

A Dynamic Evaluation of the Effects of Western Hemisphere Integration on the U.S. Economy

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Abstract

This study examines the dynamic effects of regional integration arrangements in the Western Hemisphere on the U.S. economy, including U.S. agriculture and agricultural trade. The analysis uses an intertemporal, global, general equilibrium model which takes into account saving-investment, capital accumulation, and the linkage between trade and economic growth. The study finds that the United States will enjoy economic gains from a hemisphere-wide integration, regardless of whether it joins the FTAA. However, U.S. agricultural exports and imports, and farm incomes will increase more when the United States participates. Besides its comparative advantage in agricultural and services trade, the United States also has a comparative advantage in financial capital markets. This would allow U.S. households to further enjoy the benefit of hemisphere-wide integration by investing in other nations in the hemisphere, especially when the United States joins the FTAA.

Introduction

Reionalism is an integral part of the broader economic policy reforms that have occurred in the Western Hemisphere over the last decade. This chapter examines the dynamic effects of regional integration arrangements in the Western Hemisphere on the U.S. economy, including U.S. agriculture and agricultural trade, by taking into account changes in saving-investment and capital accumulation. Through close linkage between open trade and economic growth, especially through technological spillovers embodied in the trade, countries within the hemisphere, including the United States, will enjoy economic gains from more trade in the Americas. Besides its comparative advantage in trade of agricultural commodities and services, the United States, as a wealthy country, also has a compar-

ative advantage in financial capital markets. This allows U.S. households to further enjoy the benefit of hemisphere-wide economic integration by accumulating assets of other nations in the hemisphere, especially when United States joins the Free Trade Area of the Americas (FTAA).

Development of Regional Trade and Integration in the Western Hemisphere

Regional trade agreements have been a key factor in advancing and consolidating the market-oriented reforms underway in the hemisphere in this decade. Beginning in mid-1980, many Latin American coun-

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tries undertook comprehensive economic reform programs, including a fundamental shift from the import-substitution development policies of previous decades to more open, market-based policies.

In the 1960's and 1970's, governments in most Latin American countries adopted an import-substitution strategy in forming their economic policies, especially trade policies. These developmental strategies were based on the idea that the substitution of domestically produced goods for imports would stimulate a country's economic growth by supporting local industries in the form of producer subsidies and conserving foreign exchange. In implementing this strategy, many Latin American countries levied heavy taxes on agricultural exports to subsidize industrial development and imposed high import barriers on agricultural inputs. Such tax burdens were further exacerbated by inflationary fiscal policies that implicitly taxed the primary sectors of production, especially agriculture. These fiscal policies subsequently led to monetization and overvaluation of the countries' currencies, which resulted in further taxing producers of traded goods. The two oil shocks of the 1970's raised import prices for the Latin American countries and slowed their economic growth. When interest rates rose sharply in the early 1980's, these countries were trapped in serious macroeconomic crises with heavy burdens of foreign debt. Thus, structural adjustment and economic policy reforms became inevitable in trade as well as macroeconomic policy reforms.

While government expenditures were reduced, fiscal deficits remained in the early reform period because of lack of tax reforms. The monetization of the fiscal deficit and the use of domestic debt instruments made foreign investors hesitant, which further contributed to shortrun instability in real exchange rates (Little *et al.*, 1993 and Alam and Rajapatirane, 1993). Latin American countries inevitably had to adopt tight monetary and fiscal policies accompanied by devaluation of floating exchange rates. To promote and maintain a stable macroeconomic environment, they

also adopted prudent fiscal management, economic deregulation, and financial sector reforms.

Trade reforms involved a shift from import-substitution regimes toward outward-oriented trade regimes. After the reforms, average tariff rates declined dramatically. Many countries also simplified the tariff categories. Thus, the degree of openness, measured by the ratio of the sum of exports and imports to Gross Domestic Product (GDP), increased from a pre-reform level of 49 percent to a post-reform (1991) level of 58 percent for Latin American countries on average (Alam and Rajapatirane, 1993). The reduction of protection barriers on imports and expansion of exports led these countries to adopt rules consistent with the General Agreement on Tariffs and Trade (GATT), and, consequently, to become members of GATT.

Regional integration was another step in the successful trade and macroeconomic reforms and became an integral part of them. MERCOSUR (The *Mercado Común del Sur*), the second largest regional trade arrangement in the Western Hemisphere, was established in 1991 among the countries of Argentina, Brazil, Paraguay, and Uruguay. MERCOSUR eliminated most trade barriers among its members and established a common external tariff for most agricultural products by 1995, with longer transition periods for a few sensitive agricultural products.

The United States and Canada also started to reduce their direct government intervention in agricultural markets and liberalized agricultural trade in the 1980's. In 1989, these two countries established the Canada-U.S. Free Trade Agreement. In 1994, the North America Free Trade Agreement (NAFTA), the largest regional trade arrangement in the Western Hemisphere, was established among the three north American countries.

Besides NAFTA and MERCOSUR, a multitude of other trade agreements have been initiated or re-activated during the past decade. About 40 trade agreements now operate in the hemisphere, and at

least another dozen are under negotiation (see map in chapter 12).

This proliferation of trade agreements with the broader economic policy reforms in the hemisphere has given rise to calls for a comprehensive, hemisphere-wide agreement. At the Miami Summit of the Americas, held in December 1994, the leaders of 34 Western Hemisphere democracies, including the United States, pledged to negotiate a Free Trade Area of the Americas (FTAA) by the year 2005. Formal negotiations were initiated in April 1998 at the second Summit of the Americas in Santiago, Chile.

An FTAA could simplify the complex system of regional and bilateral trade preferences prevailing in the hemisphere, and ensure more open and transparent rules for U.S. trade and investment in the rapidly growing markets of Latin America on a comparable basis with other exporters. Further, an FTAA could help countries in the hemisphere lock in the economic reforms they have already adopted and improve the long-term outlook for growth and stability in the hemisphere.

The Western Hemisphere is a large market for U.S. agricultural exports as well as an important supplier for U.S. agricultural imports. Many countries in the Western Hemisphere are both important trade *partners* and major *competitors* for U.S. agricultural products in third-country markets. In addition, many of them have a comparative advantage in agricultural production. As the old policies that discouraged agricultural production and constrained economic growth are replaced with more market-oriented economic policies, agricultural productivity and economic growth in the region are expected to accelerate. As a highly dynamic region with abundant agricultural resources, the Western Hemisphere is setting up a stage for dynamic changes in the region by adopting economic policies and trade reforms. Therefore, how the regional integration of the Americas evolves, specifically whether the United States is actively involved, will have important implications for U.S. agriculture.

Structure of the Analysis

Studies on the effects of regional integration in the hemisphere on the U.S. economy need to take into account the major dynamic factors, especially capital accumulation and the close linkage between trade and economic growth through technological spillovers. Thus, this study was conducted in a global, dynamic, general equilibrium framework developed in the U.S. Department of Agriculture's Economic Research Service (Diao and Somwaru, forthcoming. See also their analysis of the FTAA, using a static framework with more commodity detail, in a forthcoming ERS report). The model is dynamic in the sense that firms and households have intertemporal optimization behavior, that is, a forward-looking behavior, such that a regional trade agreement (RTA) or other trade policies will affect savings, investment, capital accumulation, and international borrowing and lending activities of each country and region in the model. Furthermore, in the model, trade liberalization affects a country's productivity growth through *technological spillovers*. That is, if a country, especially a developing country, becomes more open in trade to other countries, it is more likely to learn and adopt advanced technologies embodied in international trade, especially trade with developed countries. Such spillovers of advanced technologies or knowledge through imports of capital goods or foreign investment, will improve a country's productivity, that is, more outputs can be produced using the same amount of productive resources (Grossman and Helpman, 1991; Romer, 1994).

Besides its intertemporal or dynamic property, the model is global and covers all countries and regions in the world. As the focus of the study is in the Western Hemisphere, the major Western Hemisphere countries are included as individual countries, while the rest of the countries in the world are treated as an aggregated region in the model. Western Hemisphere countries in the model are the United States, Canada, Mexico, Argentina, Brazil, Chile, and all other Western Hemisphere countries as a region (OWH). The

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behavior of each country and region with regard to sectoral production, consumption, exports and imports, investment, aggregate domestic savings, international borrowing and lending (that is, international financial capital flows) is consistent with economic theory (Goulder and Summers, 1989; Go, 1994; Barro and Sala-I-Martin, 1995). Trade flows among regions are multilateral and, hence, world prices are endogenously determined by world market-clearing conditions. Except for the policy variables, which are exogenous, the endowment of land is the only variable that cannot be endogenously determined by the model. Capital is endogenously accumulated over time. Resources can move among sectors and the general equilibrium feature of the model ensures that adjustments are consistent cross sectors.

The evaluation of the potential dynamic effects of alternative regional integration scenarios is captured by the use of several economic indicators. These indicators include the growth paths of real GDP, total consumption, agricultural income, total investment, total and agricultural trade (exports and imports), as well as changes in foreign capital inflows or outflows.

We conducted two alternative hemisphere-wide integration scenarios in the model. In both scenarios, NAFTA, MERCOSUR (including Chile), and the Uruguay Round agreement are fully implemented. In the first scenario, a hemisphere-wide FTAA is modeled by eliminating all tariffs among the hemisphere countries except for the United States. Specifically, the United States eliminates only its import tariffs with the other two NAFTA member countries, while Canada and Mexico join the FTAA and eliminate tariffs with all other countries in the hemisphere. We call this scenario *RIAA-1* (Regional Integration Arrangements of the Americas). In the second scenario, *RIAA-2*, the United States fully participates in a hemisphere-wide free trade agreement, eliminating all tariffs with all other hemisphere countries, while all other countries in

the hemisphere eliminate tariffs with each other and with the United States.

The data used to calibrate the model are aggregated from the Global Trade Analysis Project (GTAP) database, version 3, which represents the world in 1992 (McDougall, 1997). The focus of the model, based on the data of 1992, is not to predict real economic performance after the base year (1992). Instead, the model is used to generate and compare different outcomes from alternative policy scenarios. Thus, the model outcomes are reported in relative terms, that is, deviations from the base. The impacts of an FTAA on the U.S. economy are measured by comparing the different outcomes of the two scenarios.

The estimated effects of an RTA depend critically on the initial level of protection and the degree of liberalization applied in the model. We measure trade restrictions as ad valorem tariff equivalents. The initial levels of tariff rates for the countries and regions in the model were obtained from the GTAP database, version 3. The tariff rates were weighted applied rates for each individual country and region in the database, and the weights are sectoral import shares for each country and region in the model. The trade share data were also obtained from that database. Within the Western Hemisphere in 1992 (base year), average tariffs (agricultural and manufacturing sectors) ranged from 5 percent for Canada and 10 percent for the United States to 30 percent for Argentina and Brazil (for the sectoral tariff rates see table 1).¹

¹However, for most of the countries in the hemisphere, especially for NAFTA and MERCOSUR member countries, the tariff rates have been significantly reduced in recent years, but the database fails to capture that. Hence, the simulated effects of tariff reductions in the hemisphere, regarding NAFTA and MERCOSUR member countries, may be overestimated by accounting for some effects that have already been achieved in the last 5 years after the implementation of these two agreements. Additionally, the database does not include nontariff barriers.

Dynamic Effect of Alternative Regional Integration Schemes on the United States

The gains from trade liberalization are mainly generated from three sources: the allocation of resources to more profitable activities, the more rapid capital accumulation due to more profitable investment alternatives, and growth in a country's total factor productivity (TFP) due to access to new foreign product and process technologies. Since the United States is a highly developed country with relatively low levels of economic distortions in trade, gains for the U.S. economy generated directly from its own trade liberalization or from trade liberalization of other countries in the hemisphere can be expected to be small compared with gains by the developing countries in the hemisphere. Furthermore, the aim of this study is not to predict the real growth or performance of the U.S. economy, which is determined by many factors including domestic economic policies and the level of domestic technological research and development activities.

Effects on GDP

Numerous studies have found empirically strong and positive linkages between growth in a country's TFP and the share of its economy involved in trade with a more advanced nation (for example, Coe and Helpman, 1995; Wang and Xu, 1997; and Coe, *et al.*, 1997). It is very important for the analysis to capture such linkages, especially since most countries in the hemisphere

are developing countries. In the model, the full implementation of existing regional integration agreements (NAFTA and MERCOSUR) and the Uruguay Round agreement, together with a hemisphere-wide integration, stimulate productivity growth of the countries in the hemisphere as well as investment. This allows all countries in the hemisphere to enjoy more rapid growth. For instance, under the two scenarios, Mexico and Chile would enjoy a two-digit positive increase in their GDP levels from the base, while the growth in Argentina's and Brazil's GDP would exceed 7 percent in total in both scenarios (fig. 1).

On the other hand, gains for the U.S. economy, measured by annual growth in its GDP, are relatively small in both scenarios, regardless of whether the United States joins the FTAA. In the first scenario, if the U.S. remains outside of an FTAA, U.S. GDP would grow 0.6 percent in total. In the second scenario, when the U.S. joins the FTAA, its GDP increases by 1.2 percent in total. Hence, the net FTAA effect of U.S. participation in the bloc, measured by the deviation in U.S. GDP growth under the two scenarios, is quite modest, about 0.6 percent in total (fig. 2, the chart for the United States).

Growth in a country's GDP takes time. Establishment of an RTA does not immediately translate into capital accumulation and improvements in productivity. Thus, the simulation results show that GDP growth in each country in the hemisphere is insignificant in the first few years of the two scenarios. Except for Mexico and Chile, almost all other countries in the hemisphere observed less than 1-percent growth in their GDP in the first 3 to 5

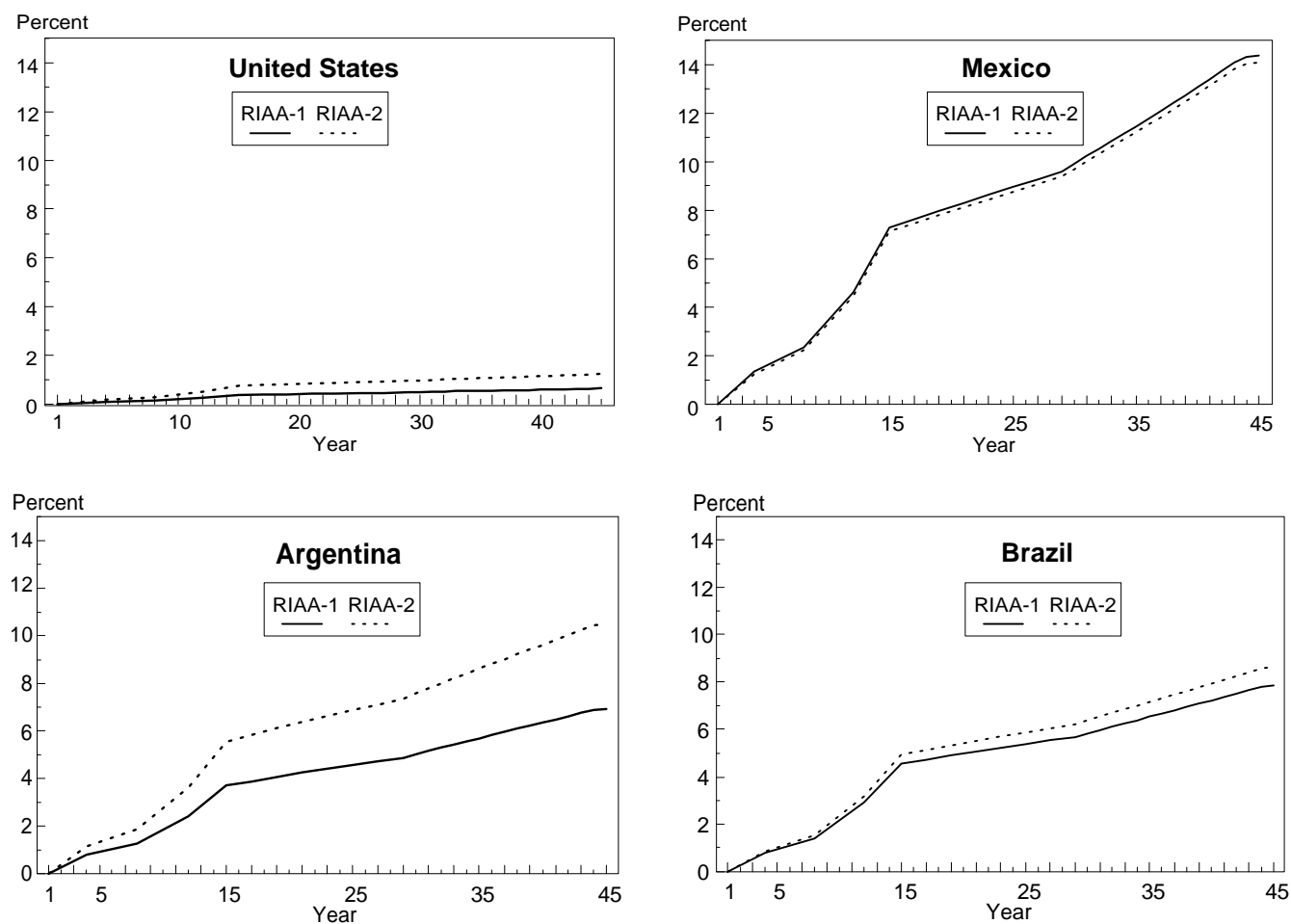
Table 1--Initial tariff rates in selected Western Hemisphere countries (1992)

Commodities	USA	Canada	Mexico	Argentina	Brazil	Chile	OWH ¹
Crops	0.06	0.08	0.07	0.19	0.30	0.13	0.21
Livestock	.02	.00	.01	.15	.08	.22	.11
Processed food	.02	.14	.15	.21	.16	.22	.19
Manufacturing	.10	.04	.11	.30	.29	.21	.18

¹OWH is other hemisphere countries.

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Figure 1
Deviation from base GDP in selected Western Hemisphere countries
 (The base GDP is normalized to one)

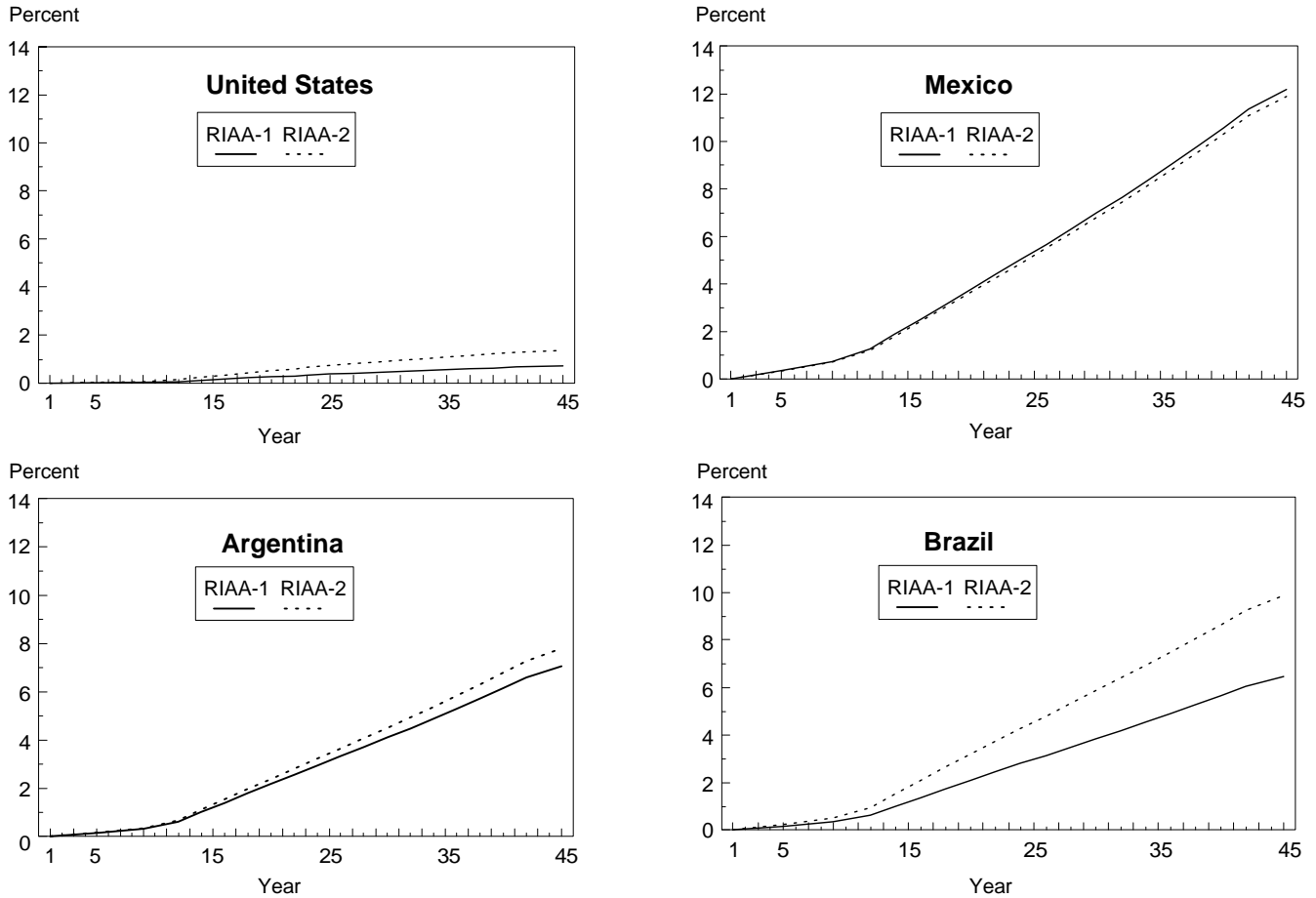


years in the two alternative RIAA scenarios (while U.S. GDP only increased totally by 0.08 and 0.18 percent, respectively, in the first 3 to 5 years). These short-term effects of the RIAA or the effects observed in the first few years in the simulations are equivalent to the static effects of the RIAA captured by a comparative static analysis in a traditional computable general equilibrium (CGE) framework. In other words, a static CGE analysis mainly captures the effects of resource reallocation at given levels of productive resources, including capital stock and technology.

Effects on Capital Accumulation and TFP

Deviations in GDP growth under the two different integration scenarios reflect differences in capital accumulation (in response to trade policy changes) and productivity growth (in response to spillovers of technologies from advanced developed countries, fig. 2). The investment responses in each country are endogenously determined in the model by their firms' choices

Figure 2
Deviations from base capital stocks in selected Western Hemisphere countries
 (The base capital stocks are normalized to one)



to maximize their intertemporal profits. The technological spillover elasticity, which links productivity growth with trade (especially with advanced developed countries), is based on the result from econometric estimation in the literature.²

The simulation results indicate that, for the developing countries in the hemisphere, improvement in their total factor productivity and increased investment due to regional integration are equally important to their economic growth, while for the United States, with small technological spillovers emanating from the poorer countries, the direct effects of a regional trade agreement on its growth are mainly captured by an

²A sensitivity test was performed for determining the size of spillover elasticities.

increase in its investment.³ Under the two alternative RIAA scenarios, the U.S. total capital stock increases by 0.7 and 1.4 percent (fig. 2), respectively, while the level of its TFP improves by only 0.25 and 0.5 percent, respectively, over the entire time horizon.

Effects on U.S. Foreign Assets

As a wealthy economy, the investment opportunities of the United States are not limited to within the country and, hence, a rise in GDP alone cannot be used to describe all the effects of an RTA on the U.S. economy.⁴ As increased capital investment in developing countries cannot be fully financed by their domestic savings, international financial capital markets would be an important source to finance their rapid growth in investment. This would create opportunities for the United States to invest abroad, either through international lending activity or foreign direct investment in these hemisphere countries. These *indirect* effects generated from the growing demand for U.S. capital outflow may be relatively strong, given that the economic adjustments in the developing countries in the hemisphere are expected to be drastic. The model simulations capture such indirect effects of regional integration. Under both scenarios, we observe that for the developing countries in the hemisphere,

foreign capital inflows increase dramatically following a hemisphere-wide integration, and demand for foreign capital inflows increase more in the second scenario in which the United States joins an FTAA. These create opportunities for U.S. firms to invest abroad. In total, the foreign assets owned by the U.S. private sector and invested in other countries in the hemisphere rise by 9 and 13 percent, respectively, under the two scenarios implying a 4 percent gain in U.S. foreign investment if the United States fully participates in an FTAA (fig. 3).⁵ This implies that the measure of importance of the FTAA for the U.S. economy should be based on the indirect effects generated from the growing foreign demand for the U.S. financial capital, rather than on the direct effects on commodity trade only.

As a wealthy country, the United States has a comparative advantage in the financial capital market, besides its comparative advantage in trade of agricultural goods and services. With rapid economic growth in the developing economies due to the RIAA, increases in the demand for U.S. financial capital are expected to be large, which allows U.S. households to accumulate assets of other nations in the hemisphere. Hence, to evaluate whether the United States should participate actively in further economic integration in the hemisphere, it is important to also emphasize U.S. comparative advantage in world financial markets.

Effects on Consumption

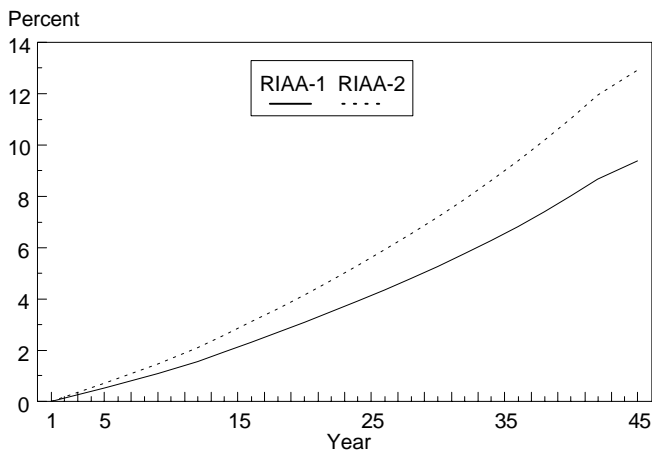
Economic growth implies higher income for consumers and, hence, increases in their levels of consumption. Under both scenarios, the path of changes in a country's overall consumption is almost the same as the path for its GDP growth. This is not too surprising since income growth is a major determi-

³When growth in a country's TFP takes place, the country's investment and, hence, capital stock increases more than in the absence of TFP growth. This reasoning relies on the famous diminishing returns to scale theorem. That is, if TFP does not grow, returns to capital fall with an increase in capital stock, and, hence, investment becomes less profitable and eventually stops augmenting and so does capital stock. On the other hand, if TFP grows, i.e., the productivity of labor employed in an economy rises, returns to capital become relatively constant, and capital can grow continuously with investment. In the RIAA-2 scenario, for example, while Mexico's TFP increases by 5 percent in the time horizon, the stock of capital on Mexico rises by 12 percent. If TFP did not grow, the stock of capital in Mexico would increase by only 3.4 percent in the same scenario.

⁴According to the World Bank definition, the Gross Domestic Product (GDP) is measured by returns to productive factors employed in domestic production processes.

⁵By definition, returns from foreign assets are included in a country's gross national product (GNP) and not in its GDP. In the simulations, the increased returns from foreign assets owned by the U.S. private sector are about 0.05 percent of the U.S. GNP; hence, growth of the U.S. GNP is almost parallel to growth of its GDP.

Figure 3
**Deviations from base foreign assets
In the United States**
(The base foreign assets are normalized to one)



nant of consumption patterns. This result implies that consumers in all countries in the hemisphere benefit from a hemisphere-wide integration, but the benefits for the U.S. consumers are modest, in terms of changes in U.S. overall consumption. Furthermore, the gap between the two growth paths of U.S. total consumption, depending on whether or not the United States joins the FTAA, is also quite small.

Effects on U.S. Farm Income

Similar to changes in GDP and total consumption, U.S. farm income, measured by returns to capital and labor employed in the agricultural and agricultural-related sectors, also shows modest growth (slightly more than 1-percent increase in total) under both scenarios (fig. 4). The increase in U.S. farm income due to its participation in the FTAA is quite small, less than 0.5 percent. The major effects of the alternative RIAA's on U.S. farm income originate from more efficient allocation of resources, including the creation of more job opportunities in agricultural and agricultural-related sectors than from increased capital investment. This is clearly captured by the shortrun effects (3 to 5 years) on U.S. farm income, that is, increases in farm

income due to increased returns to agricultural and agricultural-related labor, land, and capital. In the long run, however, additional increases in U.S. farm income are negligible. This indicates that, as the United States has a comparative advantage in agriculture, U.S. full participation in an FTAA would allow resources to be more efficiently used in U.S. agricultural production, which is a major source for increased U.S. farm income. However, other countries in the hemisphere also have a comparative advantage in agricultural production, and may become competitors for U.S. agricultural products. Thus, in the long run, the competitiveness of U.S. agricultural exports may be challenged by neighboring countries. This is captured in the model by the relatively stagnant long-term growth in U.S. farm income. Note that, as the agricultural sector is quite aggregate in the analysis, we cannot identify which sub-sectors may be hurt and which may grow. Furthermore, TFP growth in agriculture may be different from economywide TFP growth. The United States could, in principle, counter the competitive tendency by increasing investment in agricultural research and development (R&D). The effects of that, however, are beyond the scope of this study.

Effects on U.S. Total and Agricultural Trade

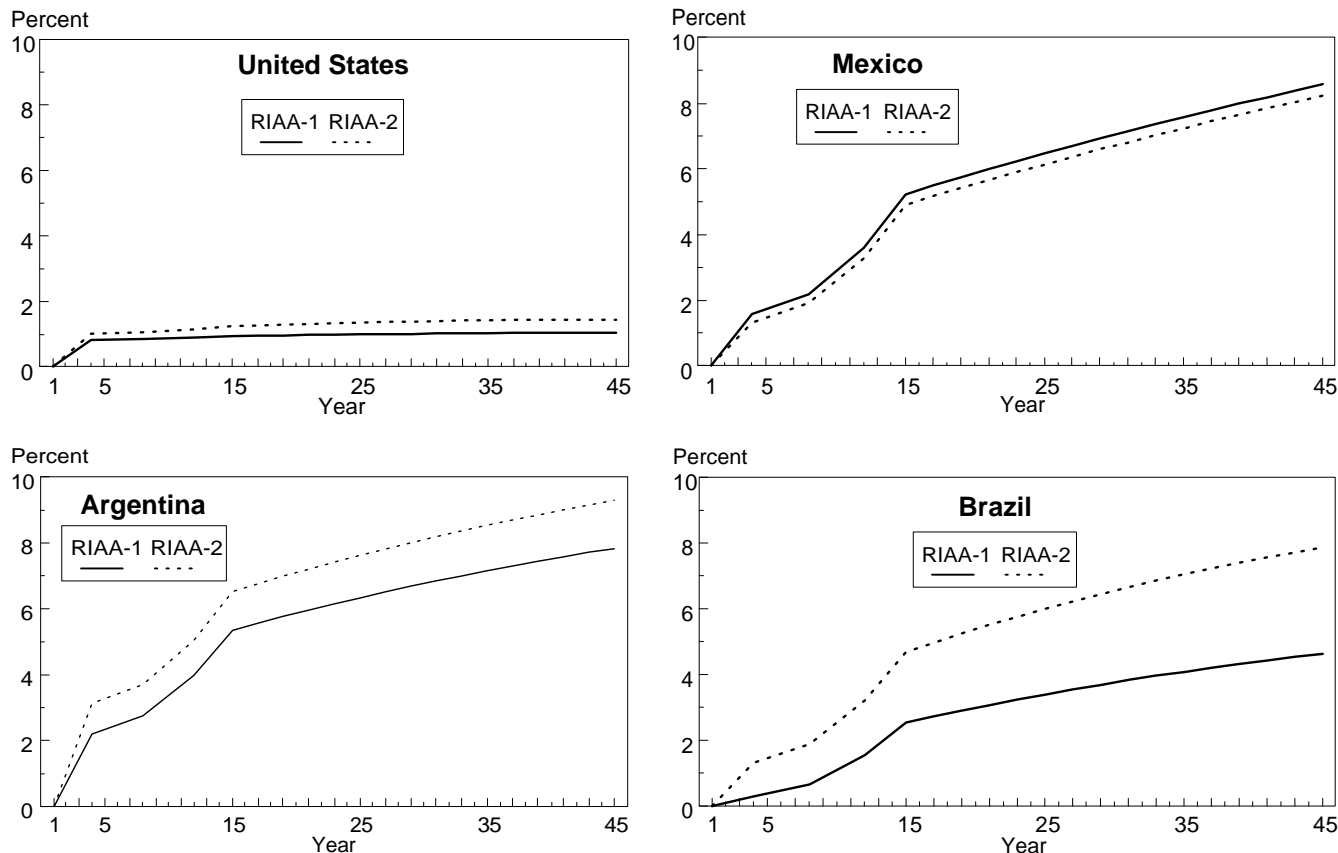
As expected, the effects of an RTA on trade flows are larger than those on economy-wide indicators, such as GDP and total consumption. The reason is obvious, as integration will re-enforce economic linkages among the countries. In the short run, U.S. total merchandise exports and imports would be 3 and 2.3 percent higher, respectively, than the base under RIAA-1, and 5.6 and 4.6 percent higher, respectively, under RIAA-2 (table 2). Deviations of increases in U.S. total merchandise exports and imports between the two alternative RIAA scenarios, or the net effects of U.S. participation in an FTAA, are more significant than those for U.S. GDP. That is, if the United States joins the FTAA, U.S. exporters can enjoy an additional 2.6-percent increase in exports and U.S. consumers can enjoy a 2.3-percent

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Figure 4

Deviations from base farm income in selected Western Hemisphere countries

(The base farm income normalized to one)



increase in imports, compared with the first scenario (RIAA-1) in which the United States stays out of the FTAA. As U.S. total exports grow more rapidly than its total imports in both scenarios, the U.S. trade deficit would become smaller.

U.S. agricultural exports and imports grow more rapidly than total merchandise trade under both scenarios. Compared with the base, U.S. agricultural exports and imports would increase, in the short run, by 6 and 3.2 percent, respectively, under RIAA-1, and 7.9 and 6.4 percent, respectively under RIAA-2. That is, if the United States joins the FTAA, U.S. farmers can achieve an additional 2-percent increase in agricul-

tural exports and U.S. consumers will benefit from an additional 3-percent increase in agricultural imports. As agricultural exports grow rapidly, the share of U.S. agricultural exports in total merchandise trade will rise by 1 percentage point (from 8.6 to 9.6 percent of U.S. total merchandise trade) due to U.S. participation in the FTAA. With relatively high tariffs on agricultural imports within the hemisphere, agricultural trade had suffered more than other sectors before the regional trade reforms. Once tariffs are eliminated or reduced through a hemisphere-wide integration, the sectors with high import barriers earlier will experience rapid growth in trade. Fast growth in agricultural imports does not necessarily hurt U.S. farmers' interests.

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Table 2--Deviations from base exports and imports in selected Western Hemisphere countries

(The base exports/imports are normalized to one, and deviations are in percentage (a))

	RIAA-1(b)			RIAA-2(c)			Effects from U.S. Joins FTAA(d)		
	Short-run (e)	Medium-run (f)	Long-run (g)	Short-run	Medium-run	Long-run	Short-run	Medium-run	Long-run
1. Total exports									
USA	2.96	2.90	2.89	5.63	5.57	5.58	2.59	2.60	2.61
Mexico	8.06	16.65	23.14	8.46	16.64	22.76	0.37	-0.01	-0.31
Argentina	23.52	29.04	32.26	26.67	32.41	35.93	2.56	2.61	2.77
Brazil	9.29	13.16	16.36	13.56	19.61	24.78	3.91	5.69	7.24
2. Total imports									
USA	2.27	2.47	2.58	4.61	4.90	5.04	2.28	2.38	2.40
Mexico	16.51	18.17	20.08	16.21	17.87	19.75	-0.26	-0.25	-0.27
Argentina	24.11	24.91	25.26	26.43	27.57	28.14	1.87	2.13	2.30
Brazil	21.85	22.58	22.79	33.21	34.30	34.61	9.32	9.56	9.62
3. Total agricultural exports									
USA	5.99	5.28	4.67	7.87	6.73	5.87	1.78	1.38	1.14
Mexico	6.96	11.86	15.41	6.90	10.61	13.39	-0.05	-1.12	-1.74
Argentina	10.28	13.61	16.45	14.53	17.53	20.21	3.86	3.46	3.23
Brazil	-0.67	1.25	5.17	4.09	6.82	12.85	4.79	5.51	7.31
4. Total agricultural imports									
USA	3.16	3.19	3.19	6.37	6.47	6.53	3.11	3.18	3.23
Mexico	21.04	20.37	20.72	20.69	20.10	20.51	-0.29	-0.23	-0.18
Argentina	16.20	16.20	16.54	16.01	16.25	16.82	-0.16	0.04	0.25
Brazil	28.06	28.54	28.09	30.42	31.37	30.87	1.85	2.21	2.17
5. U.S. trade with other Western Hemisphere countries									
Total exports to WH	7.73	8.26	8.78	17.77	18.64	19.40	9.33	9.59	9.76
Total imports from WH	2.35	5.12	7.14	7.14	11.27	14.15	4.68	5.85	6.55
Total agricultural exports to WH	14.00	13.43	13.52	23.41	22.64	22.90	8.25	8.12	8.26
Total agricultural imports from WH	17.34	18.86	20.25	25.09	27.70	29.98	6.60	7.44	8.09

(a) The base is a steady state path derived from the base year (1992). In the base, NAFTA, MERCOSUR and the Uruguay Round agreements are all assumed not to be in implementation.

(b) RIAA-1 is a scenario in which NAFTA, MERCOSUR (including its common external tariffs) and the Uruguay Round agreements are fully implemented. In addition, the tariffs among two NAFTA members (except for U.S.), MERCOSUR, and the other Western Hemisphere countries are eliminated.

(c) RIAA-2 is a scenario in which NAFTA, MERCOSUR (including its common external tariffs) and the Uruguay Round agreements are fully implemented. In addition, the tariffs among NAFTA (including U.S.), MERCOSUR, and the other Western Hemisphere countries are eliminated.

(d) The FTAA effects of U.S. joins the FTAA are approximately represented by the comparison between RIAA-2 and RIAA-1.

(e) It is approximately the first 1 - 5 years.

(f) It is approximately the first 5 - 15 years.

(g) It is beyond year 15.

Larger U.S. agricultural export growth and agricultural resource reallocation result in higher farm incomes as the result of U.S. participation in the FTAA.

In both scenarios, U.S. agricultural exports would increase more in the short run (the first 3 to 5 years) and medium run (the first 15 years), compared with the long run (the first 20 to 30 years). That is, gains in U.S. agricultural exports observed in the short or medium run

may partially cease in the long run. Under the RIAA-2 scenario, for example, U.S. agricultural exports reach their highest level during the first 15 years. After that, U.S. agricultural exports fall slightly (1 to 1.5 percent) in the following 5 to 20 years, compared with the highest level obtained in the early period.

We mentioned earlier that the gains for U.S. agriculture generated from regional integration are mainly

due to more efficient allocation of productive resources. Since U.S. technology and, hence, agricultural TFP would not be significantly improved due to an RIAA alone, gains from regional integration are negligible, with respect to long-term U.S. economic growth.⁶ On the other hand, the developing economies in the Western Hemisphere would enjoy gains generated from the more efficient use of resources as well as improvements in TFP due to an RTA. Furthermore, given that some countries in the hemisphere, such as Argentina and Brazil, have a comparative advantage in agricultural production, these countries' agricultural products would compete with U.S. products in third-country markets since these countries are retaining their growth in agricultural exports in the long run. Such competition is observed in both scenarios, since close economic linkages with the United States would allow the developing countries to benefit more from catching up with the advanced U.S. agricultural technology. For example, in RIAA-2, Argentina's and Brazil's agricultural exports would increase 3.8 and 7.7 percent, respectively, more than in RIAA-1 in the long run (table 2).

The competition in agricultural exports (presented in this study in terms of aggregated agricultural commodities) between the United States and other countries in the hemisphere would take place mainly in third-country markets in the model, that is, the Rest of World. Even so, agricultural trade between the United States and its neighboring countries in the hemisphere actually increases, especially if the United States joins the FTAA. (If the United States is a member of the FTAA, its agricultural exports to the hemisphere are about 9 percent higher in both the short and long run than if the United States is not a member.) This implies that, with a relatively rapid

growth in other economies in the hemisphere, closer economic relationships between the United States and its neighboring countries would create more trade opportunities for U.S. agricultural exporters. In contrast to U.S. total agricultural exports in third-country markets, in which market gains would eventually cease, U.S. agricultural exports to the countries in the hemisphere might experience continuous growth even in the long run.

Summary and Conclusions

The economic integration in the Western Hemisphere can be viewed as another step in a sequence of trade liberalization policies that most countries in the region have been pursuing in the last decade. The United States will continue to enjoy gains from more open economic policies, and these gains will be larger if it joins a future hemisphere-wide integration agreement.

Taking into account the close linkage between open trade and economic growth, developing countries in the hemisphere would benefit more from a further hemisphere-wide integration, which would allow them to increase trade with the United States. As most of these countries have a comparative advantage in various types of agricultural production and agricultural trade, U.S. agricultural exports may face increased competition in the long run. Competition in agricultural trade between the United States and other countries in the hemisphere would take place mainly in third-country markets, while trade between them would rise, especially if the United States joins an FTAA.

The direct effects of an FTAA on the United States, measured mainly by GDP growth, are modest, given that the United States is an advanced and open economy. The gap in U.S. gains between membership and nonmembership in the FTAA is not large. On the other hand, the indirect effects of an FTAA, that is, the effects on U.S. investment abroad or U.S. financial capital outflow to neighboring countries, are much stronger than the direct effects caused by increased

⁶This does not imply that U.S. agricultural TFP will not grow in the future. As many econometric studies (for example, Gopinath and Roe, 1997) have shown, growth in U.S. agricultural TFP is mainly driven by U.S. technological research and development activities, TFP might not necessarily be affected by an RTA in the Western Hemisphere.

investment within the United States. The United States is a wealthy country, with a comparative advantage in world financial capital markets. Hence, to determine whether the United States actively participates in a hemisphere-wide integration agreement, the longrun effects of an FTAA on the U.S. economy, beyond the increased opportunities in regional trade, should be taken into account.

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