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Implementing a New Trade Paradigm: Opportunities for Agricultural Trade Regionalism in the Pacific Rim

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Introduction

Multilateral trade liberalization has been the vision of trade theorists for decades. The most recent vision has been to achieve freer global trade through negotiations in the Uruguay Round under the General Agreement on Tariffs and Trade. That hope for reinvigorating the torpid world economy has faded. Nations are searching for a new trade paradigm that offers an alternative to unilateralism (e.g. Export Enhancement Program, the defunct Super 301, etc.) and multilateralism. *Regionalism* as apparent in free trade groupings of countries is an alternative paradigm. It offers both pitfalls and promise.

Objective

The objective of this paper is to analyze the economic implications for American food producers, consumers, and society of alternative Pacific Rim free trade region (FTR) configurations. Of the five potential free trade regions analyzed in this study and listed below, the first two do not include the U.S.

1. *ASEAN Free Trade Region* -- Brunei, Indonesia, Malaysia, Philippines, and Thailand. The region already exists as an association of cooperating countries, but it does not have free trade.
2. *East Asia Free Trade Region* -- Taiwan, South Korea, Japan, and "Other East Asian Countries" (Hong Kong, Singapore).
3. *East Asia-U.S. Free Trade Region* -- same countries as above but including the U.S.
4. *Western Hemisphere Free Trade Region* -- U.S., Canada, Mexico, "Other Central American and Caribbean Countries," Brazil, Argentina, Venezuela, and "Other Latin American Countries."
5. *Pacific Rim Free Trade Region* -- combined East Asia FTR, ASEAN FTR, Western Hemisphere FTR, and Australia and New Zealand.

The conclusion of this paper is that a comprehensive Pacific Rim FTR offers essentially all the advantages attainable from multilateral free trade in agriculture -- given that Europe, as evidenced by the Uruguay Round, has opted out of a global free trade arrangement.

Emerging Trade Regions

As always, the world simultaneously is in a centrifugal process of fragmentation as in Eastern Europe and a centripetal process of amalgamation. In addition to existing free trade regions (FTRs) such as Canada-U.S. and the European Community, several regions are in various stages of realization:

North American Free Trade Area (NAFTA): Prospects for combining the low-cost labor of Mexico with the capital and technology of Canada and the US make NAFTA attractive. Fruits and vegetables would flow north from Mexico and grains and soybeans would flow south to Mexico. The NAFTA is opposed by environmentalists and labor unions but could become a reality in the 1990s.

Mercosur. Originated in 1988 as a free trade pact between Brazil and Argentina, it expanded to include Uruguay and Paraguay in March 1991. The intent is for free trade in goods, services, and labor by 1994.

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Central America. Central America is attempting to revive a common market (CACM) established in the 1960s and lost in 1969 with war between Honduras and El Salvador. A common market, to be established by 1994, would include El Salvador, Honduras, Guatemala, Nicaragua, and Costa Rica.

Caribbean Community (CARICOM). Attempts at a CARICOM customs union under auspices of the Caribbean Community have been attempted since 1991. English-speaking countries of the Caribbean are included.

Western Hemisphere FTA. President George Bush proposed an Enterprise for the Americas Initiative (EAI) to include countries of North and South America. The area could be formed by merging NAFTA with existing free trade associations in South and Central America.

East Asian Economic Group (EAEG). In April 1991, Malaysia proposed the EAEG to include ASEAN countries of southeast Asia as well as China, Japan, Hong Kong, Taiwan, and South Korea. The original proposal was floated after the December 1990 meeting of world trade ministers under auspices of the GATT in Brussels. The intent was for EAEG to formulate a common trade position for the GATT negotiations. Differences between Japan and selected other proposed members run too deep for early reconciliation to form a free trade area. But if European and Western Hemisphere free trade associations succeed, the principle of countervailing power will create strong incentives to form an Asian bloc along lines of the proposed EAEG.

This brief summary of emerging FTRs illustrates that the configurations analyzed in this study (see Objective) are more than academic abstractions. The configurations have been seriously proposed (For a more complete listing of FTR overtures between the U.S. and Asian countries, and also Australia, see Schott, pp. 27-49).

Review of Literature and Concepts

Most empirical studies of agricultural trade liberalization have accepted geographic trade borders as they exist rather than in new preferential trade configurations. Exceptions include a study of a Japan-U.S. Free Trade Area (Gleckler and Tweeten), an expanded European Community to encompass the European Free Trade Association and Czechoslovakia, Hungary, and Poland (Gleckler *et al.*), and a number of studies of a North American Free Trade Association (Grennes *et al.*; Robinson *et al.*).

A considerable literature addresses the theoretical advantages and disadvantages of free trade regions (see Viner; Wonnacott and Lutz). Much of this literature assumes a *customs union* (common external barriers among FTR members to trade with the rest of the world (ROW) and free trade among members in goods and services but not in factors of production such as labor). The assumption of a customs union simplifies empirical analysis compared to the assumption of a *free trade area* (free trade within FTR but each member can have unique barriers to outsiders as in the European Free Trade Association) or a *common market* (free trade within FTR in goods and services as well as in factors of production such as labor and capital).

Advantages of Regionalism

Free trade regions would have little purpose if multilateral negotiations under the GATT succeeded. But multilateral negotiations offer only limited liberalization. Major advantages of regionalism are:

* *Changes can be made incrementally.* Adding one or just a few countries at a time reduces shock to affected industries and the rest of the world. Only countries which have prepared themselves to enter a FTR need to be signatories to an agreement. One proposal is that the United States become the nucleus of an open ended FTR. Any nation that agreed to open trade could join that FTR. Such regionalism could be viewed as a step towards global free trade. It is conceivable that all nations eventually would join the FTR. In general, the larger the FTR the less the trade diversion away from non-members and the greater the welfare gain.
* *Benefits are more transparent.* Affected industries and others can more easily predict and adjust to impacts if free trade is regional rather than global.
* *Negotiations are less complex.* It is difficult indeed for 108 countries to negotiate and come to a GATT agreement. Smaller groups of countries with the same cultural heritage or other common interests can reach agreement more easily.

- *FTAs can ignore footdraggers.* If the European Community for example does not want free trade, it can be ignored in regional agreements.
- *FTAs can be the building blocks to merge for international trade liberalization.*
- *Free trade regions offer advantages for economic efficiency.* These advantages will become more clear after we review previous studies, conceptual issues, and empirical results.

Regionalism also has drawbacks:

- *Free trade nations are likely to raise internal prices and hence protection from trade with outsiders to induce internal cohesion* -- despite violation of Article 24 of the General Agreement on Tariffs and Trade. The result is likely to be a reduction in global economic welfare.
- *Free trade regions are likely to exclude developing countries* even as they make trade among affluent countries more open. Only developed countries have formed successful free trade regions. Developing countries have formed FTRs but the regions have not been successful on economic or political grounds. However, developed country FTRs can benefit developing countries as trade wars among FTRs cheapen developing country imports.
- *Free trade regions can encourage factionalism.* Trade regions of "fortress America," "fortress Europe," and "fortress east Asia" could be a world of trade wars, survival of the fittest, discrimination against non-members, shifting coalitions, and instability. As Robert Lawrence noted, FTRs can be stumbling blocks rather than building blocks.
- *The General Agreement on Tariffs and Trade could be further weakened.* The GATT is already troubled by lack of enforcement capabilities, and by lack of coverage of agriculture, intellectual property, services, investment, and nontariff barriers to trade. Regionalism could distract GATT members from multilateral solutions to these problems.
- *Producers receive fewer benefits under regionalism than under multilateralism.* A free trade region can offer deep but narrow (a few countries) moves toward free trade. Incremental changes mean that world agricultural commodity prices, for example, rise less for regional than for global free trade -- hence regional free trade offers less compensation to producers for loss of commodity price support programs than does global free trade. Producers are often the decisive group in the national decisions to liberalize trade.

Conceptual Framework

A free trade region (FTR) can follow four scenarios: (1) a net exporting region in which each nation is an exporter, (2) a net importing region in which each nation is an importer, (3) a net exporting region with both importing and exporting countries, and (4) a net importing region with both importing and exporting countries. The ability of the FTR to increase total welfare of the region as a whole and of the individual member nations is a function of the above scenarios.

The following analysis rests on several assumptions:

1. The region is a customs union made up of two countries which together constitute a small-country case with respect to the rest of the world (ROW).
2. Tariffs on imports or subsidies on exports are used to maintain prices in the FTR that differ from world prices.
3. Upon implementation of a FTR, consumers and producers in both countries receive a common regional price which is determined by the free market equilibrium within the region while trade with the rest of the world remains fixed at the pre-FTR level. This equilibrium regional price results from eliminating market distortions between free trade region countries. Thus by assumption the FTR neither creates nor diverts trade with ROW.
4. The conceptual model does not examine a case in which the producer or consumer price is lower than world price because the equilibrium producer and consumer price in each Pacific Rim country simulated empirically was above the world price in 1986. In each scenario modeled conceptually and empirically, the within-FTR trade-balancing equilibrium price turns out to be between the lowest price and the highest price found among member countries.

In Figure 1, the two hypothetical importing countries in the free trade region are depicted as a net importing free trade region. P_a and P_b represent the prevailing prices (consumer and producer price) in the representative countries before the implementation of the free trade region. Initially, Country A's price is below Country B's price. Upon implementation of the FTR, prices in both countries are set at P_r consistent with no net change in trade with ROW. Under the FTR illustrated, the decrease in imports to Country A is equal to the increase in imports of Country B. In short:

P_w = World price
P_r = Equilibrium FTR price
P_a = Initial price in Country A
P_b = Initial price in Country B

$Q'_{db} - Q'_{sb} - (Q_{db} - Q_{sb}) = Q_{da} - Q_{sa} - (Q'_{da} - Q'_{sa}) = Q$

Increased imports of B = Decreased imports of A with FTR.

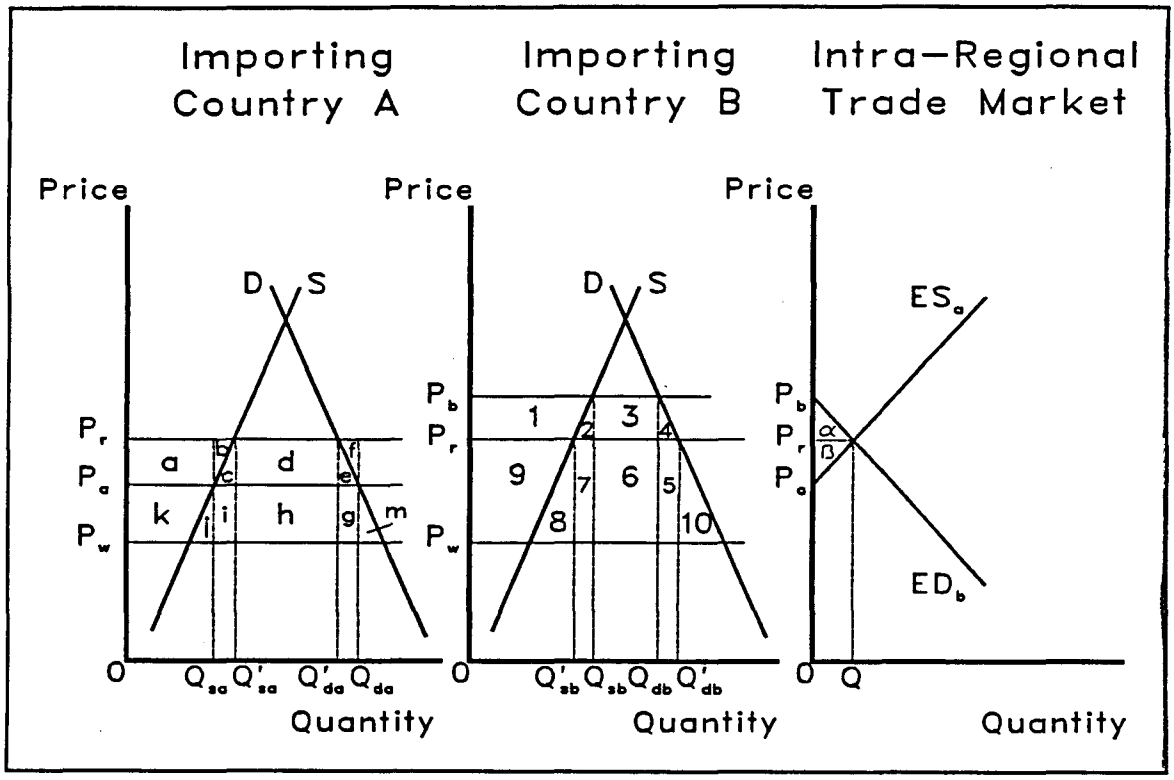

Figure 1. Net Importing Region: Both Countries are Net Importers.

The welfare analysis for three comparisons is as follows (refer to Figure 1):

1. Social (deadweight) gain moving from pre-FTR policies at P_a and P_b to a global free market.

	Country A	Country B
Gain to:		
Producers	-k	-1-9
Consumers	g+h+i+j+k+m	1 to 10
Government	-g-h-i	-3-6
Net	j+m	2+4+5+7+8+10

2. Social gain moving from FTR at P_r to global free market.

	Country A	Country B
Gain to:		
Producers	-a-b-k	-9
Consumers	a+b+c+d+e+g+h+i+j+k+m	5 to 10
Government	-d-h	-5-6-7
Net	c+e+g+i+j+m	8+10

3. Social gain moving from pre-FTR to FTR or (1) - (2).

	Country A	Country B
Gain to:		
Producers	a+b	-1
Consumers	-a-b-c-d-e	1+2+3+4
Government	d-g-i	-3+5+7
Net	-c-e-g-i	2+4+5+7
Joint		b+f+2+4 = $\alpha+\beta$ (Given b+c+e+f+g+i = 5+7)

The above results show that both countries realize a net gain moving from initial interventions (scenario 1) and a free trade region (scenario 2) to a global free market. Moving from the initial situation to the free trade region in (3) above, consumers lose in Country A and gain in Country B. The reverse holds for producers. Compared to a free market, net national welfare (income) is reduced more by the FTR than by initial distortions in Country A. In contrast, net social cost is greater in Country B with initial policies than with the FTR.

Scenario 3 shows the net social benefit from the FTR (price at P_r) compared to the pre-FTR policies with domestic price at P_a and P_b. The total welfare in the region depends on the magnitude of the gains in Country B (area 2+4+5+7) compared to the losses (area c+e+g+i) in Country A. Net gain is b+f+2+4=$\alpha+\beta$ to the region.

The most important conclusion is that the FTR is unequivocally positive for the region as a whole. However, Country A is worse off and Country B is better off with the FTR. Country A presumably agrees to the arrangement because it has other commodities providing gains or it is compensated by B.

Figure 2 depicts a net exporting FTR in which both countries are exporters. The intra-regional trade market (third panel in Figure 1) is omitted in Figure 2 to save space. The initial domestic price P_a in Country A is lower than the initial price P_b in Country B. After formulation of a free trade region, the new common regional price is P_r. Total exports of the region after formation of the FTR remain unchanged from the

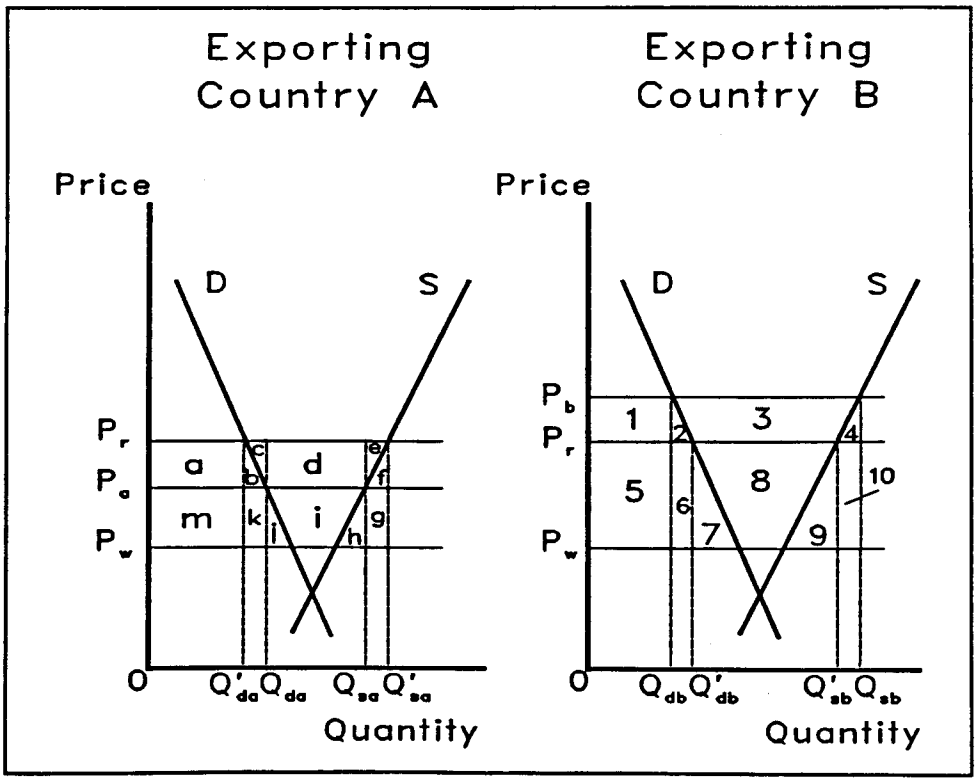

Figure 2. Net Exporting Region: Both Countries are Net Exporters.

initial quantity. That is, the increase in Country A's exports under a FTR equals the decrease in Country B's exports under the common regional price P_r. Assumptions are summarized as follows:

P_w = World price P_r = Equilibrium FTR price

P_a = Initial price in Country A P_b = Initial price in Country B

$Q'_{sa} - Q'_{da} - (Q_{sa}-Q_{da}) = Q_{sb} - Q_{db} - (Q'_{sb}-Q'_{db}) = Q$

Increased exports from A = Decreased exports from B with FTR.

Due to the higher price, producers gain and consumers lose in Country A. The opposite holds in Country B.

The government in Country A originally incurs an export subsidy of area h+i+j. With implementation of a free trade region, the subsidy becomes area b+c+d+e+f+g+h+i+j+k. Therefore, with a FTR, the government in Country A incurs an additional subsidy b+c+d+e+f+g+k.

The welfare analysis of the FTR as compared to the original situation at P_a and P_b is as follows (see Figure 2):

	Country A	Country B
Gain to:		
Producers	a+b+c+d+e	-1-2-3
Consumers	-a-b	1+2
Government	-b-c-d-e-f-g-k	2+3+4+6+10
Net	-b-f-g-k	2+4+6+10
Joint	2+4+c+e (Given b+c+e+f+g+k = 6+10)	

From the above analysis, Country A losses and Country B gains. However, the FTR as a whole gains 2+4+c+e in the absence of trade creation or diversion with ROW.

In Figure 3, Country A is assumed to be an importing country and Country B an exporting country. Together, they form a FTR. A and B may be a net exporting or importing region but net trade remains the same from A and B to ROW before and after the FTR. Initial prices are P_a and P_b. Under the FTR scenario, the common regional price is P_r. Assumptions are as follows:

P_w = World price P_b = Initial price in Country B

P_a = Initial price in Country A P_r = Equilibrium FTR price

$Q'_{da} - Q'_{sa} - (Q_{da}-Q_{sa}) = Q'_{sb} - Q'_{db} - (Q_{sb}-Q_{db})$

Increased imports of A = Increased exports of B after FTR.

In Country A, producers lose and consumers gain. The opposite is true in Country B. Initially, the government in Country A collects c+f revenues from an import tariff. After formation of the FTR, government tariff revenue is e+f+g for a net gain of e+g-c. Initially, the government of B paid a subsidy of 8+9+10 on exports and after the FTR a subsidy of area 2 through 11. Thus the FTR cost the government of B the additional subsidy of 2+3+4+5+6+7+11.

The amount exported (imported) to the rest of the world is subsidized (taxed) to maintain the regional price at P_r and leave net exports (imports) to ROW unchanged. Net welfare gain from the FTR compared to the initial situation is as follows (see Figure 3):

	Country A	Country B
Gain to:		
Producers	-a	1+2+3+4+5
Consumers	a+b+c+d	-1-2
Government	e+g-c	-2-3-4-5-6-7-11
Net	b+d+e+g	-2-6-7-11
Joint	b+d+3+5 (Given e+g = 2+3+5+6+7+11)	

The conclusion again is that the joint regional benefit from the FTR is unequivocally positive (area b+d+3+5) although Country A gains at the expense of Country B.

Nothing is specified about the size of imports of Country A ($Q_{da}-Q_{sa}$) relative to exports of Country B ($Q_{sb}-Q_{db}$), hence the FTR may be a net exporter or net importer. If the region is a net importer, Country B could export all its excess supply to Country A, presumably with no subsidy by B and with no tax received by A on that portion of imports. If the entire imports of A come from B after the FTR, then A will receive no

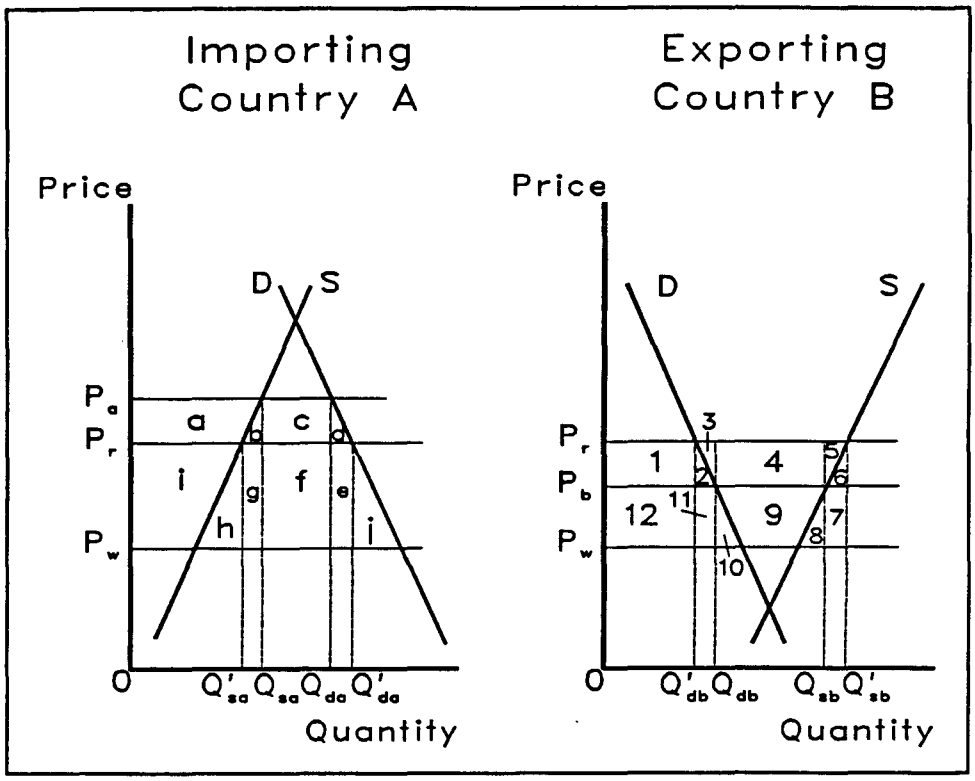

Figure 3. Net Exporting or Importing Region: One Country is a Net Importer and One Country is a Net Exporter.

import tariff revenue and B will pay no export subsidies. The net impact of the FTR for the region will be as shown in the above welfare analysis but the gain to A will be reduced and to B will be increased by the amount of the tax-subsidy transfer. Thus whether the region is a net importer or exporter, the specific arrangements of A and B for sharing taxes and subsidies will influence the distribution among producers, consumers, and taxpayers and the country net payoff. But such redistributions are only transfers if decoupled from incentives to produce, consume, and trade so that the net welfare benefit b+d+3+5 will remain.

Attributes of Worthy FTR Members

The foregoing conceptual framework and literature review provide insights into who the United States should look to for partners in a free trade region. The short answer is that it should look for all nations. Global multilateral free trade is optimal.[1] Some additional guidelines are as follows:

1. Other things equal, a free trade region ideally includes *neighbors* (Krugman). Partly because of low transport and communication costs, countries disproportionately trade with their neighbors. Gains from trade are approximately proportional to the trade volume among nations.
2. Gains from trade are greatest among nations with unlike resource endowments, comparative advantage, and tastes. Thus while (1) above calls for the U.S. to favor a free trade region including Canada, (2) calls for free trade with East Asia.

[1] A world in which each nation has no bargaining power, hence optimally forsakes trade barriers, and is in essence a mini-FTR also is optimal. Somewhere between the optimums of (a) a single global free trade region and (b) each individual nation being a free trade region is the worse of all worlds. Krugman contends from mathematical calculations that the worst of all worlds is three free trade areas. Ironically, that is what has materialized with the EC, Canada-U.S., and Japan trade areas.

3. Economic theory holds that the internal gains from a FTR are greatest where pre-FTR prices differ most among countries and where demand and supply are relatively elastic.

Other Gains from FTRs

Aside from issues of trade creation or trade diversion with ROW, a FTR offers numerous economic benefits to members.

1. The previous analysis indicated that even with no change in trade with ROW, a FTR creates net economic welfare internally by shifting production from high cost to low cost FTR members and shifting consumption from those with low marginal utility to those with high marginal utility. It is apparent from the conceptual models shown earlier that global gains from a FTR will be greater the closer regional prices are set to world equilibrium free trade prices.
2. The largest economic gains from agricultural free trade arise from altering commodity programs to end market distortions. Benefits are likely to go mostly to consumers and taxpayers. Producers can be compensated for losses, preferably by decoupled payments that do not distort production, consumption, or trade.
3. A FTR promotes specialization and economies of size. A FTR may provide sufficient assurances of reliable supplies so that countries will be willing to forego costly attempts at import substitution and self-sufficiency. Greater national income in the short run contributes to savings and investment in human, material, and technological capital for long-term national income growth. We can call these combined influences *internal trade creation*.
4. A FTR increases bargaining power *vis-a-vis* other nations. At best, bargaining power can induce other nations to forego trade distortions and can induce global free trade. At worst, bargaining power in one FTR induces countervailing power in other FTRs, leading to trade wars and economic losses.
5. A FTR reduces bargaining power of concentrated domestic industries and hence reduces deadweight costs from imperfect competition. Free trade has diminished the once awesome market power of General Motors and the United Auto Workers, for example. The result is improved products at lower prices to consumers.
6. A FTR can improve balance of payments (see Bergsten, p. 31). An advantage of an East Asia FTR is that it includes countries with large trade surpluses with the U.S. A FTR could speed the process of reducing these surpluses. In contrast, a Western Hemisphere FTR would include countries with large trade deficits. The countries using the FTR to more efficiently reduce their trade deficits would not help the U.S. trade balance.

Empirical Procedure

The empirical analysis includes each of the five FTRs listed earlier under the objective. Detailed results for all five are reported in the Annex. Here results are reported only for the three regions that include the U.S. The subsequent section on trade creation and diversion will discuss selected results for the ASEAN and East Asia FTRs that do not include the U.S.

The procedure is to simulate prices, quantities, and economic welfare implications by country and region under each of the above FTR scenarios. Results shown in the text are mostly for the U.S. Economic outcomes for each of four major commodities and for each FTR member country are shown in Annex tables. The Annex includes results for an East Asia FTR and ASEAN FTR (without the U.S.) as well as for the three FTR scenarios listed above.

The empirical model was generated using the Static World Policy Simulation (SWOPSIM) framework (see Roningen *et al.*) adapted at The Ohio State University to estimate impacts of free trade regions. Base data and parameters are for 1986. Predicted outcomes are for an intermediate-run of five years after formation of the respective free trade regions versus continuation of 1986 policies. Results assume within the FTR (1) termination of commodity program and border interventions to trade, (2) free trade among members, and (3) trade unchanged from the 1986 level with non-FTR members. Prices and quantities may be viewed as breakeven

levels between trade diversion and trade creation.[2] That is, if prices are lowered from the equilibriums shown within the FTR, the FTR will be trade creating with respect to outsiders. If prices are raised from the equilibriums shown, the FTR will be trade diverting.

Results

Results are presented first for U.S. production, consumption, and trade (Table 1) under various FTRs. The East Asia-U.S. FTR containing few exporters competing with the U.S. and containing large consumer demand in East Asia is most favorable for American producers. Under that FTR, the U.S. experiences trade reversal in beef. Initially a net importer of 739 thousand (metric) tons, the U.S. as part of the East Asia-U.S. FTR becomes a modest net exporter of 19 thousand tons. U.S. production also increases but consumption falls because of higher beef prices. U.S. coarse grain (mostly corn) and rice exports expand under the East Asia-U.S. FTR. American sugar imports increase, but not nearly as much as with a Western Hemisphere or Pacific Rim FTR. The latter region includes efficient sugar producers in Australia as well as in Central America and Brazil.

Table 1. U.S. Production, Consumption, and Net Trade with Free Trade Regions, 1986.

		Free Trade Region		
Commodity	Original	East Asia-U.S.	Western Hemisphere	Pacific Rim
		(1,000 Tons)		
Beef				
Production	11,292	11,486	10,227	10,554
Consumption	12,031	11,467	12,317	12,096
Trade[a]	-739	19	-2,089	-1,542
Wheat				
Production	56,925	53,140	46,843	44,536
Consumption	30,173	26,822	28,062	28,688
Trade	26,752	26,319	18,781	15,848
Coarse Grain				
Production	252,948	242,264	225,316	224,574
Consumption	206,507	192,988	196,633	198,257
Trade	46,441	49,275	28,683	26,317
Rice				
Production	4,280	5,254	3,687	3,985
Consumption	1,644	1,262	1,567	1,511
Trade	2,636	3,992	2,120	2,474
Sugar				
Production	5,461	5,391	3,747	4,014
Consumption	7,158	7,542	8,089	8,012
Trade	-1,697	-2,151	-4,342	-3,998

[a] Positive original means net exports, negative means net imports.

[2] The breakeven reference for trade diversion or creation here is regional price P_r rather than the initial prices P_a and P_b in Figures 1 to 3. That concept differs from conventional usage where trade creation or diversion is measured from initial conditions.

As expected, American wheat, coarse grain, and rice production and trade are set back when confronted with strong competition from Argentina, Brazil, Canada, Australia, and other agricultural countries in a Western Hemisphere or Pacific Rim FTR. Production and export data indicate that an East Asia-U.S. FTR is most favorable and a Western Hemisphere FTR or Pacific Rim FTR is least favorable to American agriculture. The opposite conclusion holds for consumers.

Price changes in Table 2 help to explain some of the quantity patterns just discussed. Because free trade is not possible without restructuring commodity programs to remove price distortions, producer prices fall. Decoupled payments could compensate producers for lower prices but at the expense of taxpayers or consumers. Positive net welfare gains shown later for FTRs indicate that U.S. producers could be made better off with FTRs (despite lower prices) while government (taxpayers) and consumers are made no worse off. The principal contribution of Table 2 is to illustrate relative price impacts among the three FTRs. Beef and rice prices are helped by an East Asia-U.S. FTR. Of the three FTRs shown, a Western Hemisphere FTR generally is least favorable to prices.

Table 2. U.S. Price Changes with Free Trade Regions, 1986.

Commodity	Original Price	Free Trade Region: East Asia-U.S.	Free Trade Region: Western Hemisphere	Free Trade Region: Pacific Rim
	($/Ton)	(Percent Increase in Price)		
Beef				
Production	2,049	3	-14	-10
Consumption	3,414	7	-3	-1
Wheat				
Production	168	-12	-31	-36
Consumption	122	51	25	17
Coarse Grain				
Production	102	-9	-22	-24
Consumption	78	29	12	10
Rice				
Production	348	67	-31	14
Consumption	244	188	21	113
Sugar				
Production	324	-5	-56	-37
Consumption	885	-20	-40	-31

Economic welfare (national income) gains are sizable for each FTR shown in Table 3 but for the Western Hemisphere and Pacific Rim FTRs are about five times greater than for an East Asia-U.S. FTR. In contrast, American producers (and government) gain nearly three times as much surplus (overall net income) with an East Asia-U.S. FTR as with either of the other two FTRs. The high man-land ratio agricultures of East Asia are a favorable match for free trade with the relatively low man-land ratio American agriculture. (Producer and government gains are combined in Table 3 because decoupled payments can in principle provide almost any income distribution between producers and government with the restructured non-trade-distorting commodity programs assumed herein without changing other outcomes shown.) A producers-government welfare loss coupled with a positive overall welfare gain as in the case of beef and sugar indicates that the government alone could not compensate producers out of welfare gains so that taxpayers would be no worse off and producers

better off. However, some of the benefits to consumers could be used to compensate producers so that each group -- producers, consumers, taxpayers, and society -- is made better off.

American consumers tend to benefit somewhat more overall from a Western Hemisphere FTR than Pacific Rim FTR in Table 3 because Argentina drives down beef prices while Brazil and Central America drive down sugar prices. For American food producers and consumers as a whole, however, there is little to chose between a Western Hemisphere or Pacific Rim FTR. Whereas either FTR provides large *aggregate* welfare gains, the Western Hemisphere FTR especially favors consumers while the Pacific Rim FTR especially favors producers.

Table 3. U.S. Welfare Analysis Showing Producer-Government Surplus, Consumer Surplus, and Total Welfare Gain with Free Trade Regions, 1986.

Commodity and Welfare Surplus	Free Trade Region: East Asia-U.S.	Western Hemisphere	Pacific Rim
		($ Million)	
Beef			
Producers-government	2,635	-1,184	-280
Consumers	-2,845	1,369	315
Total	-210	185	35
Wheat			
Producers-government	1,902	2,564	2,134
Consumers	-1,742	-891	-626
Total	160	1,673	1,508
Coarse Grain			
Producers-government	4,932	3,907	3,655
Consumers	-4,455	-1,843	-1,542
Total	477	2,064	2,113
Rice			
Producers-government	521	401	670
Consumers	-648	-125	-233
Total	-127	276	437
Sugar			
Producers-government	-682	-2,613	-2,517
Consumers	1,272	2,942	2,751
Total	590	329	234
Overall U.S.			
Producers-government	9,308	3,075	3,662
Consumers	-8,418	1,452	665
Total	890	4,527	4,327

Only the food and agriculture industry is modeled herein. It is quite possible that inclusion of non-agricultural industries in FTRs would give very different overall welfare conclusions. While the relative and absolute distribution of costs and benefits would differ from those shown, the overall welfare gains would be larger with non-agricultural industries included in FTRs.

Trade Creation and Diversion with ROW?

Theory and empirical results (see Annex) support the conclusion that free trade within regions raises regional economic welfare by the same forces that increase global economic welfare from global free trade. By assuming trade with ROW in unchanged, we have assumed away a critical issue, however -- the impact of a FTR on the economic welfare of ROW. We address that issue below within the context of trade diversion or creation (see Viner).

The most commonly recognized impact of a FTR on ROW is trade diversion. An example is Spain joining the EC. Before joining the EC, Spain imported feed grains from the U.S., a low-cost producer. After joining the EC, the variable levy imposed by the Community made feed grain imports from the U.S. so expensive that France, a high-cost producer, became the lowest-cost source of feed grain to Spain. Trade diversion from a low-cost source to a high-cost source caused a net welfare loss to the U.S., Spain, and the world.

World welfare also is reduced by inefficient consumption patterns under a FTR that raises regional price above the world price. As a result, consumers in the FTR forego consumption they value more than the world cost of production (opportunity cost P_w in Figure 3, the value of other commodities given up) while consumers in ROW consume output they value less than the world cost of production.

Figure 4 illustrates impacts of a FTR on ROW in a two-region world. The most efficient outcome is at P_w. Assume that in the FTR the price is raised to P_r and in ROW it falls to P_R. If FTR is an exporter as in the top panel A of Figure 4, producers lose area 1 and consumers gain area 1+2 for a net gain of area 2 to ROW. If the FTR is a net importer as in the lower panel B, producers in ROW lose a+b, consumers gain a, and ROW is worse off by area b. Thus ROW is unequivocally neither worse off nor better off from a FTR. As noted above, however, the world as a whole is likely to be worse off to the extent that the FTR further distorts world prices above or below P_w.

High support prices, realization of economies of size, and specialization that attend the FTR may cause exports to increase beyond the initial level, lowering world price. This would make competing producers worse off, consumers better off, and ROW as a whole better off. The EC is an example.

Some general guidelines follows from Figure 4. The guidelines assume that a FTR will raise internal prices and lower ROW prices.

1. A FTR will be trade creating and will benefit ROW if the FTR is an exporter (A in Figure 4) but will be trade diverting and will reduce economic welfare in ROW if the FTR is an importer (B in Figure 4).
2. Producers lose and consumers gain in ROW whether the scenario is A or B in Figure 4. On the other hand, producers gain and consumers lose in the FTR. Because producers tend to dominate trade politics, one would expect FTRs to form because producers within FTRs gain. ROW's producers lose, but they have little bargaining power to stop the FTR. However, Figure 4 is oversimplified. Producers may be unenthusiastic in support of a FTR if it means sacrifice of current commodity programs. Figure 4 indicates that producers globally might prefer multilateral free trade because regionalism can impose burdens on producers left out of FTRs.[3]

At issue is whether a Pacific Rim FTR would in fact be trade creating or diverting for ROW if arrangements for all products were along lines designated in the earlier model for agriculture. Would trade be diverted from lower cost producers in ROW to higher cost producers in the FTR? If the lowest cost producers are in the FTR, trade diversion is unlikely. Discussion focuses on commodities, some of which (dairy products, meat, and non-agricultural products) were not included in the empirical analysis:

1. *Sugar.* Latin American and Australian production costs are the lowest in the world. Producers in those countries and consumers in importing countries would experience massive gains from freer trade. A FTR including Latin America and Australia would enhance economic welfare of the region and the world.

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[3] As indicated earlier, the FTR equilibrium internal prices P_r shown in the Annex provide a breakeven benchmark for judging trade diversion or creation. If the FTR price is raised above P_r, trade and welfare are decreased for ROW compared to the outcome with price P_r. If the FTR price is below P_r, trade and welfare are raised compared to the outcome with P_r.

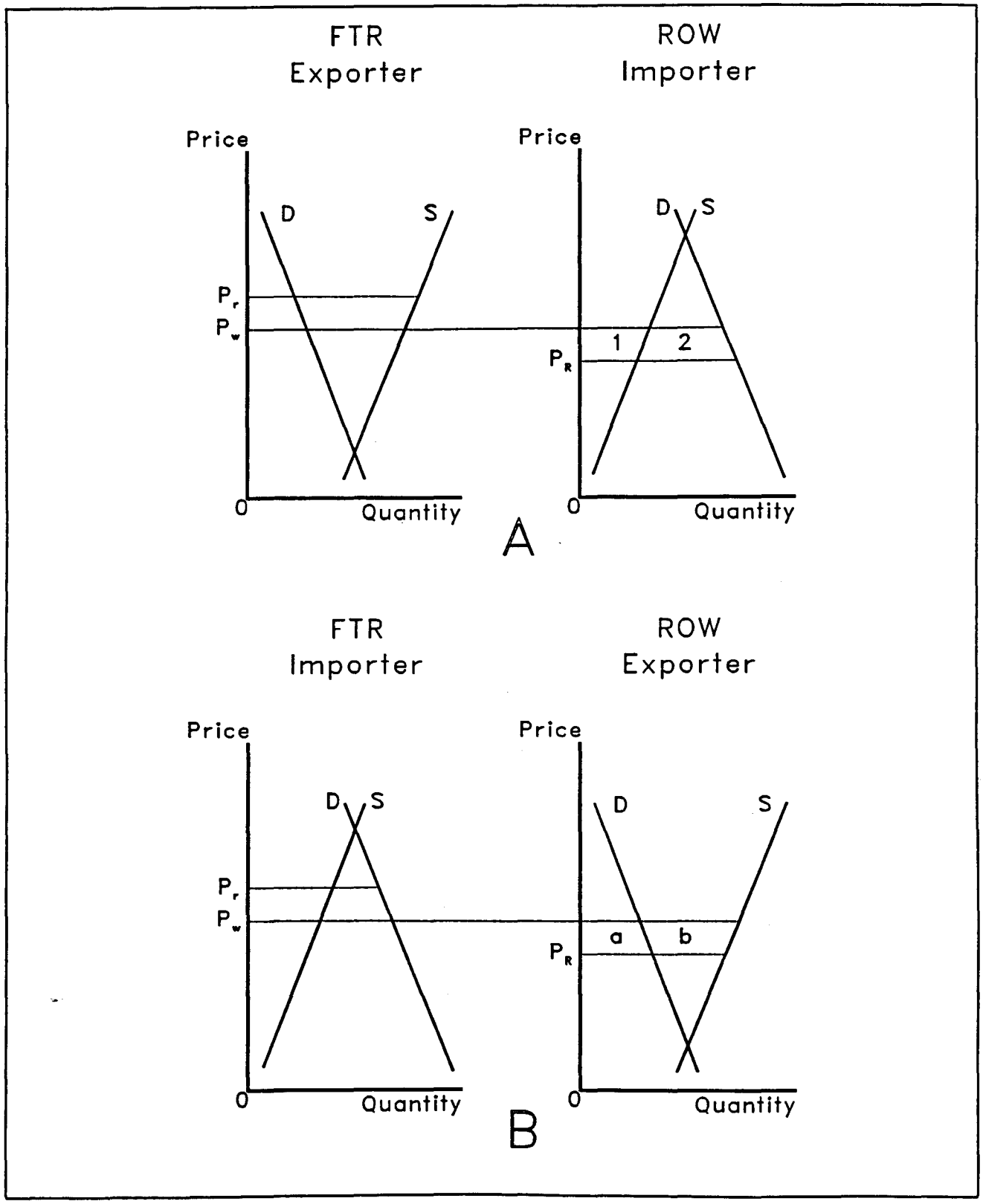

Figure 4. Impact on ROW Price P_R of Raising Price in the FTR, P_r, Above the World Price Level, P_w.

2. *Dairy products.* A FTR excluding low-cost Australia and New Zealand could be trade diverting. However, a Pacific Rim FTR including these dairy product exporters could enhance economic welfare of the region and the world. If the EC would stop subsidizing dairy exports, a Pacific Rim FTR might improve dairy exports and earnings even of U.S. producers.
3. *Meat.* The Western Hemisphere includes efficient meat producers such as Argentina. Unless Australia and New Zealand are included in a FTR, the arrangement could be somewhat trade diverting. The United States would be competitive in meat production and exports in the absence of beef, dairy, and feed subsidies by other countries.
4. *Non-agricultural products.* East Asia is highly competitive in manufactured products such as automobiles, steel, and machine tools. Mexico and Brazil could be relatively low-cost suppliers in a Western Hemisphere FTR, but that arrangement could divert trade from even more efficient producers in East Asia. East and Southeast Asia also need to be included in a FTR encompassing low-cost textile, apparel, and footwear producers.

Price data in Table 4 provide further clues as to whether FTRs would be trade creating or trade diverting. GATT rules exempt FTRs from applying the most-favored-nation principle to outsiders, but call for FTRs to remove most barriers to trade within the FTR and to erect no more barriers to outsiders than prevailed before the FTR. Because scenario solutions were designed to be trade neutral with outsiders, neither decreasing nor increasing trade, the resulting within-FTR prices are shadow prices showing breakeven internal prices for no net external change in trade based on 1986 conditions. If these shadow prices are high relative to reference prices, formation of FTRs could unleash pressures to reduce within-FTR prices by diminishing trade barriers.

In the case of beef, an East Asia FTR without the U.S. would bring a beef price of $5,491 per metric ton -- only about half the Japanese beef price in 1986 but more than double the U.S. price. Such a FTR would face strong pressure to reduce prices and hence to be trade-creating with outsiders. This outcome indeed is suggested by the 1988 U.S.-Japan beef agreement. Other FTRs that include the U.S. in Table 4 do not give prices that are far out of line with reference prices such as the actual U.S. price or free trade world price in 1986. Because one would not expect major pressure to raise or lower equilibrium prices and hence change trade levels with outsiders, there is no basis to conclude from the information in Table 4 whether the FTRs would be trade creating or diverting.

Table 4. Producer Prices by Commodity by Region.

	Free Trade Regions						
Commodity	Southeast Asia (ASEAN)	East Asia	East Asia-U.S.	Western Hemisphere	Pacific Rim	Free Trade World[a]	U.S. Actual 1986
				($/Metric Ton)			
Beef	NA	5,491	2,418	2,013	2,111	2,091	2,049
Wheat	115	243	249	196	180	115	168
Coarse Grain	83	193	144	122	120	82	102
Rice	251	1,231	1,080	286	348	210	348
Sugar	200	481	613	156	176	133	324

[a] Sullivan *et al.*

The conclusion is that a Western Hemisphere FTR would include most low-cost agricultural producers but would lose sizable gains from trade by excluding the large consumer food markets of Asia. An Asian-U.S. FTR includes major efficient manufacturers and large markets. It would be highly beneficial to U.S. producers

but would disadvantage U.S. food consumers. Thus the full benefits of a non-European FTA can be obtained only with the full Pacific Rim FTA.

Major exclusions from a Pacific Rim FTR are Europe, the Middle East and North Asia, the Indian subcontinent, and Africa. The major omission from free trade would be minerals, especially petroleum. OPEC has been ineffective of late and probably extracts little economic rent these days, hence free trade in oil currently offers few gains. That situation could change if oil supplies become tight relative to demand.

Summary and Conclusions

Conventional thinking deems FTRs to be welfare enhancing if they are trade creating. According to Krugman (p. 8):

> Loosely speaking, if the extra trade that takes place between members of a trading bloc represents an addition to world trade, the bloc has raised world efficiency...

Schott states (p. 18):

> ...trade diversion imposes global welfare losses. A simple test of the economic value of an [sic] FTA thus could be whether its impact was more trade creating or trade diverting.

This position that a FTR must be trade-creating to raise world welfare is refuted by the conceptual and empirical sections of this paper. Large welfare gains from FTAs are shown in the paper even without trade creation.

We summarize welfare gains and suggest lessons for policy.

1. Welfare (national income) gains are positive from free trade regions, they are roughly proportional to the size of the FTR, and they are especially large (over $17 billion per year in agriculture alone) from a Pacific Rim FTR (Table 5). Welfare gains are positive for most individual countries within the FTRs (see Annex tables).[4]

Table 5. Regional Net Welfare Gains, 1986 Conditions.

		Welfare Gains		Proportion of Global Free Trade Gains	
Free Trade Region	**Annex Tables**	**U.S.**	**Region**	**U.S.**	**Region**
		($ Billion)		(Percent)	
ASEAN	A-1 to A-3	--	.87	--	2.92
East Asia	A-4 to A-6	--	.76	--	2.55
East Asia-U.S.	A-7 to A-9	.89	2.61	10.60	8.76
Western Hemisphere	A-10 to A-12	4.53	6.86	53.90	23.02
Pacific Rim	A-13 to A-15	4.33	17.21	51.55	57.75
Global[a]		8.60	29.80	100.00	100.00

[a] Blandford *et al.*

2. Welfare gains are small for a FTR containing relatively homogeneous countries -- as trade theory predicts. An ASEAN or East Asia FTR without the U.S. links countries with similar comparative advantage. For this reason and because the agricultural industries in these FTRs are of modest size, free trade gains in these regions are relatively small (less than $1 billion per year) from agriculture.

[4]The few cases of negative welfare gains are probably not statistically different from zero -- although statistical tests are unavailable.

3. An extension of (2) is that welfare gains are sizable from a large FTR containing nations with big economies and widely different resource endowments and technologies. A Pacific Rim FTR provides a welfare (national income) gain of over $17 billion or 58 percent of the potential $30 billion gain from *global* free trade in 1986. As indicated by Viner and by Wonnacott and Lutz (p. 79), the larger FTR also is favored because trade diversion will be less important.
4. The European Community's Common Agricultural Policy accounted for $12 billion and other West European countries for $1.3 billion or for the entire gap between welfare gains from the Pacific Rim FTA and global free trade. The conclusion is that a Pacific Rim FTA captures the available gains from free trade -- given the intransigence of the Western Europe in liberalizing trade as evidenced by the Uruguay Round.
5. Overall U.S. deadweight gains are about the same for the Pacific Rim and Western Hemisphere FTAs. Reasons are (a) larger U.S. producers gains with a Western Hemisphere FTR are offset by consumer losses compared to the Pacific Rim FTR, and (b) the major gains come from restructuring commodity programs to avoid trade restraint and that is possible with either of the two largest FTRs considered herein. Only partial commodity program restructuring is possible with the East Asia-U.S. FTR because resulting high prices retain deadweight welfare losses.
6. American agriculture especially benefits from a FTA that includes East Asia. Japan, Taiwan, and Korea might be more inclined to join a Pacific Rim than an East Asia (non-U.S.) FTA for several reasons. A Pacific Rim FTA (a) offers larger welfare gains, (b) includes the U.S., Australia, and other countries to serve as mediators and "honest brokers" among frequently at-odds East Asian nations that would have difficulty forming their own FTR, (c) might give East Asia the food security it perceives to be necessary (from the U.S., Australia, New Zealand, Argentina, Canada, and Brazil) to sacrifice current self-sufficiency policies for rice and other commodities, and (d) provides bargaining power to countervail the EC. Regarding point (a), Japan gains nothing from an East Asia FTR excluding the U.S. but gains an estimated $7.2 billion from a Pacific Rim FTA including the U.S. (see also Gleckler and Tweeten). It is well to caution, however, that formation of a Pacific Rim FTR may be in the words of Carlisle (p. 280) "slow and undramatic" if it is possible at all.
7. A FTR may raise within-region prices. Higher prices, greater efficiency, and capital formation may increase FTR net exports. This reduces prices in ROW. The higher prices within the FTR and lower ROW prices mean declining terms of trade for ROW. This may benefit ROW and the FTR, but may be viewed as a beggar-thy-neighbor policy. That is one reason why many economists favor multilateralism under GATT to regionalism. However, trade rules and adjudication procedures under GATT are essential even in a world dominated by FTRs. Regionalism is in this sense not an alternative to GATT -- the two are complementary.
8. Point (7) notwithstanding, welfare gains, especially for large FTRs, may be substantially underestimated by the static model used in this study. The reason is that the empirical procedures do not account for long-term gains from stimulation of technological innovation, entrepreneurial activities, savings, investment, and capital formation; contributions to economies of size; diminished firm and labor market power; benefits to other industries from reduced food and fiber prices; and reduced government administrative and security costs.

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Annex

The following tables are from Lin.

Table A-1. Production, Consumption, and Net Trade in the ASEAN Free Trade Region, 1986.

Country/	Production			Consumption			Net Trade[a]		
Commodity	Original	New	Change	Original	New	Change	Original	New	Change
	(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
Philippines									
Wheat	1	1	0	1,001	1,031	3	-1,000	-1,030	3
Coarse Grain	4,051	4,064	0	4,083	4,115	0	-32	-51	46
Rice	5,823	5,543	-5	5,712	5,863	3	111	-320	TR
Sugar	1,561	1,873	20	1,265	987	-22	296	886	199
Indonesia									
Wheat	1	1	0	1,601	1,557	-3	-1,600	-1,556	-3
Coarse Grain	5,361	5,374	0	5,443	5,424	0	-82	-50	-37
Rice	26,129	26,098	0	25,937	26,433	2	192	-336	TR
Sugar	1,728	1,517	-12	1,728	1,844	7	0	-327	Large
Malaysia									
Wheat	1	1	0	614	614	0	-613	-613	0
Coarse Grain	27	27	0	1,357	1,352	0	-1,330	-1,325	0
Rice	1,150	967	-16	1,475	1,559	6	-325	-592	82
Sugar	85	74	-13	628	536	-15	-543	-462	-13
Thailand									
Wheat	1	1	0	201	205	2	-200	-204	2
Coarse Grain	4,401	4,375	-1	1,301	1,297	0	3,100	3,078	-1
Rice	11,880	12,421	5	7,980	7,925	-1	3,900	4,496	15
Sugar	2,586	2,193	-15	444	500	13	2,142	1,693	-21
Other SE Asian Countries									
Wheat	246	242	-2	356	361	1	-110	-119	9
Coarse Grain	408	410	1	383	381	-1	25	29	16
Rice	7,817	8,243	5	7,454	7,250	-3	363	993	173
Sugar	391	479	23	128	112	-13	263	367	40

[a] For data on net trade, a positive number indicates imports and a negative number exports. TR indicates trade reversal.

Table A-2. Producer and Consumer Prices for the ASEAN Free Trade Region, 1986.

Country/	Producer Price			Consumer Price		
Commodity	Original	New	Change	Original	New	Change
	($/Ton)		(%)	($/Ton)		(%)
Philippines	138	115	-17	197	174	-12
Wheat	111	112	1	120	121	0
Coarse Grain	280	237	-15	560	517	-8
Rice	133	200	50	266	333	25
Sugar						
Indonesia	115	115	0	164	164	0
Wheat	108	109	1	117	118	1
Coarse Grain	266	265	0	516	488	-5
Rice	264	198	-25	596	532	-11
Sugar						
Malaysia	115	115	0	164	164	0
Wheat	87	88	1	96	97	1
Coarse Grain	386	271	-30	772	657	-15
Rice	350	239	-32	318	398	25
Sugar						
Thailand	115	115	0	164	164	0
Wheat	87	88	1	96	97	1
Coarse Grain	219	251	14	439	471	7
Rice	322	213	-34	645	536	-17
Sugar						
Other Southeast Asian	115	115	0	164	164	0
Wheat	86	87	1	95	96	1
Coarse Grain	210	251	19	420	461	10
Rice	133	200	50	266	333	25
Sugar						

Table A-3. Welfare Analysis Showing Producer-Government Surplus, Consumer Surplus, and Total Welfare Gain With the ASEAN Free Trade Region, 1986.

Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total
		($ Million)	
Philippines	9	23	32
Wheat	6	-6	0
Coarse Grain	-216	246	29
Rice	148	-75	72
Sugar			
Country Total	-53	188	133
Indonesia	0	0	0
Wheat	7	-7	0
Coarse Grain	-585	734	149
Rice	-76	113	37
Sugar			
Country Total	-654	840	186
Malaysia	-52	0	-52
Wheat	0	-1	-1
Coarse Grain	-86	175	89
Rice	36	-46	-10
Sugar			
Country Total	-102	128	27
Thailand	35	0	35
Wheat	388	-1	387
Coarse Grain	419	-251	168
Rice	-232	51	-181
Sugar			
Country Total	610	-201	409
Other Southeast Asian	0	0	0
Wheat	0	0	0
Coarse Grain	361	-299	62
Rice	58	-8	50
Sugar			
Country Total	419	-307	113
Regional Total	297	648	868

Table A-4. Production, Consumption, and Net Trade in the East Asian Free Trade Region, 1986.

Country/	Production			Consumption			Net Trade[a]		
Commodity	Original	New	Change	Original	New	Change	Original	New	Change
	(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
Taiwan	4	5	25	43	28	-35	-39	-23	43
Beef	2	2	-7	868	950	9	-866	-948	9
Wheat	426	258	-39	4,956	2,967	-40	-4,530	-2,709	-40
Coarse Grain	1,816	2,316	28	1,643	1,408	-14	173	908	423
Rice	604	698	16	427	407	-5	177	292	64
Sugar									
South Korea	208	242	16	208	244	17	0	-3	Large
Beef	5	5	-1	3,905	3,246	-17	-3,900	-3,241	-17
Wheat	573	417	-27	4,223	6,895	63	-3,650	-6,479	78
Coarse Grain	5,607	6,129	9	5,607	5,622	0	0	507	Large
Rice	1	1	29	691	731	6	-690	-730	6
Sugar									
Japan	559	532	-5	815	818	0	-256	-286	12
Beef	876	453	-48	6,266	6,452	3	-5,390	-5,999	11
Wheat	351	196	-44	6,261	5,232	-16	-5,910	-5,036	-15
Coarse Grain	10,599	9,399	-11	10,619	10,770	1	-20	-1,371	Large
Rice	943	791	-16	2,796	2,991	7	-1,853	-2,200	19
Sugar									
Other East Asia	1	1	0	93	77	-17	-92	-76	-18
Beef	1	1	0	411	379	-8	-410	-378	-8
Wheat	1	1	0	551	417	-24	-550	-416	-24
Coarse Grain	1	2	50	557	449	-19	-556	-447	-20
Rice	1	1	0	688	417	-39	-687	-415	-40
Sugar									

[a] For data on net trade, a positive number indicates imports and a negative number exports. TR indicates trade reversal.

Table A-5. Producer and Consumer Prices for the East Asian Free Trade Region, 1986.

Country/ Commodity	Producer Price			Consumer Price		
	Original	New	Change	Original	New	Change
	($/Ton)		(%)	($/Ton)		(%)
Taiwan	3,576	6,303	76	7,328	10,435	42
Beef	195	317	63	405	539	33
Wheat	389	253	-35	136	264	94
Coarse Grain	365	1,231	237	733	1,578	115
Rice	352	727	107	873	927	6
Sugar						
South Korea	4,605	6,292	37	10,056	8,252	-18
Beef	341	287	-16	199	346	74
Wheat	422	270	-36	528	283	-46
Coarse Grain	955	1,231	29	1,230	1,515	23
Rice	133	481	261	659	614	-7
Sugar						
Japan	10,140	9,086	-10	16,702	16,643	0
Beef	1,443	288	-80	376	347	-8
Wheat	1,260	182	-86	145	197	36
Coarse Grain	2,274	1,788	-21	2,189	2,093	-4
Rice	935	633	-32	2,542	2,243	-12
Sugar						
Other East Asian	2,091	5,491	163	3,802	7,202	89
Beef	115	243	111	164	292	78
Wheat	87	204	135	97	214	121
Coarse Grain	210	1,231	486	420	1,441	243
Rice	133	481	261	266	614	131
Sugar						

Table A-6. Welfare Analysis Showing Producer-Government Surplus, Consumer Surplus, and Total Welfare Gain With the East Asian Free Trade Region, 1986.

Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total
	($ Million)		
Taiwan	311	-107	204
Beef	310	-108	202
Wheat	333	-456	-123
Coarse Grain	1,920	-1,249	671
Rice	392	-23	369
Sugar			
Country Total	3,266	-1,943	1,324
South Korea	-21	407	385
Beef	324	-511	-187
Wheat	-1,201	1,382	180
Coarse Grain	1,777	-1,566	211
Rice	-15	32	18
Sugar			
Country Total	864	-256	608
Japan	-1,168	48	-1,120
Beef	-397	181	-215
Wheat	228	-299	-72
Coarse Grain	-657	1,024	368
Rice	-1,404	863	-541
Sugar			
Country Total	-3,398	1,817	-1,581
Other East Asian	333	-285	48
Beef	338	-36	302
Wheat	406	-52	354
Coarse Grain	104	-475	-370
Rice	257	-182	75
Sugar			
Country Total	1,438	-1,030	408
Regional Total	2,171	-1,410	761

Table A-7. Production, Consumption, and Net Trade in the East Asia-U.S. Free Trade Region, 1986.

Country	Commodity	Production			Consumption			Net Trade[a]		
		Original	New	Change	Original	New	Change	Original	New	Change
		(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
U.S.	Beef	11,292	11,486	2	12,031	11,467	-5	-739	19	TR
	Wheat	56,925	53,140	-7	30,173	26,822	-11	26,752	26,319	-2
	Coarse Grain	252,948	242,264	-4	206,507	192,988	-7	46,441	49,275	6
	Rice	4,280	5,254	23	1,644	1,262	-23	2,636	3,992	51
	Sugar	5,461	5,391	-1	7,158	7,542	5	-1,697	-2,151	27
Taiwan	Beef	4	4	0	43	46	8	-39	-43	10
	Wheat	2	2	0	868	891	3	-866	-890	3
	Coarse Grain	426	219	-49	4,956	3,900	-21	-4,530	-3,681	-19
	Rice	1,816	2,256	24	1,643	1,432	-13	173	824	374
	Sugar	604	733	21	427	348	-18	177	385	117
Japan	Beef	559	385	-31	815	1,178	45	-256	-793	210
	Wheat	876	477	-46	6,266	6,297	0	-5,390	-5,820	8
	Coarse Grain	351	168	-52	6,261	5,783	-8	-5,910	-5,615	-5
	Rice	10,599	8,801	-17	10,619	11,024	4	-20	-2,223	11,595
	Sugar	943	883	-6	2,796	2,873	3	-1,853	-1,990	7
South Korea	Beef	208	160	-23	208	380	83	0	-220	
	Wheat	5	5	7	3,905	3,095	21	-3,900	-3,090	-21
	Coarse Grain	573	370	-35	4,223	8,070	91	-3,650	-7,700	111
	Rice	5,607	5,853	4	5,607	5,751	3	0	102	
	Sugar	1	1	36	691	627	-9	-690	-625	-9
Other East Asia	Beef	1	1	0	93	91	-2	-92	-90	9
	Wheat	1	1	0	411	334	-19	-410	-333	82
	Coarse Grain	1	1	0	551	480	-13	-550	-479	68
	Rice	1	2	52	557	463	-17	-556	-461	207
	Sugar	1	2	54	688	371	-46	-687	-369	180

[a] For data on net trade, a positive number indicates imports and a negative number exports. TR indicates trade reversal.

Table A-8. Producer and Consumer Prices for the East Asia-U.S. Free Trade Region, 1986.

Country/	Producer Price			Consumer Price		
Commodity	Original	New	Change	Original	New	Change
	($/Ton)		(%)	($/Ton)		(%)
U.S.	2,049	2,120	3	3,414	3,656	7
Beef	168	148	-12	122	184	51
Wheat	102	93	-9	78	101	29
Coarse Grain	348	581	67	244	703	188
Rice	324	309	-5	885	712	-20
Sugar						
Taiwan	3,576	2,775	-22	7,328	6,907	-6
Beef	195	325	67	405	547	35
Wheat	389	185	-53	136	196	44
Coarse Grain	365	1,080	196	733	1,427	95
Rice	352	927	163	873	1,127	29
Sugar						
Japan	10,140	4,000	-61	16,702	11,557	45
Beef	1,443	296	-80	374	355	5
Wheat	1,260	136	-89	145	151	-8
Coarse Grain	2,274	1,568	-31	2,189	1,873	4
Rice	935	808	-14	2,542	2,418	3
Sugar						
South Korea	4,605	2,770	-40	10,056	4,730	-53
Beef	341	295	0	199	354	78
Wheat	422	202	-52	528	215	-59
Coarse Grain	955	1,080	13	1,230	1,364	11
Rice	133	613	360	659	746	13
Sugar						
Other East Asia	2,091	2,418	16	3,802	4,129	9
Beef	115	249	117	164	298	82
Wheat	87	153	75	97	163	68
Coarse Grain	210	1,080	414	420	1,290	207
Rice	133	613	361	266	746	180
Sugar						

Table A-9. Welfare Analysis Showing Producer-Government Surplus, Consumer Surplus, and Total Welfare Gain With the East Asia-U.S. Free Trade Region, 1986.

Country	Commodity	Welfare Gain to: Producer-Government	Consumer	Total
			($ Million)	
U.S.	Beef	2,635	-2,845	-210
	Wheat	1,902	-1,742	160
	Coarse Grain	4,932	-4,455	477
	Rice	521	-648	-127
	Sugar	-682	1,272	590
	Country Total	9,308	-8,418	890
Taiwan	Beef	-18	19	1
	Wheat	-29	-114	-143
	Coarse Grain	-83	-248	-331
	Rice	1,144	-1,040	104
	Sugar	278	-98	180
	Country Total	1,292	-1,481	-189
Japan	Beef	-3,572	5,012	1,440
	Wheat	-732	132	-600
	Coarse Grain	-188	-36	-224
	Rice	-2,766	3,415	649
	Sugar	-630	353	-277
	Country Total	-7,888	8,876	988
South Korea	Beef	-991	1,464	473
	Wheat	-15	533	518
	Coarse Grain	1,391	1,877	3,268
	Rice	724	-741	-17
	Sugar	6	-57	-51
	Country Total	1,115	3,076	4,191
Other East Asia	Beef	369	0	369
	Wheat	0	-2,171	-2,171
	Coarse Grain	0	-1,967	-1,967
	Rice	0	-1,943	-1,943
	Sugar	2,444	0	2,444
	Country Total	2,813	-6,081	-3,268
Regional Total		6,640	-4,028	2,612

Table A-10. Production, Consumption, and Net Trade in the Western Hemisphere Free Trade Region, 1986.

Country	Commodity	Production			Consumption			Net Trade[a]		
		Original	New	Change	Original	New	Change	Original	New	Change
		(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
U.S.	Beef	11,292	10,227	-9	12,031	12,317	2	-739	-2,089	183
	Wheat	56,925	46,843	-18	30,173	28,062	-7	26,752	18,781	-30
	Coarse Grain	252,948	225,316	-11	206,507	196,633	-5	46,441	28,683	-38
	Rice	4,280	3,687	-14	1,644	1,567	-5	2,636	2,120	-20
	Sugar	5,461	3,747	-31	7,158	8,089	13	-1,697	-4,342	156
Canada	Beef	1,040	946	-9	1,047	1,072	2	-7	-126	Large
	Wheat	31,377	32,652	4	10,567	10,292	-3	20,810	22,360	7
	Coarse Grain	25,672	22,344	-13	19,219	17,557	-9	6,453	4,787	-26
	Rice	1	1	0	121	116	-4	-120	-115	-4
	Sugar	60	53	-11	1,138	1,134	0	-1,078	-1,080	0
Mexico	Beef	1,200	1,383	15	1,200	860	-28	0	522	Large
	Wheat	4,500	5,613	25	4,997	4,554	-9	-497	1,059	314
	Coarse Grain	14,840	10,407	-30	19,020	17,104	-10	-4,180	-6,697	61
	Rice	351	593	69	351	309	-12	0	285	Large
	Sugar	3,928	4,109	5	3,736	3,478	-7	192	631	228
Other Central American and Caribbean	Beef	366	360	-2	294	299	2	72	62	-14
	Wheat	46	55	20	2,981	2,582	-13	-2,935	-2,527	-14
	Coarse Grain	3,066	3,378	10	4,416	3,943	-11	-1,350	-565	-58
	Rice	1,464	1,725	18	1,796	1,608	-10	-332	116	TR
	Sugar	10,720	11,173	4	1,936	1,889	-2	8,784	9,284	6
Brazil	Beef	2,000	2,167	8	2,080	2,110	1	-80	57	TR
	Wheat	5,600	5,422	-3	8,400	7,015	-16	-2,800	-1,593	-43
	Coarse Grain	27,134	35,399	30	27,394	22,134	-19	-260	13,265	TR
	Rice	7,140	6,338	-11	7,190	6,907	-4	-50	-569	Large
	Sugar	8,400	9,466	13	5,800	5,520	-5	2,600	3,946	52

[a] For data on net trade, a positive number indicates imports and a negative number exports. TR indicates trade reversal.

Table A-10 continued.

Country	Commodity	Production			Consumption			Net Trade[a]		
		Original	New	Change	Original	New	Change	Original	New	Change
		(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
Argentina	Beef	2,850	3,406	19	2,599	2,294	-12	251	1,111	341
	Wheat	9,000	10,900	21	4,560	4,276	-6	4,440	6,624	49
	Coarse Grain	13,290	18,911	42	7,410	6,331	-15	5,880	12,580	114
	Rice	275	327	19	125	123	-1	150	204	35
	Sugar	1,160	1,240	7	1,011	969	-4	149	272	82
Venezuela	Beef	307	304	-1	307	313	2	0	-9	Large
	Wheat	1	1	0	1,051	943	-10	-1,050	-942	-10
	Coarse Grain	1,890	1,464	-23	2,740	3,241	18	-850	-1,776	109
	Rice	209	162	-23	209	223	7	0	-61	Large
	Sugar	569	634	11	693	665	-4	-124	-31	-76
Other Latin American	Beef	1,127	1,108	-2	958	970	1	169	137	-19
	Wheat	2,650	3,082	16	5,347	4,821	-10	-2,697	-1,739	-36
	Coarse Grain	5,214	5,937	14	6,025	4,891	-19	-811	1,046	TR
	Rice	2,286	2,582	13	2,282	2,274	0	4	308	Large
	Sugar	2,788	2,888	4	2,787	2,741	-2	1	146	Large

Table A-11. Producer and Consumer Prices for the Western Hemisphere Free Trade Region, 1986.

Country	Commodity	Producer Price			Consumer Price		
		Original	New	Change	Original	New	Change
		($/Ton)		(%)	($/Ton)		(%)
U.S.	Beef	2,049	1,766	-14	3,414	3,302	-3
	Wheat	168	117	-31	122	153	25
	Coarse Grain	102	79	-22	78	87	12
	Rice	475	327	-31	371	449	21
	Sugar	412	182	-56	973	585	-40
Canada	Beef	2,205	1,909	-13	3,664	3,558	-3
	Wheat	149	153	3	150	191	27
	Coarse Grain	87	73	-16	54	78	45
	Rice	240	327	36	450	537	19
	Sugar	268	182	-32	299	304	2
Mexico	Beef	1,255	2,013	60	2,281	3,039	33
	Wheat	111	155	40	135	209	55
	Coarse Grain	143	110	-23	65	122	87
	Rice	163	327	101	326	490	50
	Sugar	145	182	25	289	326	13
Other Central American & Caribbean	Beef	2,091	2,013	-4	3,802	3,724	-2
	Wheat	115	196	70	164	245	49
	Coarse Grain	86	128	49	95	137	45
	Rice	210	286	36	420	496	18
	Sugar	133	156	17	266	289	9
Brazil	Beef	1,000	1,174	17	2,218	2,172	-2
	Wheat	278	255	-8	236	360	53
	Coarse Grain	114	170	49	123	179	46
	Rice	308	235	-24	358	414	16
	Sugar	133	156	17	266	289	9
Argentina	Beef	900	1,285	43	1,636	2,021	24
	Wheat	68	98	44	95	125	31
	Coarse Grain	39	66	69	43	70	62
	Rice	210	286	36	420	496	18
	Sugar	133	156	17	266	289	9
Venezuela	Beef	2,091	2,013	-4	3,802	3,724	-2
	Wheat	81	138	70	114	171	50
	Coarse Grain	293	169	-42	323	199	-38
	Rice	497	307	-38	994	804	-19
	Sugar	133	156	17	266	289	9
Other Latin American	Beef	2,091	2,013	-4	3,802	3,724	-2
	Wheat	115	196	70	164	245	49
	Coarse Grain	86	128	49	95	137	45
	Rice	210	286	36	420	496	18
	Sugar	133	156	17	266	289	9

Table A-12. Welfare Analysis Showing Producer-Government Surplus, Consumer Surplus, and Total Welfare Gain With the Western Hemisphere Free Trade Region, 1986.

Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total	Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total
	($ Million)				($ Million)		
U.S.				**Argentina**			
Beef	-1,184	1,369	185	Beef	1,096	-939	156
Wheat	2,564	-891	1,673	Wheat	332	-130	203
C. Grain	3,907	-1,843	2,064	C. Grain	374	-176	197
Rice	401	-125	276	Rice	20	-9	11
Sugar	-2,613	2,942	329	Sugar	26	-23	3
Total	3,075	1,452	4,527	Total	1,848	-1,277	571
Canada				**Venezuela**			
Beef	-130	112	-18	Beef	-23	24	1
Wheat	1,837	-425	1,412	Wheat	0	-57	-57
C. Grain	634	-445	188	C. Grain	-351	368	17
Rice	0	-10	-10	Rice	-32	42	9
Sugar	-23	-5	-28	Sugar	15	-16	0
Total	2,318	-773	1,545	Total	-391	361	-30
Mexico				**Other LA[b]**			
Beef	979	-767	212	Beef	-90	75	-15
Wheat	379	-345	34	Wheat	216	-405	-189
C. Grain	915	-987	-72	C. Grain	201	-228	-26
Rice	83	-53	30	Rice	167	-168	-1
Sugar	145	-132	13	Sugar	61	-63	-2
Total	2,501	-2,284	217	Total	555	-789	-234
OCA&C[a]							
Beef							
Wheat	4	-221	-218				
C. Grain	133	-177	-44	**Regional**	13,457	-6,596	6,862
Rice	118	-130	-12	**Total**			
Sugar	243	-44	199				
Total	498	-572	-50				
Brazil							
Beef	-79	96	16				
Wheat	751	0943	-191				
C. Grain	1,778	-1,370	408				
Rice	414	-390	24				
Sugar	224	-129	95				
Total	3,088	-2,737	351				

[a]Other Central American & Caribbean. [b]Other Latin American.
[c]Other East Asian. [d]Other Southeast Asian.

Table A-13. Production, Consumption, and Net Trade in the Pacific Rim Free Trade Region, 1986.

Country	Commodity	Production			Consumption			Net Trade[a]		
		Original	New	Change	Original	New	Change	Original	New	Change
		(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
U.S.	Beef	11,292	10,554	-7	12,031	12,096	1	-739	-1,542	109
	Wheat	56,925	44,536	-22	30,173	28,688	-5	26,752	15,848	-41
	Coarse Grain	252,948	224,574	-11	206,507	198,257	-4	46,441	26,317	-43
	Rice	4,280	3,985	-7	1,644	1,511	-8	2,636	2,474	-6
	Sugar	5,461	4,014	-26	7,158	8,012	12	-1,697	-3,998	136
Canada	Beef	1,040	970	-7	1,047	1,050	0	-7	-80	Large
	Wheat	31,377	31,388	0	10,567	10,421	-1	20,810	20,967	1
	Coarse Grain	25,672	22,645	-12	19,219	17,667	-8	6,453	4,978	-23
	Rice	1	1	5	121	112	-7	-120	-111	-7
	Sugar	60	55	-8	1,138	1,114	-2	-1,078	-1,058	-2
Mexico	Beef	1,200	1,403	17	1,200	829	-31	0	574	TR
	Wheat	4,500	5,367	19	4,997	4,643	-7	-497	723	TR
	Coarse Grain	14,840	10,289	-31	19,020	17,158	-10	-4,180	-6,869	64
	Rice	351	677	93	351	291	-17	0	386	TR
	Sugar	3,928	4,211	7	3,736	3,334	-11	192	877	355
Other Central American & Caribbean	Beef	366	367	0	294	293	0	72	75	4
	Wheat	46	51	12	2,981	2,684	-10	-2,935	-2,633	10
	Coarse Grain	3,066	3,327	9	4,416	3,977	-10	-1,350	-650	52
	Rice	1,464	1,907	30	1,796	1,494	-17	-332	413	TR
	Sugar	10,720	11,547	8	1,936	1,851	-4	8,784	9,696	10
Brazil	Beef	2,000	2,220	11	2,080	2,072	0	-80	148	TR
	Wheat	5,600	5,250	-6	8,400	7,345	-13	-2,800	-2,095	25
	Coarse Grain	27,134	35,131	29	27,394	22,468	-18	-260	12,664	TR
	Rice	7,140	7,105	0	7,190	6,331	-12	-50	774	TR
	Sugar	8,400	9,911	18	5,800	5,299	-9	2,600	4,612	77

[a] For data on net trade, a positive number indicates imports and a negative number exports. TR indicates trade reversal.

Table A-13 continued.

Country	Commodity	Production			Consumption			Net Trade[a]		
		Original	New	Change	Original	New	Change	Original	New	Change
		(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
Argentina	Beef	2,850	3,488	22	2,599	2,253	-13	251	1,235	390
	Wheat	9,000	10,364	15	4,560	4,371	-4	4,440	5,993	35
	Coarse Grain	13,290	18,855	42	7,410	6,376	-14	5,880	12,479	112
	Rice	275	381	38	125	116	-7	150	264	76
	Sugar	1,160	1,308	13	1,011	935	-8	149	374	150
Venezuela	Beef	307	312	2	307	306	0	0	6	TR
	Wheat	1	1	38	1,051	963	-8	-1,050	-961	8
	Coarse Grain	1,890	1,419	-25	2,740	3,275	20	-850	-1,856	119
	Rice	209	183	-13	209	219	5	0	-36	TR
	Sugar	569	666	17	693	643	-7	-124	24	TR
Other Latin American	Beef	1,127	1,132	0	958	955	0	169	177	5
	Wheat	2,650	2,930	11	5,347	4,978	-7	-2,697	-2,048	-24
	Coarse Grain	5,214	5,818	12	6,025	5,021	-17	-811	798	TR
	Rice	2,286	2,879	26	2,282	2,150	-6	4	729	Large
	Sugar	2,788	2,973	7	2,787	2,704	-3	1	268	Large
Australia	Beef	1,478	1,438	-3	669	666	0	809	771	-5
	Wheat	16,190	20,998	30	690	646	-6	15,500	20,352	31
	Coarse Grain	6,650	9,166	38	3,360	2,965	-12	3,290	6,201	88
	Rice	392	510	30	27	22	-17	365	488	33
	Sugar	3,404	3,677	8	546	524	-4	2,858	3,153	10
New Zealand	Beef	466	448	-4	126	126	0	340	323	-5
	Wheat	400	544	36	380	353	-7	20	191	816
	Coarse Grain	916	1,183	29	630	561	-11	286	622	117
	Rice	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Sugar	1	1	6	167	162	-3	-166	-161	-3

[a] For data on net trade, a positive number indicates imports and a negative number exports.

Table A-13 continued.

Country	Commodity	Production			Consumption			Net Trade[a]		
		Original	New	Change	Original	New	Change	Original	New	Change
		(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
Taiwan	Beef	4	3	-14	43	49	15	-39	-46	18
	Wheat	2	2	8	868	832	-4	-866	-830	-4
	Coarse Grain	426	254	-40	4,956	3,995	-19	-4,530	-3,741	-17
	Rice	1,816	1,798	-1	1,643	1,689	3	173	109	-37
	Sugar	604	572	-5	427	704	65	177	-132	TR
South Korea	Beef	208	150	-28	208	404	94	0	-254	Large
	Wheat	5	5	0	3,905	2,954	-24	-3,900	-2,948	24
	Coarse Grain	573	439	-23	4,223	8,016	90	-3,650	-7,577	108
	Rice	5,607	3,937	-30	5,607	6,406	14	0	-2,469	Large
	Sugar	1	1	0	691	1,256	82	-690	-1,255	82
Japan	Beef	559	366	-35	815	1,232	51	-256	-866	239
	Wheat	876	457	-48	6,266	6,320	1	-5,390	-5,864	9
	Coarse Grain	351	191	-46	6,261	5,860	-6	-5,910	-5,670	-4
	Rice	10,599	4,995	-53	10,619	13,407	26	-20	-8,412	Large
	Sugar	943	584	-38	2,796	3,276	17	-1,853	-2,692	45
Other East Asian	Beef	1	1	0	93	93	0	-92	-92	0
	Wheat	1	1	0	411	323	-21	-410	-322	21
	Coarse Grain	1	1	0	551	495	-10	-550	-494	10
	Rice	1	1	0	557	547	-2	-556	-546	2
	Sugar	1	1	0	688	629	-9	-687	-628	9
Philippines	Beef	95	93	-2	99	100	1	-4	-7	-96
	Wheat	1	1	0	1,001	953	-5	-1,000	-952	5
	Coarse Grain	4,051	4,457	10	4,083	3,695	-9	-32	761	TR
	Rice	5,823	6,031	4	5,712	5,596	-2	111	435	289
	Sugar	1,561	1,713	10	1,265	1,125	-11	296	588	98

[a] For data on net trade, a positive number indicates imports and a negative number exports.

Table A-13 continued.

Country	Commodity	Production			Consumption			Net Trade[a]		
		Original	New	Change	Original	New	Change	Original	New	Change
		(1,000 Tons)		(%)	(1,000 Tons)		(%)	(1,000 Tons)		(%)
Indonesia	Beef	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Wheat	1	1	0	1,601	1,187	-26	-1,600	4,599	TR
	Coarse Grain	5,361	5,786	8	5,443	4,890	-10	-82	23,902	TR
	Rice	26,129	28,792	10	25,937	24,752	-5	192	-23,194	TR
	Sugar	1,728	1,558	-10	1,728	2,002	16	0	-2,002	TR
Malaysia	Beef	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Wheat	1	1	0	614	569	-7	-613	-568	7
	Coarse Grain	27	30	10	1,357	1,221	-10	-1,330	-1,191	10
	Rice	1,150	1,140	-1	1,475	1,494	1	-325	-354	-9
	Sugar	85	70	-17	628	567	-10	-543	-496	9
Thailand	Beef	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Wheat	1	1	0	201	169	-16	-200	-168	16
	Coarse Grain	4,401	5,284	20	1,301	1,171	-10	3,100	4,113	33
	Rice	11,880	13,838	16	7,980	7,777	-3	3,900	6,061	55
	Sugar	2,586	2,086	-19	444	515	16	2,142	1,570	-27
Other Southeast Asian	Beef	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Wheat	246	280	14	356	325	-9	-110	-45	59
	Coarse Grain	408	486	19	383	327	-15	25	159	517
	Rice	7,817	9,094	16	7,454	6,846	-8	363	2,248	518
	Sugar	391	450	15	128	122	-5	263	328	25

[a] For data on net trade, a positive number indicates imports and a negative number exports.

Table A-14. Producer and Consumer Prices for the Pacific Rim Free Trade Region, 1986.

Country	Commodity	Producer Price			Consumer Price		
		Original	New	Change	Original	New	Change
		($/Ton)		(%)	($/Ton)		(%)
U.S.	Beef	2,049	1,852	-10	3,414	3,388	-1
	Wheat	168	107	-36	122	143	17
	Coarse Grain	102	78	-24	78	86	10
	Rice	348	397	14	244	519	113
	Sugar	324	205	-37	885	608	-31
Canada	Beef	2,205	2,002	-9	3,664	3,651	0
	Wheat	149	141	-6	150	179	19
	Coarse Grain	84	72	-15	51	77	51
	Rice	210	397	89	420	607	45
	Sugar	213	205	-4	244	327	34
Mexico	Beef	1,255	2,111	68	2,281	3,137	38
	Wheat	111	142	28	135	196	45
	Coarse Grain	146	107	-26	68	119	76
	Rice	163	397	144	326	560	72
	Sugar	145	205	42	289	349	21
Other Central American & Caribbean	Beef	2,091	2,111	1	3,802	3,822	1
	Wheat	115	180	56	164	229	40
	Coarse Grain	82	126	54	91	135	48
	Rice	210	348	66	420	558	33
	Sugar	133	176	32	266	309	16
Brazil	Beef	1,000	1,232	23	2,218	2,230	1
	Wheat	358	235	-34	316	340	7
	Coarse Grain	82	167	104	91	176	93
	Rice	308	320	4	358	499	39
	Sugar	133	176	32	266	309	16
Argentina	Beef	900	1,348	50	1,636	2,084	27
	Wheat	68	90	32	95	117	23
	Coarse Grain	36	64	79	40	68	71
	Rice	210	348	66	420	558	33
	Sugar	133	176	32	266	309	16
Venezuela	Beef	2,091	2,111	1	3,802	3,822	1
	Wheat	81	127	56	114	160	40
	Coarse Grain	270	165	-39	300	196	-35
	Rice	497	373	-25	994	870	-13
	Sugar	133	176	32	266	309	16

Table A-14 continued.

Country	Commodity	Producer Price			Consumer Price		
		Original	New	Change	Original	New	Change
		($/Ton)		(%)	($/Ton)		(%)
Other Latin American	Beef	2,091	2,111	1	3,802	3,822	1
	Wheat	115	180	56	164	229	40
	Coarse Grain	82	126	54	91	135	48
	Rice	210	348	66	420	558	33
	Sugar	133	176	32	266	309	16
Australia	Beef	1,226	1,178	-4	2,122	2,133	1
	Wheat	82	109	33	100	139	39
	Coarse Grain	69	100	44	75	108	43
	Rice	121	348	187	168	411	144
	Sugar	125	176	41	214	283	32
New Zealand	Beef	1,150	1,056	-8	1,744	1,754	1
	Wheat	115	180	56	164	229	40
	Coarse Grain	82	122	48	91	131	43
	Rice	NA		NA	NA		NA
	Sugar	133	176	32	266	309	16
Taiwan	Beef	5,358	2,419	-55	9,110	6,551	-28
	Wheat	275	235	-15	485	457	-6
	Coarse Grain	389	168	-57	136	124	-8
	Rice	502	348	-31	870	695	-20
	Sugar	352	267	-24	873	467	-46
South Korea	Beef	4,605	2,419	-47	10,056	4,379	-56
	Wheat	341	213	-38	199	272	37
	Coarse Grain	426	168	-60	532	181	-66
	Rice	1,030	348	-66	1,305	632	-52
	Sugar	133	176	32	659	309	-53
Japan	Beef	10,140	3,494	-66	16,702	11,051	-34
	Wheat	1,443	213	-85	376	272	-28
	Coarse Grain	1,260	113	-91	145	128	-12
	Rice	2,274	505	-78	2,189	810	-63
	Sugar	1,026	353	-66	2,633	1,963	-25
Other East Asian	Beef	2,091	2,111	1	3,802	3,822	1
	Wheat	115	180	56	164	229	40
	Coarse Grain	87	127	46	97	137	42
	Rice	210	348	66	420	558	33
	Sugar	133	176	32	266	309	16

Table A-14 continued.

Country	Commodity	Producer Price			Consumer Price		
		Original	New	Change	Original	New	Change
		($/Ton)		(%)	($/Ton)		(%)
Philippines	Beef	2,196	2,111	-4	3,992	3,907	-2
	Wheat	138	180	30	197	239	21
	Coarse Grain	82	163	98	91	172	89
	Rice	280	330	18	560	610	9
	Sugar	133	176	32	266	309	16
Indonesia	Beef	NA	NA	NA	NA	NA	NA
	Wheat	115	180	56	164	229	40
	Coarse Grain	82	158	93	91	167	84
	Rice	266	368	38	516	591	14
	Sugar	331	263	-21	663	597	-10
Malaysia	Beef	NA	NA	NA	NA	NA	NA
	Wheat	115	180	56	164	229	40
	Coarse Grain	82	127	55	91	136	50
	Rice	386	358	-7	772	762	-1
	Sugar	350	211	-40	318	370	16
Thailand	Beef	NA	NA	NA	NA	NA	NA
	Wheat	115	180	56	164	229	40
	Coarse Grain	82	127	55	91	136	50
	Rice	219	348	59	439	568	29
	Sugar	322	188	-42	645	511	-21
Other South East Asian	Beef	NA	NA	NA	NA	NA	NA
	Wheat	115	180	56	164	229	40
	Coarse Grain	82	126	54	91	135	48
	Rice	210	348	66	420	558	33
	Sugar	133	176	32	266	309	16

Table A-15. Welfare Analysis Showing Producer-Government Surplus, Consumer Surplus, and Total Welfare Gain With the Pacific Rim Free Trade Region, 1986.

Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total	Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total
	($ Million)				($ Million)		
U.S.				**Argentina**			
Beef	-280	315	36	Beef	1,316	-1,082	233
Wheat	2,134	-626	1,508	Wheat	248	-96	152
C. Grain	3,655	-1,542	2,113	C. Grain	358	-169	189
Rice	670	-233	437	Rice	41	-16	25
Sugar	-2,517	2,751	233	Sugar	51	-42	9
Total	3,662	665	4,327	Total	2,014	-1,405	609
Canada				**Venezuela**			
Beef	-36	13	-23	Beef	11	-6	4
Wheat	1,447	-298	1,149	Wheat	0	-46	-46
C. Grain	629	-420	208	C. Grain	-358	380	22
Rice	0	-18	-18	Rice	-21	27	6
Sugar	-22	-32	-54	Sugar	28	-29	-1
Total	2,018	-756	1,262	Total	340	326	-15
Mexico				**Other LA[b]**			
Beef	1,120	-851	269	Beef	23	-20	4
Wheat	310	-289	22	Wheat	161	-329	-168
C. Grain	897	-952	-55	C. Grain	182	-216	-33
Rice	128	-73	55	Rice	336	-296	40
Sugar	244	-213	31	Sugar	118	-119	-1
Total	2,700	-2,378	322	Total	820	-979	-159
OCA&C[a]				**Australia**			
Beef	7	-6	1	Beef	18	-8	10
Wheat	3	-180	-178	Wheat	705	-26	679
C. Grain	121	-167	-46	C. Grain	258	-99	158
Rice	225	-225	0	Rice	61	-3	58
Sugar	468	-82	386	Sugar	150	-23	127
Total	824	-660	164	Total	1,192	-159	1,033
Brazil				**New Zealand**			
Beef	50	-25	25	Beef	5	-1	4
Wheat	640	-797	-156	Wheat	29	-24	5
C. Grain	1,681	-1,298	383	C. Grain	38	-23	15
Rice	973	-935	38	Rice	NA	NA	NA
Sugar	393	-239	154	Sugar	0	-7	-7
Total	3,737	-3,294	443	Total	72	-55	17

[a]Other Central American & Caribbean. [b]Other Latin American.
[c]Other East Asian. [d]Other Southeast Asian.

Table A-15 continued.

Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total	Country/ Commodity	Welfare Gain to: Producer-Government	Consumer	Total
	($ Million)				($ Million)		
Taiwan				**Indonesia**			
Beef	-34	36	2	Beef	NA	NA	NA
Wheat	-29	-43	-72	Wheat	0	-86	-86
C. Grain	-91	-117	-208	C. Grain	280	-258	22
Rice	-39	64	25	Rice	2,103	-1,885	218
Sugar	-164	219	59	Sugar	-109	127	18
Total	-354	159	-195	Total	2,274	-2,102	172
South Korea				**Malaysia**		NA	
Beef	-1,122	1,602	480	Beef	NA	-38	NA
Wheat	-15	-266	-281	Wheat	0	-52	-38
C. Grain	-1,636	1,938	302	C. Grain	1	15	-51
Rice	-2,902	3,562	660	Rice	-62	-31	-47
Sugar	-271	319	47	Sugar	5	-106	-25
Total	-5,947	7,155	1,208	Total	-56		-162
Japan				**Thailand**			
Beef	-4,035	5,622	1,587	Beef	NA	NA	NA
Wheat	-757	613	-144	Wheat	0	-11	-11
C. Grain	-188	95	-93	C. Grain	182	-50	132
Rice	-10,284	16,040	5,756	Rice	1,697	-1,014	683
Sugar	-1,923	2,021	98	Sugar	71	64	135
Total	-17,187	24,391	7,204	Total	1,950	-1,011	939
Other EA[c]				**Other SEA[d]**			
Beef	0	-2	-2	Beef	NA	NA	NA
Wheat	0	-21	-21	Wheat	16	-22	-6
C. Grain	0	-20	-20	C. Grain	18	-14	4
Rice	0	-74	-74	Rice	1,170	-982	188
Sugar	0	-28	-28	Sugar	18	-5	13
Total	0	-146	-146	Total	1,222	-1,023	199
Philippines							
Beef	-8	8	0				
Wheat	-23	-41	-64				
C. Grain	220	-199	21	**Regional**			
Rice	295	-279	16	**Total**	-845	18,059	17,214
Sugar	67	-51	17				
Total	551	-561	-10				

[a]Other Central American & Caribbean. [b]Other Latin American.
[c]Other East Asian. [d]Other Southeast Asian.

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