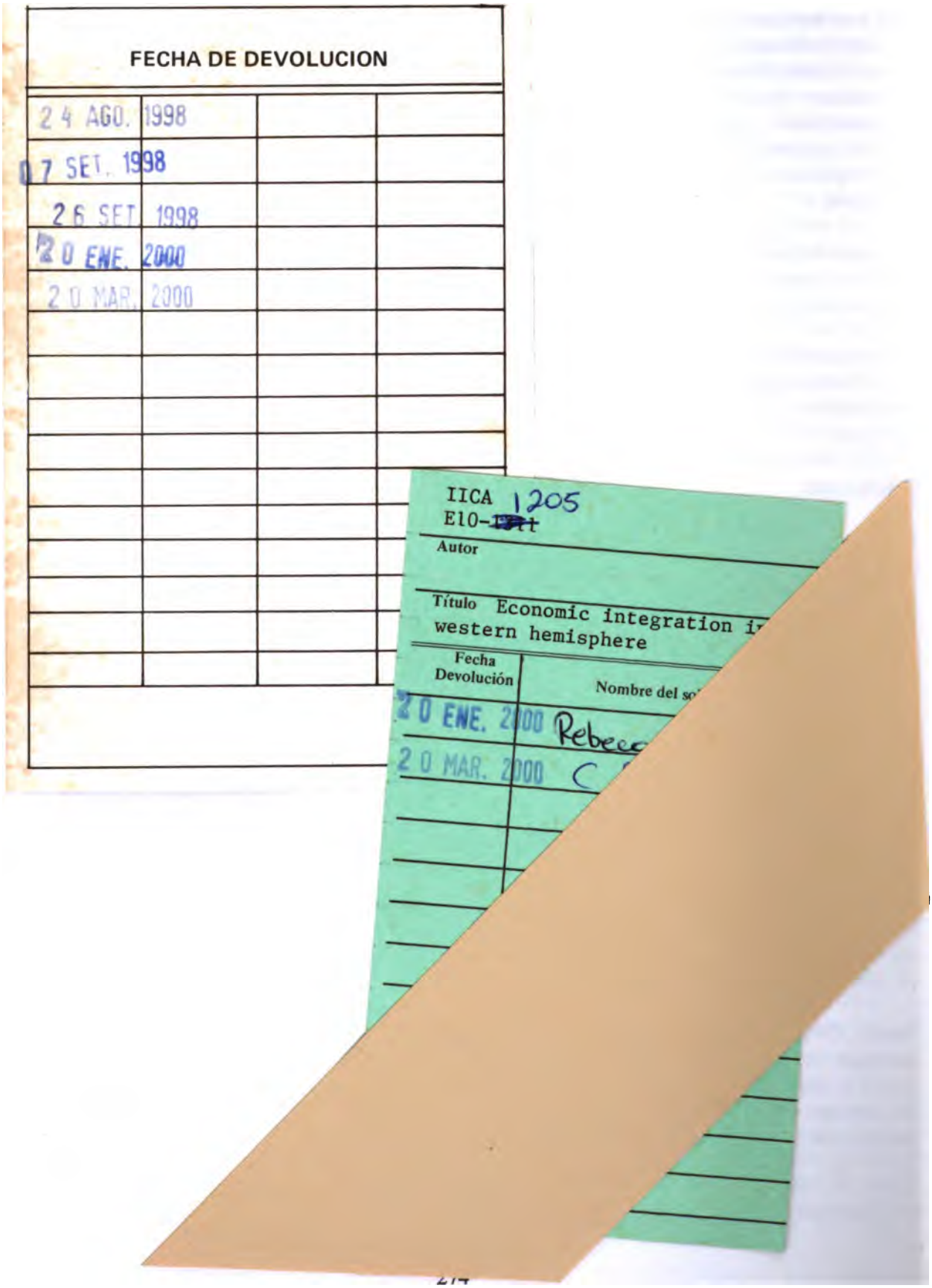
Conclusions

This paper argues that the theory, methodology, practice and results from research in support of trade liberalizing negotiations is reasonably well developed. The focus will change as the negotiations shift from fully multilateral to bilateral and regional and back to multilateral by the end of the decade. As well, the research in support of bringing domestic policies into line with trade agreements is well underway in most countries. However, there is little research on the impacts of market integration across the entire food chain. Yet this phenomenon is occurring swiftly in many cases, and appears to be at least partially responsible for the rapid growth in value added trade.

Our research agenda for trade liberalization is substantially more complex today than it was a decade ago, when the central issue was devoted to convincing policy makers of the gains from liberalization and offering them ideas on how best to achieve agreement. All three stages from negotiation to implementation and integration are occurring simultaneously for many countries on a multilateral and bilateral basis. Even in the case of Canada and the USA with trade agreements in place, the full range of these stages remain on the table.

With respect to market integration, future research will have to become substantially broader, involving not only several levels in the food chain, but also an increasing array of non-sectoral policy that impacts on firm behaviour and trade.

Finally, the pace of change will depend on the clarity and consistency of the research results in providing messages for policy makers, and the compatibility with technological change and industrial restructuring. Added to this is the creativity we need for a new tool kit of policies, measurements, and programs to solve the domestic and international issues which will surface as trade liberalization continues to occur over the next several years.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