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Agricultural Trade and Protection in Asia 1/

Prepared by Dean A. DeRosa

Authorized for distribution by Nihad M. Kaibni

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Abstract

The study reveals agricultural import restrictions are widely applied in Asia, but that Japan and Korea impose lower average tariffs and nontariff barriers with less frequency than most Asian countries. It also finds several low and middle-income countries enforce relatively low protection for basic foodstuffs, while high-income countries tend to impose relatively high protection for foods. Finally, commodity patterns of trade and protection suggest scope exists for successful reciprocal negotiations to liberalize agricultural trade mainly between low and middle-income Asian countries. Though similar gains might be achieved by unilateral liberalization, reciprocal negotiations are more feasible politically and, on a most-favored-nation basis, would imply greater trade expansion.

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### Summary

This paper examines the structure of agricultural trade and nominal protection of agriculture in Asia. In particular, against the background of increasing global interest in liberalizing agricultural trade and of the opportunities for expanded trade presented by the vast and growing Asian market, the paper surveys, by using information compiled by the United Nations Conference on Trade and Development and the World Bank, the dimensions of agricultural production and trade in the region and investigates the variety and frequency of restrictive import measures enforced by Japan and several major developing Asian countries.

While consideration of the differences in economic structures and the commodity patterns of agricultural production and trade across Asian countries provides insight into the importance of agriculture in Asia and the dimensions of agricultural trade in the region, the principal findings of the study concern the nature and extent of barriers to imports of foods and agricultural raw materials erected by the Asian economies. Most widely applied are tariffs and quantitative restrictions. Hong Kong and Singapore impose virtually no controls, however, and Japan and Korea tend to impose lower average tariff rates and to apply nontariff barriers with less frequency than most other Asian economies.

The structure of agricultural protection varies from country to country and is difficult to interpret without information about underlying national agricultural policies. Nevertheless, the data indicate that several low- and middle-income countries enforce relatively low levels of protection against imports of basic foodstuffs, especially cereals, while high-income countries tend to impose relatively high levels of protection against food commodities.

Finally, the paper reports the results of an exploratory analysis, based on detailed information about the commodity patterns of agricultural trade and protection in Asia, that investigates which Asian countries might have mutual interests in reciprocal reductions of tariffs or quantitative restrictions on imports of agricultural commodities. The results suggest that appreciable scope exists for successful negotiations to liberalize agricultural trade between low- and middle-income Asian countries. Similar gains might be achieved by unilateral trade liberalization, but policymakers are likely to find it more feasible to engage in reciprocal negotiations for political reasons. Additionally, if import barriers are reduced on a most-favored-nation basis, reciprocal negotiations have the advantage that agricultural trade would be expanded to a greater degree and the resulting economic benefits enjoyed more widely by Asian countries.

## I. Introduction

Over the past decade production has generally outpaced the growth of demand for agricultural commodities in the world economy, resulting in weak or falling prices for many agricultural commodities. To an important extent supply has expanded rapidly because of productivity increases in developing as well as industrial countries. This development may be regarded as a positive one in part, because it indicates the potential of many developing countries for greater economic development and self-sustaining growth. The growth of agricultural productivity in industrial countries, on the other hand, is less fortunate, because it is often indicative of national agricultural policies and programs that raise output in response to artificially high domestic prices or production subsidies. <sup>1/</sup>

Among the most important proposals to improve conditions in world markets for agricultural commodities are those to reduce trade-distorting agricultural policies. <sup>2/</sup> These proposals have focused mainly on the policies of the major industrial countries--the United States, the European Community countries, and Japan--where the budgetary costs of agricultural production and export subsidy programs have grown to alarming proportions despite declining world prices. The economic costs of other trade-distorting measures, particularly tariffs and other border measures that influence trade flows more directly, are less transparent to fiscal authorities but equally large, including in less developed countries where such measures are replicated with similar if not greater adverse consequences for domestic economic efficiency and well-being.

This paper examines agricultural trade and protection in the Asian region. Though Asia is widely cited for its rapid economic growth, increasing industrial capacity and strong export performance, agriculture still accounts for an appreciable share of the output of most Asian countries. Thus, the region has an important interest in agricultural trade and the factors affecting its magnitude and direction. While distortions arising

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<sup>1/</sup> For a recent discussion of agricultural policies and programs in the major industrial countries, including an assessment of their economic costs, see Dale E. Hathaway, Agriculture and the GATT: Rewriting the Rules (Washington, D.C.: Institute for International Economics, September 1987).

<sup>2/</sup> In the current round of GATT multilateral trade negotiations, the United States has tabled a broad proposal to eradicate trade-distorting agricultural policies and practices of the major industrial countries by the end of the century. The European Community and Japan have also tabled proposals, but ones that are considerably less liberal in perspective. The Cairns Group, an independent coalition of agricultural exporting countries, whose membership notably includes four developing Asian countries (Indonesia, Malaysia, the Philippines and Thailand), has expressed basic support for the U.S. proposal. See, General Agreement on Tariffs and Trade, Focus: GATT Newsletter (recent issues).

from policies in the major industrial countries are of particular concern, the focus here is on distortions to regional trade arising from policies in the developing Asian countries as well as Japan. Given the vastness of Asia and the expectation that its economic growth will remain strong, Asia constitutes an important market whose potential would be further enhanced by more liberal trade arrangements for agricultural as well as manufactured goods exchanged in the region.

The paper is organized in four parts. Part I briefly describes the Asian economies, their basic economic structure, and the general posture of their trade and industrial policies. Part II then examines the dimensions of agricultural production and trade in the region, and highlights basic differences in the importance of agriculture and in national policies towards the sector across countries. In Part III the variety and frequency of import control measures enforced by Asian countries against agricultural commodities are investigated using recent information compiled by the United Nations Conference on Trade and Development (UNCTAD) and the World Bank. The section also explores the possibilities for reciprocal trade negotiations between Asian countries to reduce tariffs and quantitative restrictions on imports of agricultural commodities. Finally, Part IV summarizes the findings of the paper regarding the importance of political distortions to agricultural trade in Asia and the possibilities for liberalizing the region's agricultural trade through reciprocal negotiations between Asian countries.

## II. The Asian Economies

Asia may be regarded as divided primarily among Japan and the less developed countries of three major areas: Central and South Asia, Southeast Asia, and East Asia. The countries in the three areas are essentially low, middle- and high-income countries, respectively. In broad terms, although Japan and the newly industrializing countries (NICs) in East Asia are among the smallest countries in area and population, they are the most capital abundant and enjoy the highest standards of living, followed by the countries of Southeast Asia and, finally, China and the countries of South Asia (Table 1).

The low-income countries tend to have relatively large agricultural sectors and to exhibit relatively low ratios of trade to output. In terms of resource endowments, these countries are generally populous and relatively abundant in basic labor services. China and some South Asian countries are also relatively abundant in arable lands and natural resources. However, with some middle-income Southeast Asian countries, these countries have not achieved net exports in labor intensive manufactures approaching the high rates found among the outward-oriented East Asian NICs. Indeed, it is striking that low-income countries such as India and Pakistan are actually net exporters of capital intensive basic manufactures such as steel and textiles.

Table 1. Basic Economic Indicators, 1985

	Population	Area	Per Capita Income	Output by Sectors			Trade	
				Agriculture	Industry	Services	Exports	Imports
	(In millions)	(Th. km <sup>2</sup> )	(In US\$)	(Percent of GDP)				
Japan	120	372	11,300	3	41	48	18	13
Central, South Asia								
China	1,040	9,561	310	33	47	20	12 <u>1/</u>	17 <u>1/</u>
Bangladesh	101	144	150	50	14	36	7	17
India	765	3,288	270	31	27	41	4	7
Pakistan	96	804	380	25	28	47	9	18
Sri Lanka	16	66	380	27	26	46	22	30
Southeast Asia								
Indonesia	162	1,919	530	24	36	41	23	21
Malaysia	16	330	2,000	24 <u>2/</u>	36 <u>2/</u>	41 <u>2/</u>	49	36
Papua New Guinea	4	462	680	...	...	...	40	38
Philippines	55	300	580	27	32	41	14	15
Thailand	52	514	800	17	30	53	19	22
East Asia								
Hong Kong	5	1	6,230	1	31	68	84	83
Korea	41	98	2,150	14	41	45	35	34
Singapore	3	1	7,420	1	37	62	130	142
Taiwan	19	36	2,670 <u>3/</u>	6	50	44	50 <u>3/</u>	41 <u>3/</u>

Sources: Asian Development Bank, Key Indicators of Developing Member Countries of the ADB; International Monetary Fund, International Financial Statistics; and World Bank, World Development Report.

- 1/ Percent of national income.  
2/ 1982.  
3/ 1983.



These anomalies can be traced in part to differences of trade and protection policies among Asian countries, and more fundamentally to differences of import substitution policies intended to promote industrialization. 1/ The low and middle-income countries generally enforce higher average tariff levels and often more frequently impose nontariff barriers than either Japan or the East Asian NICs (Table 2). Moreover, at least with regard to capital intensive manufactures (i.e., chemicals, basic manufactures, machinery and transport equipment), the South Asian countries, followed by the Southeast Asian countries, enforce particularly high tariff levels against imports of basic manufactures. Japan and some East Asian countries, on the other hand, enforce relatively high rates of protection against imports of food and related agricultural goods. Thus, in broad terms, the less developed Asian countries tend to protect basic industries, encouraging resources to be transferred from more efficient alternative uses in agriculture and labor intensive industrial sectors. In the high-income Asian countries the situation is just the reverse; agriculture tends to be highly protected, with the result that greater resources are devoted to the sector than is efficient from a global perspective.

Many low- and middle-income Asian countries have gradually adopted more liberal economic policies, following the example of Japan and the NICs. Indeed, the recent history of the region has been one of increasing trade, both with the major industrial countries and among developing countries within region. 2/ As a result, the region has enjoyed high rates of economic growth and has become an increasingly important market for a wide range of goods. These developments are generally associated with the region's expansion of output and trade of manufactures, but agriculture remains an essential part of many Asian economies and offers no less an area for expanding output and trade.

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1/ For a more extensive discussion by the author of trade and industrial policies in developing Asian countries, see Dean A. DeRosa, "Trade and Protection in the Asian Developing Region," Asian Development Review, Vol. 4, No. 1 (1986), pp. 27-62; and "Industrialization Policies and Experiences in Developing Asia," in Seiji Naya, Vinyu Vichit-Vadakan and Udom Kerdpibule, editors, Direct Foreign Investment and Export Promotion: Policies and Experiences in Asia (Kuala Lumpur: Southeast Asian Central Banks Research and Training Centre and East-West Resource Systems Institute, 1987).

2/ The determinants of this gradual process of liberalization differ from country to country. Among the possible factors are enlightened leadership, bilateral and multilateral pressures for reform, heightened domestic support for trade liberalization, and the exigencies of political and economic circumstances requiring the adoption of more liberal economic policies. On the growth of South-South trade in Asia, see Burnham O. Campbell, "Trade between Asian Developing Countries: Record and Prospects," Asian Development Review, Vol. 4, No. 2 (1986), pp. 57-92.

Table 2. Tariffs and Quantitative Import Restrictions  
(Percentages)

	Trade Category						
	Resource intensive			Capital intensive			Labor intensive
	Food and food products	Crude mat.	Mineral fuels	Chemicals	Basic manuf.	Mach., trans. equip.	Misc. manuf.
	<u>Average tariff levels</u>						
Japan	13	5	4	5	6	4	7
South Asian countries	86	46	34	51	74	48	84
Southeast Asian countries	24	10	6	14	21	18	27
East Asian Countries	14	4	4	6	9	7	14
	<u>Frequency of quantitative restrictions</u>						
Japan	36	22	9	13	13	1	7
South Asian countries	28	14	8	28	22	38	26
Southeast Asian countries	16	12	13	5	16	14	4
East Asian countries	18	5	0	7	4	11	8

Source: Dean A. DeRosa, "Trade and Protection in the Asian Developing Region," Asian Development Review, Vol. 4, No. 1 (1986), pp. 27-62; and World Bank, International Economics Department (Trade Division).

Notes: See above table for definition of trade categories. Tariff levels refer to simple averages of ad valorem tariff rates. Frequency ratios refer to the number of occurrences of quantitative controls (restrictive import licensing, quotas and prohibitions) in a given trade category relative to the total number of items in the category. Values reported for country groups are averages using U.S. dollar values of gross domestic output as country weights.

### III. The Agricultural Sector and International Trade

#### 1. Agriculture and economic transformation

The importance of the agricultural sector varies greatly from one Asian country to another. In Japan and the high-income East Asian countries, agriculture constitutes a small part of the domestic economy, and accordingly considerable reliance is placed on imports of foodstuffs and other agricultural commodities. In the low and middle-income countries of Asia, the situation is much different; agricultural production typically amounts to between one quarter and one third of gross domestic output. Policymakers in these countries are concerned extensively with the process of transforming mainly agrarian economies to ones in which industry plays a substantial role. Though this process is advanced beyond the earliest stages in most Asian countries, policies to promote expansion of industry remain preeminent in many developing Asian countries, with the agricultural sector often still viewed primarily as the source of labor, staple agricultural goods and rural savings with which to sustain the growth of urban-based modern industries.

Industrialization policies in developing Asia, as in other developing regions, have frequently resulted in serious economic distortions, particularly of two sorts. First, through credit rationing and low administered interest rates for industrial investments, investment in the agricultural sector has frequently been subordinated to investment in the industrial sector. Though considerable domestic and foreign savings should rationally flow to labor intensive industrial activities in developing Asian countries, many investments in industry have been excessively capital intensive and thus have denied valuable resources to the agricultural sector for still highly productive investments in irrigation and tube well construction, draft animals, mechanization, and even working capital to finance new seed varieties and other inputs.

Second and more directly related to the issues here, industrialization policies have sought to raise the relative price of industrial goods and to lower the relative price of many wage-goods, especially basic foodstuffs such as rice, cooking oils and other staples. These policies, typically enforced by combinations of direct price controls and trade restrictions, encourage local and foreign investors to channel resources to industrial activities and promote migration of labor from rural areas to urban areas. They also erode incentives to agricultural producers, causing output and productivity in the agricultural sector to be lower than elsewhere. Moreover, possibilities for specialization within the agricultural sector, following the international comparative advantage of countries relatively abundant in arable land and other agricultural resources, are frequently thwarted or appreciably reduced. Food security concerns, measured by food consumption needs at artificially low relative prices, in particular often outweigh efficiency and welfare-improving possibilities for greater specialization in the production and export of agricultural products when national economic policies are formulated.

In Japan, Korea, and Taiwan Province of China (hereafter Taiwan) the political economy of the agricultural sector is much different. Because the agricultural sectors of these countries are small relative to their economic size, local agricultural interest groups are more "concentrated" and hence are able to wield greater political power, in particular, to effect economic policies favoring the agricultural sector. Thus, in these countries producers of such staples as rice are often able to motivate policies restricting competitive imports or subsidizing domestic production. As a result, relative prices of agricultural wage-goods are frequently high, and local farmers are more numerous and inefficient than they otherwise would be. 1/

## 2. Agricultural Production and Trade

### a. Production

Production of agricultural goods is greatest generally in the most populous Asian countries, particularly China and India (Table 3). On a per capita basis, however, production is higher in smaller countries of the region, particularly Thailand, Malaysia and Taiwan. Food commodities are principally produced. These include especially such staples as rice, wheat, vegetables and sweet potatoes. But they also include such primarily exported products as sugar, tea, oilseeds and vegetable oils, fruits, and cassava. Though rice is a principal crop in nearly all Asian countries, significant production of other cereals is found in China and the South Asian countries, while production of other tropical foods occurs mainly in the Southeast Asian countries. Meat and dairy products contribute importantly to agricultural output in Japan, Korea and Taiwan.

Production of agricultural raw materials is generally of less relative importance in volume terms. Nevertheless, "plantation" crops such as cotton (Pakistan), jute (Bangladesh), and rubber (Malaysia, Sri Lanka, and Thailand) are among the principal agricultural products of some countries. Timber and basic wood products are also important, especially in several Southeast Asian countries.

### b. Trade

With the possible exception of some fresh fruits and vegetables, the principal agricultural products of the Asian countries are all tradable. It is relevant therefore to examine what patterns of comparative advantage are revealed in the agricultural commodity trade of these countries, and whether these patterns are discernibly related to local patterns of agricultural specialization.

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1/ For an overview of the general agricultural policies of Japan and individual developing Asian countries, see Economic Research Service, U.S. Department of Agriculture, The Agricultural Policies of Foreign Countries (Washington, D.C.: U.S. Department of Agriculture, forthcoming).

Table 3. Agricultural Output and Principal Agricultural Products, 1985

(In millions of metric tons)

Country	Total Output	Principal Products		
		Output	Foods	Raw Materials
Japan (JA)	60	43	Rice**, vegetables**, milk*, sugar beets*, potatoes*	
Central, South Asia				
China (CH)	496	421	Rice***, wheat***, other grains***, sugarcane***, potatoes**	[Cotton*, jute*, tobacco*]
Bangladesh (BA)	38	34	Rice**, sugarcane*, poultry*, wheat*	Jute*
India (IN)	442	369	Sugarcane***, rice***, wheat**, milk**, potatoes**	[Jute*, cotton*]
Pakistan (PA)	50	48	Sugarcane**, wheat**, rice*, cottonseed*	Cotton*
Sri Lanka (SR)	4	4	Rice*, cassava, copra, tea, sweet potatoes	
Southeast Asia				
Indonesia (IO)	90	84	Rice**, sugarcane**, cassava**, corn*, sweet potatoes*	[Rubber]
Malaysia (MA)	12	10	Palm oil*, rice*, palm kernels*, sugarcane*	Rubber*
Papua New Guinea (PN)	...	...	Copra, coffee, cocoa, tea	Rubber
Philippines (PH)	41	35	Sugarcane**, rice*, corn*, bananas*, copra*	[Tobacco]
Thailand (TH)	73	71	Sugarcane**, rice**, cassava**, corn*, coconuts*	[Rubber]
East Asia				
Hong Kong (HK)	...	...	Vegetables, poultry, pork	
Korea (KO)	21	17	Rice*, vegetables*, milk*, sweet potatoes, potatoes	[Tobacco]
Singapore (SI)	...	...	Vegetables, pork, poultry	
Taiwan (TA)	17	15	Sugarcane*, vegetables*, rice*, fruit*, pork*	[Tobacco]

Source: U.S. Department of Agriculture, World Indices of Agricultural and Food Production, 1987; and Economist Intelligence Unit, Country Profiles, 1986-87.

Notes: Principal products are the five major crops or other agricultural products of each country, excluding fishery and wood products. Asterisks denote output volume greater than 1 (\*), 10 (\*\*), or 50 (\*\*\*) million metric tons. Products in brackets are major raw material products not among the five principal agricultural products of the country. Information for Papua New Guinea and Hong Kong refer to the 1983 and 1985 output levels respectively.

The agricultural trade of the major Asian countries accounts for roughly 15 percent of world agricultural trade (Table 4). The region's imports are greater than its exports. However, this is mainly explained by Japan's trade, which accounts for more than 40 percent of total Asian imports, and by the trade of the high-income, resource scarce East Asian NICs. The major Asian exporting countries, on the other hand, are Malaysia, which accounts for more than 20 percent of the region's total exports, and other relatively land or resource abundant Asian countries--principally China, Thailand and Indonesia.

The region's trade in food commodities is roughly twice the value of its trade in raw materials. However, Asia plays a major role in world markets for some agricultural raw materials. With regard to exports, rubber is Asia's single most important raw material export, and the region is the source of about half of the world's rubber exports. With regard to imports, wood and natural fibers are the most important; the region's imports of these commodities account for about one third of total world trade in each category. 1/

Asia's trade in agricultural goods is dominated by its trade with industrial countries outside the region, particularly in such commodities as wheat, maize, oilseeds, tobacco, and natural fibers. Regional trade, however, is a considerable share of total Asian trade in agricultural commodities. Trade between developing Asian countries and Japan in such commodities as fish and timber is especially important. However, regional "South-South" trade in such commodities as fruits and vegetables, sugar, vegetable oils, and rubber is also sizable. Trade in agricultural commodities with less developed countries outside of the region is comparatively limited.

c. Comparative advantage

The comparative advantage of Asian countries in agricultural commodities can be considered in a proximate way by examining "revealed" comparative advantage. 2/ Here, the composition of net exports of each country by

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1/ The aggregate data in Table 4 mask the importance of the Asian region to world trade in some individual food commodities. In particular, the region's exports of fish, rice, vegetable oils, tea and spices comprise between one third and one half of total world exports of each commodity. Similarly, the region's imports of fish, wheat and oilseeds are appreciable relative to total world exports of these commodities.

2/ The concept of revealed comparative advantage was first introduced by Bela Balassa with a view to representing the trade performance of countries across all goods and commodity categories in such a way as to gain insight to the sources of comparative advantage among trading countries. Balassa's approach is adapted here to the special case of trade in agricultural commodities only. See Bela Balassa, Trade Liberalization Among Industrial Countries (New York: McGraw-Hill Book Company, 1967).

Table 4. Agricultural Trade by Commodity Division, 1985 <sup>1/</sup>

(In billions of U.S. dollars)

Commodity Division	World Exports	Asian Countries				Direction of Trade <sup>2/</sup>		
		Exports		Imports		Regional		Other
		Total	Principal exporters	Total	Principal importers	Japan	Other Asia	Industrial countries
						----- (In percent) -----		
All commodities	195.8	28.8	MA*, CH, TH, IO	37.8	JA**, KO, SI, TA	13	31	46
Foods	146.6	19.7	CH, TH, MA, TA	24.3	JA**, SI, KO, TA	11	31	46
Meats, fish, dairy products	42.3	5.5	TA*, KO, CH, JA	7.7	JA**, HK, SI, MA	24	29	40
Cereals	32.5	2.2	TH**, CH*, PA, SI	6.9	JA**, CH, KO, TA	2	24	47
Fruits, vegetables	25.2	3.6	TH*, CH*, TA, PH	2.5	JA*, HK, SI, MA	13	45	41
Sugar	5.8	0.8	TH*, PH*, KO, CH	0.9	JA*, IN*, CH, MA	8	52	26
Seeds, oils	19.8	4.4	MA**, SI, CH, IO	4.6	JA**, SI, PA, TA	5	39	47
Beverages, spices	21.1	3.3	IO*, SI, CH, IN	1.9	JA**, SI, PA, MA	4	31	31
Raw materials	49.2	9.1	MA*, IO, CH, MA	13.4	JA**, KO, CH, TA	15	30	46
Tobacco	3.8	0.3	KO*, IO*, IN, TH	0.7	JA**, TA, HK, PH	2	6	79
Rubber	6.7	3.7	MA*, SI, IO, TH	1.7	JA*, SI*, KO, CH	12	49	31
Wood	14.4	2.9	MA*, IO, SI, PH	4.5	JA**, KO, CH, SI	27	33	34
Natural fibers	11.1	1.9	CH**, PA*, JA, BA	3.7	JA**, KO, CH, TA	12	33	46
Others (hides, pulp)	13.1	0.3	CH*, SI, JA, HK	2.8	JA**, KO*, TA, CH	8	26	60

Source: World Bank, Trade Analysis and Reporting System.

<sup>1/</sup> Underlying data for China are for the year 1984.

<sup>2/</sup> Average percentage share in Asian countries exports and imports of the indicated commodities. Other industrial countries comprise Australia, Canada, New Zealand, the United States, and the industrial countries of Europe.

Notes: See Appendix for definition of commodity divisions and Table 3 for country abbreviations. \*\*(\*) indicates that the country share in total Asian exports or imports of the indicated commodities is 40(20) percent or greater.

ten major categories of food and agricultural raw materials is examined, along with the magnitude and direction of each country's total agricultural trade (Table 5).

Japan and the East Asian NICs are predominantly net importers of agricultural commodities. <sup>1/</sup> The comparative disadvantage of these countries is especially pronounced in such commodity categories as meats (mainly fish) and dairy products, cereals, wood, and natural fibers. Korea and Taiwan, however, are strong net exporters of meats (fish), dairy products, fruits and vegetables. Therefore, though the advanced Asian countries have a comparative disadvantage in producing and exporting most agricultural commodities, there are commodities in which some East Asian countries are competitive export producers.

By contrast, the middle-income, resource-abundant countries of Southeast Asia are all net exporters of agricultural commodities. The most prominent exporters are Malaysia and Thailand, but each of the Southeast Asian countries exports several times as much as it imports. Together, these countries exhibit strong comparative advantage in vegetable oils and spices among foods, and in rubber and wood among raw materials. The Philippines additionally reveals a strong comparative advantage in fruits and sugar, and Thailand additionally reveals a strong comparative advantage in rice and vegetables (chiefly cassava). The principal commodity categories in which the Southeast Asian countries appear to have a comparative disadvantage are cereals (except Thailand) and natural fibers.

Turning finally to the situation of the populous but geographically large, Central and South Asian countries, only China and Sri Lanka are strong net exporters of agricultural goods; India is a weak net exporter whereas Bangladesh and Pakistan are both net importers. In terms of magnitude, China's trade is much larger than that of the other low-income countries, and the total value of its exports rivals that of the exports of either Malaysia or Thailand. However, China is also a large importer; in total value its imports approximate those of the East Asian NICs, although they still fall short of the magnitude of Japan's imports.

The revealed comparative advantage of China and the South Asian countries is mainly in meats (chiefly fish), beverages (chiefly tea) and spices, and natural fibers. China additionally appears to be a competitive exporter of vegetables, while Sri Lanka additionally is a competitive exporter of rubber. The revealed comparative disadvantage of the Central and South Asian countries, on the other hand, is in cereals, sugar and vegetable oils.

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<sup>1/</sup> Although Singapore is seen to be a net exporter in Table 5, the country is something of a special case. Situated at the tip of the Malay Peninsula, Singapore is historically an entrepot center for Malaysia and other Southeast Asian countries, and, as a result, its trade statistics may be somewhat inflated if not actually distorted. Similar considerations may also apply to the statistics reported for Hong Kong which is an entrepot center for China and to some extent for Taiwan and the Philippines.



Table 5. Commodity Composition and Direction of Agricultural Trade by Country, 1985

	Net Exports by Commodity Division												Direction of Trade			
	Exports	Imports	Foods						Raw Materials				Regional		Other industrial countries	
			Meats, dairy products	Cereals	Fruits and vegetables	Sugar	Seeds and oils	Beverages and spices	Tobacco	Rubber	Wood	Natural fibers	Japan	Other Asia		
(In billions of US\$)			(In percent) 1/									(In percent) 2/				
Japan	1.7	20.4	24	24	-5	-1	-8	-5	-2	-1	-15	-6	0	38	50	
Central, South Asia																
China 3/	4.1	2.2	12	12	12	-1	8	7	0	-3	-6	8	14	24	47	
Bangladesh	0.3	0.6	6	6	-1	-2	-20	4	0	0	-1	7	10	30	36	
India	1.3	1.0	14	14	5	-6	-5	18	3	-2	0	-3	14	16	58	
Pakistan	0.9	1.2	3	3	0	1	-29	-9	0	-1	0	18	7	37	29	
Sri Lanka	0.6	0.3	-3	-3	3	-6	4	38	0	7	1	1	6	23	47	
Southeast Asia																
Indonesia	2.7	0.7	6	6	2	1	10	23	1	18	11	-4	12	15	66	
Malaysia	5.9	1.1	-1	-1	-1	-1	25	4	-1	19	29	-1	13	49	29	
Papua New Guinea	0.5	0.1	-10	-10	-1	1	23	34	0	1	17	-1	23	6	64	
Philippines	1.4	0.5	4	4	18	10	19	3	-1	0	8	-1	14	21	67	
Thailand	3.7	0.5	14	14	20	6	0	1	0	11	-2	-3	11	32	37	
East Asia																
Hong Kong	0.2	1.5	-24	-24	-18	-2	-5	-4	-3	-1	-5	-8	19	64	44	
Korea	1.2	3.3	16	16	3	0	-8	-1	2	-5	-10	-13	33	16	45	
Singapore	2.5	2.2	-1	-1	-2	0	2	3	0	5	1	0	5	54	23	
Taiwan	1.9	2.2	21	21	10	1	-9	1	-1	-2	-1	-6	31	10	53	

Source: World Bank, *Trade Analysis and Reporting System*.

1/ Net exports by commodity division as a percentage of total agricultural exports and imports.

2/ Average percentage share in country's total exports and imports. Other industrial countries comprise Australia, Canada, New Zealand, the United States, and the industrial countries of Europe.

3/ 1984 values.

Notes: See Appendix for definition of commodity divisions.

To some extent, the comparative advantage of the Asian countries is also reflected in the direction of their agricultural trade. As noted previously, the strongest trade ties are most often with industrial countries outside Asia, especially in certain cereals and raw materials. However, for some agricultural commodities considerable regional trade occurs. Countries that have strong comparative advantage in meat and fish products (Taiwan, Korea and China) also tend to trade appreciably with Japan. The two entrepot centers, Hong Kong and Singapore, exhibit especially strong trade ties with neighboring countries. Finally, a number of low and middle-income countries have strong trading ties in such foods as sugar, vegetable oils, and, in the case of Thailand, rice.

Considerable correspondence exists between the principal agricultural products of several Asian countries and the commodity divisions in which the countries are net exporters. More difficult to interpret are the equally prominent cases in which high rates of domestic production of some commodities are correlated with net imports of the same commodities, such as in the case of rice and sugarcane. Contributing to this situation may be exceptionally strong domestic demands for these staples. But agricultural trade policies and the national economic policies circumscribing them are undoubtedly also important in both the advanced and less developed countries of Asia.

#### IV. Agricultural Protection

##### 1. Trade policies and protection

Agricultural trade policies encompass a variety of measures intended to affect the flow of agricultural commodities between countries. These measures frequently include controls on exports as well as imports. Detailed information about the application of export restrictions is not widely available, but, in general, export controls are important elements of the trade policies of many commodity exporting developing countries. In Asia, several low and middle-income countries restrict agricultural exports through tariffs or state-directed marketing boards for such commodities as rice, sugar and cotton.

Although export restrictions are important, the focus here is on agricultural protection. <sup>1/</sup> By contrast to the situation surrounding export controls, considerable information about import tariffs and non-tariff barriers (NTBs) is available for the Asian countries, chiefly from detailed inventories compiled by the United Nations Conference and Trade and Development (UNCTAD) and other international organizations. This

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<sup>1/</sup> For an analysis of the economic costs and other implications of developing country taxes on exports, see Stephen S. Golub and J. M. Finger, "The Processing of Primary Commodities: Effects of Developed Country Tariff Escalation and Developing Country Export Taxes," Journal of Political Economy, Vol. 87, No. 3 (June 1979), pp. 559-77.

information is examined in some detail here, first with the objective of determining the incidence and structure of agricultural protection in Asian countries and second with the objective of exploring possibilities for expanding agricultural trade in Asia through reciprocal negotiations to reduce tariffs and other import barriers in the region.

Information about agricultural protection policies in eleven developing Asian countries is drawn from UNCTAD's Trade Information System which classifies restrictive import measures in less developed countries according to several primary categories: tariffs and preferential trade arrangements; other discriminatory fiscal charges; quantitative restrictions in the form of restrictive licensing arrangements, quotas, and prohibitions; foreign exchange and related financial controls; state trading and compulsory national services; and special entry procedures that stipulate health and sanitary requirements or technical and other product standards for imported goods. <sup>1/</sup> The eleven countries covered by the UNCTAD data comprise the major developing countries of Asia except China, whose imports are still largely controlled by the country's national authorities by means of quantitative restrictions and state trading, and Taiwan, whose agricultural policies are similar to those of Korea.

Information about agricultural protection policies in Japan is drawn from an inventory maintained by the International Economics Department of the World Bank. <sup>2/</sup> The typology of import barriers cataloged by the World Bank inventory, which covers restrictive trade policies of only the major industrial countries, is somewhat less extensive than that of the UNCTAD inventory; in particular, the World Bank inventory does not provide information about preferential trade arrangements, state trading, or import entry regulations. <sup>3/</sup> Otherwise, however, the information gathered

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<sup>1/</sup> The UNCTAD Trade Information System (TIS) was developed to support the Group of 77 proposal for a general system of trade preferences among less developed countries. An early discussion and overview of the system is provided in Maciej J. Tymowski, "Trade Information System on Barriers to Trade among Developing Countries: Methodological Considerations and Selected Initial Findings," World Bank Conference on South-South or North-South Trade, Brussels, March 1983. Additionally, it should be noted that the TIS data generally provide no indication of the extent to which imports related to industrial and other projects favored by national development plans may be exempt from statutory tariff and nontariff barriers. For some evidence of the potential importance of this consideration, see M. M. Kosteci and M. J. Tymowski, "Customs Duties versus Other Import Charges in the Developing Countries," Journal of World Trade Law, Vol. 19, No. 3 (May-June 1985), pp. 269-286.

<sup>2/</sup> For a description of the World Bank inventory, see Julio J. Nogues, Andrzej Olechowski and L. Alan Winters, The Extent of Nontariff Barriers to Industrial Countries' Imports, Discussion Paper No. DRD 115 (Washington, D.C.: World Bank, January 1985).

<sup>3/</sup> Insight to the importance of these types of import controls for exports of developing countries to Japan is provided in Barriers to the Exports of Developing Asian Countries (Manila: Asian Development Bank, forthcoming).

for Japan is very similar to the UNCTAD data, especially in its coverage of tariffs and quantitative restrictions.

The relative economic implications of different types of protection measures are often difficult to assess. <sup>1/</sup> Tariffs, especially ad valorem tariffs, are readily measured and, given their direct effects on domestic prices, their economic implications are straightforward. Nontariff barriers, on the other hand, tend to affect prices more indirectly, and therefore their economic costs and other implications are more difficult to quantify and assess. Additionally, information about nontariff measures is not always of uniform quality across countries, and as a result questions arise about the extent to which some nontariff restrictions discriminate against imports. In this regard, health and product standards pose a special problem because they may be enforced equally against commodities and goods produced domestically.

In the analysis here, average levels of ad valorem tariffs and frequency ratios of other tariffs and nontariff barriers are examined. A frequency ratio indicates the extent to which an import restriction occurs within a given trade category; that is, it measures the percentage of customs line items within an aggregate trade category covered by the given import regulation. Though the economic content of frequency ratios is limited by comparison to, say, tariff-equivalent measures of nontariff barriers, the measure provides a useful starting point for examining the incidence and structure of agricultural protection across countries.

## 2. Overview

Table 6 provides a general view of tariffs and nontariff barriers enforced by Asian countries to control agricultural imports. More detailed data, including greater information about the precise types of import barriers imposed by each country, are presented in the Appendix. <sup>2/</sup>

### a. Tariffs

The general tariff schedules of most Asian countries include both ad valorem and specific tariffs. Ad valorem tariffs, however, are by far the most important and common form of tariff, generally involving frequency rates higher than 80 percent in connection with imports of both foods and agricultural raw materials.

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<sup>1/</sup> An analytical survey of the economic implications of various forms of nontariff trade restrictions is provided by Alan V. Deardorff and Robert M. Stern, Methods of Measurement of Nontariff Barriers, United Nations Conference on Trade and Development, UNCTAD/ST/MD/28 (1985).

<sup>2/</sup> The more detailed information in the Appendix also provides an indication of the extent to which some developing Asian countries have recently liberalized their trade policies through GATT bindings of reduced tariffs on some commodity imports and the introduction of less restrictive, open licensing arrangements.

Table 6. Principal Barriers to Agricultural Imports  
(Frequency ratios and average tariff levels in percent)

Country (Preferential trade arrangements)	Commodity Division	Tariffs				Non-Tariff Barriers				
		General 1/ Frequency	Avg. level	Preferential Frequency	Avg. level	Quantitative Restr. licensing	Quotas	Prohib.	State trading	Entry regulations
Japan <u>2/</u>	All	...	11	...	...	24	12	3	...	...
	Foods		15			31	15	2		
	Raw mat.		7			1		6		
South Asia										
Bangladesh (BK)	All	97	62	2	1	36		37	1	2
	Foods	98	66	2	1	44		30	1	3
	Raw mat.	94	57	5	2	18		56	3	
India (BK, CW) <u>3/</u>	All	99	106	20	67	40		71	19	3
	Foods	99	119	28	67	47		65	20	4
	Raw mat.	98	92			26		83	18	
Pakistan <u>4/</u>	All	93	59			43	2	39	5	
	Foods	93	75			33	3	55	7	
	Raw mat.	94	43			70		5		
Sri Lanka (BK)	All	95	34	2	0	9			4	
	Foods	95	48	1	0	9			4	
	Raw mat.	94	21	4	0	9			1	
Southeast Asia										
Indonesia (AS)	All	80	14	33	9	26	23	50	2	4
	Foods	75	19	36	9	8	29	63	3	5
	Raw mat.	100	10	22	8	98				
Malaysia (AS, CW)	All	77	9	50, 4	7, 3	8		1		20
	Foods	68	8	60, 6	9, 5	8		2		29
	Raw mat.	97	9	29, 1	4, 1	10				1
Philippines (AS)	All	100	28	60	11	49	6	9	3	71
	Foods	100	35	67	14	53	4	13	5	96
	Raw mat.	100	21	42	8	39	10			11
Thailand (AS)	All	88	29	23	5	35	1	24	1	20
	Foods	86	36	30	7	40	0	32	1	24
	Raw mat.	95	22	4	2	23	1			7
East Asia										
Hong Kong	All					8	1			3
	Foods					8	2			4
	Raw mat.					7				
Korea (BK,DC) <u>3/</u>	All	100	21	1, 1	3, 42	30				
	Foods	100	29	1, ..	3, ..	38				
	Raw mat.	100	13	.., 5	.., 42	7				
Singapore (AS)	All	97	0	4	8	22				9
	Foods	97	0	6	8	26				12
	Raw mat.	96	0			13				

Source: Appendix.

1/ The data refer to general or statutory ad valorem tariff rates, but where GATT-bound or other reduced rates apply the data have been adjusted to reflect the reduced rates.

2/ The tariff data for Japan refer to Tokyo Round-bound rates. The NTB data do not include information about Japan's preferential trade arrangements, possible state trading, or special entry regulations.

3/ Special tariff preferences granted to imports from Bangladesh and Laos under the Bangkok Agreement are not reflected in the data.

4/ Pakistan extends preferences to imports from Iran and Turkey under the terms of an economic cooperation agreement among the three countries.

Notes: Frequency ratios refer to the relative incidence of restrictive import measures across detailed customs-line items in the indicated commodity category; tariff levels refer to simple averages of ad valorem or preferential tariffs. AS = Association of Southeast Asian Nations preferential trade arrange; BK = Bangkok Agreement preference scheme; CW = Commonwealth preference scheme; and DC = preference scheme of Korea for imports from developing countries. The data refer to the following years: 1985 (Pakistan, Thailand), 1986 (Bangladesh, Japan, Korea, Singapore, Sri Lanka), and 1987 (Hong Kong, India, Indonesia, Malaysia, Philippines).

Japan enforces relatively low tariff levels against agricultural goods; the average tariff level for all commodities is only about 10 percent. The two East Asian city-states, Hong Kong and Singapore, however impose virtually no tariffs on agricultural imports. Moreover, tariff levels in Malaysia, and to a lesser extent Indonesia, compare favorably to the relatively low levels enforced by Japan. The average tariff level in the remaining East Asian country, Korea, is about 20 percent.

The highest statutory tariff levels are imposed by South Asian countries. The average tariff level is over 100 percent in India and is about 60 percent in both Bangladesh and Pakistan. Sri Lanka and the remaining Southeast Asian countries (Philippines and Thailand), on the other hand, enforce average tariff levels of about 30-35 percent.

The emphasis of national agricultural policies on food security and, more generally, on protection for vested agricultural interests is probably most responsible for the higher tariff levels on foods than raw materials in most countries, including Japan and Korea. The disparate average levels of tariff protection, however, can only be explained by the fundamental differences of general trade policies across Asian countries. 1/

Given increasing emphasis by countries on bilateral trade relations and calls for wider preferential trade arrangements among developing countries, the extent to which tariff preferences are extended by Asian countries to different groups of developing countries is noteworthy. 2/ The table details the tariff preferences granted by several developing Asian countries, including those granted in connection with the two principal preferential trade arrangements in force in Asia, the Association of Southeast Asian Nations (ASEAN) Preferential Trade Arrangement and the Bangkok Agreement among member countries of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). 3/ Most developing Asian countries are parties to one or both of the

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1/ Where average tariff levels on agricultural goods are especially high they may sometimes be viewed as offsetting in part the wider effects of protection to encourage industrialization. This, however, presumes that tariff revenues are redistributed in a nondistorting manner and are not employed to finance market intervention schemes, including schemes frequently encountered in Asian as well as other developing countries to stabilize local commodity prices in favor of either domestic consumers or producers.

2/ With regard to preferential trade arrangements among developing countries, see United Nations, Ministerial Declaration on the Global System of Trade Preferences Among Developing Countries (New Delhi: United Nations Conference on Trade and Development, July 1985).

3/ Association of Southeast Asian Nations, Agreement on ASEAN Preferential Trading Arrangements (Manila: ASEAN Secretariat, 1977); and United Nations (ESCAP), First Agreement on Trade Negotiations Among Developing Member Countries of the Economic and Social Commission for Asia and the Pacific (Bangkok: ESCAP Secretariat, 1975).

agreements. Additionally, India and Malaysia are members of the Commonwealth trade preference scheme among former British colonies, and Korea extends preferences to a number of selected less developed countries. 1/

Outside of India's extension of significant tariff reductions under the ESCAP and Commonwealth trade arrangements at an appreciable frequency rate (20 percent), only the ASEAN countries' support for their mutual trade arrangement appears substantial. The preferential tariffs are seemingly extensive, especially for food commodities. Malaysia and the Philippines extend preferences covering about 50 percent or more of the customs lines of their tariff schedules, while Indonesia and Thailand extend preferences covering about 20 percent or more. Moreover, the tariff reductions are seemingly large in that the preference rates are frequently a small fraction of the general tariff levels reported. Nevertheless, these results may be overstated to the extent that the preferences are extended in categories where little trade would be expected to occur or where general tariff rates are already relatively low. Additionally, the data do not indicate whether the preferences may have been accompanied by greater recourse to nontariff barriers in ASEAN countries.

b. Nontariff barriers

NTBs are widely applied to agricultural imports by the Asian countries examined. Especially important is restrictive licensing of imports, followed by prohibitions, state trading, and health and product regulations. Quotas are less widely applied; Japan and Indonesia are the only two countries that apply quotas at appreciably high frequency rates (15 percent and 30 percent respectively), in both cases against imports of foodstuffs. Not tabulated are less widely applied restrictions enforced by individual developing Asian countries. These include excise taxes and special fiscal charges to finance export promotion programs, record keeping, and port and municipal facilities; restrictions related to controls on foreign exchange; requirements that imports, especially imports by official agencies, be transported or transhipped between domestic ports on national flag vessels; and restrictions on imports from particular countries, most frequently Israel and South Africa.

Japan and the East Asian NICs mainly employ restrictive licensing arrangements. The frequency ratio of licensing arrangements imposed by Hong Kong is low, but Japan, Korea and Singapore impose licensing requirements with considerable frequency, between 20 percent and 30 percent. Hong Kong and Singapore are reported to impose health requirements or other standards with an overall frequency ratio of less than 10 percent.

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1/ In all, Korea extends preferences to about ten less developed countries, including three Asian countries (Bangladesh, India, and Pakistan).

Among the South and Southeast Asian countries, Sri Lanka and Malaysia enforce relatively few NTBs. Sri Lanka however engages to a significant extent in state trading of commodities, while Malaysia imposes a number of health and product regulations on imports. The remaining countries in this group appear to apply a wide range of NTBs at appreciably higher frequency ratios than Japan or the East Asian countries. Thus, for example, India, Pakistan and the Philippines enforce restrictive licensing arrangements at frequency ratios of about 40 percent, and India and Indonesia apply prohibitions against agricultural imports at frequency ratios of 50 percent or more.

These results point to the fact that quantitative restrictions and other NTBs are important facets of agricultural protection in Asia. Moreover, the more selective application of NTBs poses interesting questions about the political processes by which these controls are established and enforced. One possibility is that they are the outcome of relatively recent or specialized development policy initiatives to promote production in particular agricultural sectors. Another, however, is that they reflect political pressures by less well-intentioned domestic vested interests to achieve greater protection from foreign competition, in which case appreciable economic costs associated with rent-seeking may also be involved. 1/

### 3. Structure of protection

The incidence of tariff and other barriers to agricultural imports across commodity divisions is important because it provides some insight into whether protectionist policies favor particular agricultural sectors in relation to a country's comparative advantage in agriculture, and whether conditions may exist for negotiating reciprocal reductions of agricultural protection levels on a broad basis in the Asian region. 2/ The detailed information tabulated in the Appendix illustrates that

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1/ See, in particular, Anne O. Krueger, "The Political Economy of the Rent-Seeking Society," American Economic Review, Vol. 64, No. 3 (June 1974), pp. 291-303. Also, for a recent review and synthesis of the economics of rent-seeking, see T. N. Srinivasan, "Neoclassical Political Economy, the State and Economic Development," Asian Development Review, Vol. 3, No. 2 (1985), pp. 38-58.

2/ The analysis here is concerned only with the structure of nominal protection. More complete analysis would involve estimation of effective protection levels across commodity divisions, and hence greater information about border measures applied to imported inputs to the agricultural sector and about taxes and subsidies surrounding agricultural production in Asian countries. Although effective protection measures provide a guide to the economic incentives motivating resource flows between sectors of an economy, it remains a question how accurately these measures can be estimated and to what extent they might actually provide a basis for multilateral or other negotiations to liberalize international trade. For further discussion of the concept of effective protection see W. M. Corden, The Theory of Protection (Oxford: Oxford University Press, 1971).



agricultural protection in Asian countries is far from uniform in structure and is often highly complex. Nevertheless, some important regularities and other aspects of the information may be summarized here.

First, import restrictions at higher than average tariff levels or frequency ratios most often occur to imports of animal products and tobacco, followed by imports of fruits and vegetables, sugar, beverages and spices, and basic wood products. In this regard, tariffs are directed predominantly at controlling imports of animal products, fruits and vegetables, and beverages and spices. Among NTBs, quantitatively at controlling imports of animal products (again), tobacco, wood and sugar. State trading most often affects cereal and sugar imports, whereas health and special entry regulations occur most often with respect to imports of animal products, fruits and vegetables, and seeds and oils.

Second, the agricultural commodities least affected by relatively high tariffs or NTB frequency ratios are rubber and natural fibers. Cereals too appear less seriously affected by import controls, although Japan, India, Indonesia and the Philippines control many cereal imports by state trading. <sup>1/</sup> Overall, the lower relative levels of restrictions on imports of cereal, rubber and natural fibers may be importantly related to the comparative disadvantage of many Asian countries in producing these commodities or to meeting especially high domestic demands for these commodities. In relation to the general agricultural policies of many low and middle-income Asian countries, lower levels of protection in connection with cereal imports may reflect official efforts to maintain low domestic prices for basic food stuffs. By comparison, higher levels of protection for other foods, especially higher value "luxury" foodstuffs, may reflect national policy initiatives to promote domestic agricultural investment and production in certain commodities, or the narrower vested interests of local producers who are politically powerful enough to effect high levels of protection for their output. With regard to the relatively low tariff and NTB levels against imports of rubber and natural fibers, these may result because the imports are essential intermediate inputs to local industries, especially sheltered rubber products and textile industries.

A third and more curious aspect of the structure of agricultural protection revealed in the figures is the extent to which several, especially low and middle-income countries impose relatively high

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<sup>1/</sup> Supplementary information about Japan's agricultural protection policies indicates that Japan engages in state trading in respect to imports of certain dairy products, rice, wheat, barley, and unprocessed tobacco. See D. Gale Johnson, Kenzo Hemmi, and Pierre Lardinois, Agricultural Policy and Trade: Adjusting Domestic Programs in an International Framework (New York: New York University Press, 1985).

tariff levels or NTB frequency ratios against imports of certain foods or raw materials in which they have a revealed comparative advantage. This may result from the aggregation of different commodities within some categories. For example, in the case of the aggregate category for fruits and vegetables, countries with a comparative advantage in producing certain fruits for overseas markets may restrict imports of vegetables or other fruits not produced locally. Additionally, to the extent that the commodity categories include processed commodities (e.g., vegetable oils), the import restrictions may reflect protection afforded local industries engaged in processing agricultural commodities.

Finally, with regard to health regulations and product standards, the incidence of these controls is greatest with regard to animal product imports. This may lend support to the notion that such regulations are not intended principally to discriminate against foreign produced commodities. On the other hand, the conspicuously high rates at which these entry regulations are applied widely to food commodity categories by some Southeast Asian countries, especially the Philippines and Thailand, raises some concern that the application of health and product entry regulations may not always be entirely nondiscriminatory.

#### 4. Reducing import barriers: possibilities for reciprocal negotiations

For the first time, multilateral trade negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT) will take up proposals for reducing the trade-distorting aspects of national agricultural policies. Less developed countries have not generally taken an active role in past GATT negotiations, preferring instead to enjoy the "special and differential treatment" status that the GATT has formally extended to developing countries. In the current Uruguay Round, however, a number of developing countries have assumed more active roles, particularly in the agricultural trade negotiations.

The GATT multilateral negotiations hold considerable promise of economic gains for the Asian countries, but against the background of Asia's strong economic performance and large market size, the possibilities for liberalizing agricultural trade in Asia alone might be considered in their own right. In particular, more liberal economic relations among the populous Asian countries could reduce domestic economic distortions and other inefficiencies substantially, and far outweigh the benefits predicted by the traditional theory of comparative advantage. <sup>1/</sup>

Possibilities for pursuing reciprocal reductions of tariffs and quantitative restrictions between Asian countries are explored here using the data in Table 6 describing Asian countries' revealed comparative advantage in producing agricultural commodities, on the one hand,

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<sup>1/</sup> For further discussion of this approach to the benefits of trade liberalization, see Mancur Olson, "Economic Nationalism and Economic Progress," Sixth Harry G. Johnson Memorial Lecture, The World Economy, Vol. 10, No. 3 (1987), pp. 241-64.

and the information in the Appendix describing their tariff levels and frequency ratios of quantitative restrictions, on the other. On the basis of this information, bilateral correlation coefficients were computed to assess the degree to which each country's comparative advantage across commodities is associated with high rates of protection enforced by, alternatively, tariffs and quantitative restrictions in other Asian countries. 1/

The results, reported in Table 7, suggest the relative interest that Asian countries have in exchanging reductions of agricultural tariffs or quantitative restrictions. The underlying analytical framework is highly stylized, of course, and represents only one approach to identifying the possibilities for successful negotiations to liberalize trade, namely, that founded on countries' reciprocal interests in lowering foreign import barriers to their major exports. However, to the extent that this essentially mercantilist approach is accompanied by the observance of GATT rules stipulating nondiscrimination (i.e., the most-favored-nation principle), the benefits of agricultural trade liberalization would be widely enjoyed among Asian as well as other countries. Additionally, it is noteworthy that where correlation coefficients are low or even negative possibilities may still exist for mutual gains between countries, albeit across narrow spectra of agricultural goods. Finally, although tariff levels and the incidence of quantitative restrictions are assumed to be independent in the present analysis, real world efforts to liberalize one type of restriction would need to take into consideration other restrictions that could possibly be binding on imports.

Correlation coefficients of 0.15 or more in value are assumed to denote possibilities for successful reciprocal negotiations between Asian countries. 2/ With this assumption, the results suggest that some important opportunities exist for reducing both tariffs and quantitative restrictions. The opportunities for reciprocal negotiations with Japan however appear limited, presumably because Japan is mainly a net importer of a wide variety of agricultural commodities. Nevertheless, the correlation results indicate that reciprocal negotiations between Japan and Singapore to reduce tariffs and between Japan and Korea to reduce quantitative restrictions would provide mutual gains to the three

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1/ To conduct the correlation analysis the data in the Appendix describing quantitative restrictions were transformed. Specifically, these data were combined to form a single measure of the frequency of quantitative restrictions in each country by taking the maximum value of the frequency ratios for restrictive licensing, quotas and prohibitions in each commodity division. In addition, to enable the comparative advantage and import restrictions data to be pooled in the correlations, the data were first normalized by deflating the observations in each commodity division by their mean (absolute) values across countries.

2/ The critical value of 0.15 was arbitrarily selected. Moreover, this value is not intended to connote statistical significance, as the correlation coefficients reported in Table 7 are not assumed to be stochastic variables.

Table 7. Bilateral Correlation Results: Revealed Comparative Advantage versus Foreign Tariff Levels (Upper Submatrix) and Quantitative Restrictions (Lower Submatrix)

(Positive Correlation Coefficients)

	JA	BA	IN	PA	SR	IO	MA	PH	TH	HK	KO	SI
<u>Comparative Advantage versus Foreign Tariff Levels</u>												
Japan	--											0.34*
Bangladesh		--		0.15*		0.36*	0.41*	0.31*	0.27*			0.19*
India			--			0.12	0.19*	0.22*	0.24*			0.04
Pakistan		0.19*		--		0.11	0.26*	0.22*	0.21*			
Sri Lanka					--	0.27*	0.29*				0.01	0.18*
Indonesia			0.17*			--						0.37*
Malaysia				0.20*		0.16*	--					
Philippines		0.03	0.21*	0.10			0.20*	--				
Thailand		0.02		0.03			0.46*	0.28*	--		0.18*	
Hong Kong			0.02							--		0.02
Korea	0.31*	0.17*			0.31*					0.23*	--	
Singapore		0.32*	0.08	0.04	0.08							--
<u>Comparative Advantage versus Foreign Quantitative Restrictions</u>												

Sources: Correlations across ten major agricultural commodity divisions based on the revealed comparative advantage data in Table 5 and frequency ratios of quantitative restrictions calculated as maximum values of the frequency ratios reported in the Appendix for restrictive licensing, quotas and prohibitions by commodity division.

Notes: The data are normalized by deflating country variables by mean values computed across countries. Country pairs of the data are pooled, resulting in 20 observations for each correlation. Asterisks denote correlation coefficients of 0.15 or more in value.

countries. <sup>1/</sup> The opportunities for successful negotiations between countries in South Asia and, alternatively, for successful negotiations between countries in East Asia also appear limited. Between countries in Southeast Asia the situation is somewhat different; the correlations suggest that negotiations to reduce quantitative restrictions between the middle-income ASEAN countries might hold considerable promise, but at the same time no significant possibilities are revealed for successful negotiations to reduce tariffs between these countries.

For reciprocal trade negotiations to succeed in the cases just enumerated reductions of import barriers across wider categories of traded goods and services might have to be considered. Especially with regard to negotiations involving Japan, negotiations might have to be broadened in scope so that reduced barriers to agricultural imports in one country could be exchanged for reduced barriers to imports of manufactures and services in other countries. In other words, some bilateral negotiations to liberalize agricultural trade might only be successful if linked with wider negotiations to liberalize goods and services trade.

The analysis reveals that the most extensive opportunities for successful reciprocal negotiations, especially to reduce tariffs, involve the low-income South Asian countries, on the one hand, and the middle-income Southeast Asian countries, on the other. To a somewhat lesser extent, possibilities for productive bilateral negotiations between South and East Asian countries also appear strong, especially to reduce the incidence of quantitative import controls. These results are mainly explained by the greater variation of agricultural commodities exported on a net basis by the South and Southeast Asian countries and, of course, by the specific structures of agricultural protection found in these countries.

These results are far from definitive, but they serve to illustrate that important scope exists for reciprocal negotiations to liberalize agricultural trade policies in Asia. Though countries might always achieve similar gains by pursuing more liberal trade policies unilaterally, policy-makers in most countries are likely to find it more feasible to engage in reciprocal negotiations because opposition from domestic vested interests might be overcome by marshalling support for trade liberalization among local exporters of agricultural and possibly other goods. Additionally, if import barriers are reduced on a most-favored-nation basis, reciprocal negotiations have the advantage that agricultural trade might be expanded substantially and the resulting economic benefits enjoyed more widely by Asian countries.

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<sup>1/</sup> A possible weakness of the correlation analysis may be indicated by the possibilities reported in Table 7 for successful tariff negotiations between some countries (including Japan) and Singapore, although Singapore imposes only very low import tariffs on two categories of agricultural commodities: animal products and sugar (see the Appendix). In these cases, the correlation results may reflect advantages primarily to be enjoyed by Singapore from successfully reducing foreign tariffs facing Singapore's major agricultural exports: seeds and oils, beverages and spices, rubber, and basic wood products.

## V. Summary and Conclusions

The rapid economic development and strong export performance of Asia over the past two decades are widely cited, but attention has focused mainly on the region's development as an important center for labor-intensive manufacturing and assembly. A significant portion of the Asian economy remains agricultural and typically less dynamic than the industrial sector despite the potential size of the Asian market for agricultural goods.

In large measure, national economic policies are responsible for discouraging greater agricultural production and trade. In the less developed Asian countries these policies primarily seek to promote industrialization through the transfer of resources from rural areas to the predominantly urban centers of growing industrial activity. Controls on agricultural trade are often an important element of these policies. Export controls maintain low domestic prices for many basic foodstuffs, while stringent import controls frequently reinforce national policies to promote domestic production of selected agricultural commodities. In more advanced Asian countries, where agriculture is a smaller portion of the economy but rural economic interests are politically strong, import controls more frequently provide local producers protection from efficient foreign producers.

This paper has sought to describe the recent extent and structure of agricultural trade and protection in Asia with a view to evaluating on an exploratory basis the possibilities for liberalizing agricultural trade in the region. Accordingly, the analysis is devoted to examining the recent record of agricultural trade and import restrictions in Asian countries (excluding China and Taiwan) by major commodity divisions, based largely on information about trade control measures compiled from UNCTAD's Trade Information System and a similar World Bank inventory of import restrictions enforced by the major industrial countries. While the data are deficient in their reliability as indicators of the relative economic effects of different trade control measures and in their coverage of nontariff barriers enforced by Japan, they nevertheless provide a basis for examining the distribution of tariff and other import restrictions across Asian countries and for examining how these restrictions might be liberalized through reciprocal or other negotiations.

Consideration of the differences in economic structures and in the commodity patterns of agricultural production and trade across Asian countries provides insights to the importance of agriculture in Asia and to the present dimensions of agricultural trade in the region. However, the most important findings of the study concern the barriers to imports of major food commodities and agricultural raw materials enforced by the Asian countries. The evidence indicates that tariffs and NTBs are widely applied to agricultural imports in Asia. Although Hong Kong and Singapore impose virtually no controls, tariffs and quantitative restrictions are imposed by most countries, including Japan and Korea. The latter countries, however, tend to impose lower average tariff levels and to apply NTBs with less frequency than many Asian countries.

The data indicate that the structure of agricultural protection varies importantly from country to country and is particularly difficult to interpret without greater information about underlying national agricultural policies and the interests of local agricultural producers in restricting imports. Nevertheless, it would appear that several low and middle-income countries enforce relatively low levels of protection against imports of certain basic foodstuffs, especially cereals. Japan and Korea, on the other hand, tend to impose relatively high levels of protection against these as well as other food commodities, especially when judged by the much lower average levels of protection enforced by the two countries against manufactures. These findings are largely consistent with the view that lower income developing countries tend to follow inappropriate food pricing policies which often create excess demands that can only be met by imports, while high-income countries tend to apply border measures to raise domestic prices received by local producers of staple agricultural commodities at the expense of domestic consumers and foreign producers.

Finally, when the tariff and quantitative restrictions data are examined in conjunction with information about the commodity structure of net agricultural exports to consider which Asian countries might have mutual interests in exchanging reciprocal reductions of tariffs or quantitative restrictions across agricultural commodity categories, some interesting results are found. In particular, the analysis finds that important scope exists for reciprocal negotiations to liberalize agricultural trade particularly between low and middle-income Asian countries. By inference, if these countries were to reduce their tariffs and other import restrictions on a nondiscriminatory basis, the total gains from trade liberalization would be magnified and enjoyed widely among the Asian countries.

It remains, of course, a considerable political challenge for the Asian countries to pursue reciprocal trade negotiations on either a regional or multilateral basis. However, against the background of increasing global interest in liberalizing agricultural trade and the vast opportunities for expanded trade presented by the Asian market, the possibilities for enhancing economic development and welfare in Asia through liberalization of agricultural trade in the region are worth weighing seriously.

Appendix Table. Barriers to Agricultural Imports in Asian Countries by Commodity Division, 1985

(Frequency ratios, in percent)

Country, Import Barrier	Foods						Raw Materials			
	Meat, fish, dairy (MFD)	Cereals (CER)	Fruits, vegetables (FVG)	Sugar (SUG)	Seeds, oils (SEO)	Beverages, spices (BSP)	Tobacco (TOB)	Rubber (RUB)	Wood (WOD)	Natural fibers (NAF)
Japan 1/										
Tariffs										
Ad valorem (average tariff level)	(15.8)	(2.4)	(11.4)	(40.9)	(1.6)	(14.9)	(0.0)	(7.3)	(8.9)	(10.3)
NTBs										
Restrictive licensing	65.3	13.0	16.0	5.5	7.9	2.3	51.6	0.0	0.0	3.8
Quotas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prohibitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bangladesh										
Tariffs										
Ad valorem	100.0	100.0	100.0	77.8	100.0	91.7	0.0	100.0	100.0	100.0
Average tariff level	(97.1)	(21.0)	(71.3)	(79.4)	(46.7)	(89.6)	(0.0)	(47.5)	(97.5)	(45.6)
Specific	0.0	0.0	0.0	22.2	0.0	8.3	100.0	0.0	0.0	0.0
GATT-bound	2.9	0.0	3.3	0.0	0.0	0.0	0.0	0.0	5.6	0.0
BK preference scheme	0.0	0.0	1.7	0.0	3.7	0.0	80.0	0.0	0.0	0.0
Average tariff level	(0.0)	(0.0)	(0.4)	(0.0)	(0.6)	(0.0)	(1.6)	(0.0)	(0.0)	(0.0)
NTBs										
Restrictive licensing	80.0	66.7	33.3	66.7	16.7	45.8	100.0	8.3	11.1	15.4
Prohibitions	22.9	8.3	21.7	66.7	48.1	25.0	100.0	58.3	16.7	80.8
Enterprise level quotas	68.6	33.3	33.3	11.1	9.3	66.7	0.0	8.3	0.0	3.8
Anti-dumping duties	5.7	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0
State trading monopolies	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	11.1	0.0
Health regulations	17.1	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
India 2/										
Tariffs										
Ad valorem	100.0	100.0	100.0	100.0	100.0	93.2	0.0	100.0	100.0	100.0
Average tariff level	(77.9)	(67.6)	(144.3)	(85.5)	(194.3)	(93.2)	(0.0)	(97.1)	(60.0)	(124.8)
Specific	0.0	0.0	0.0	0.0	0.0	6.8	100.0	0.0	0.0	0.0
BK,CW preference scheme	0.0	0.0	57.8	0.0	38.5	40.9	0.0	0.0	0.0	0.0
Average tariff level	(0.0)	(0.0)	(97.3)	(0.0)	(68.5)	(33.8)	(0.0)	(0.0)	(0.0)	(0.0)
NTBs										
Restrictive licensing	41.0	31.1	45.5	9.1	64.8	70.5	100.0	23.6	0.0	40.7
Prohibitions	82.7	73.3	48.1	100.0	46.2	79.5	0.0	85.5	100.0	71.4
Open general licensing	0.0	26.7	14.3	0.0	0.0	6.8	0.0	0.0	0.0	0.0
State trading monopolies	0.0	26.7	37.7	0.0	31.9	4.5	0.0	10.9	0.0	39.6
Health regulations	0.0	0.0	13.6	0.0	0.0	2.3	0.0	0.0	0.0	0.0



Appendix Table (Continued). Barriers to Agricultural Imports in Asian Countries by Commodity Division, 1985

(Frequency ratios, in percent)

Country, Import Barrier	Foods						Raw Materials			
	Meat, Fish, Dairy (MFD)	Cereals (CER)	Fruits, vegetables (FVG)	Sugar (SUG)	Seeds, oils (SEO)	Beverages, spices (BSP)	Tobacco (TOB)	Rubber (RUB)	Wood (WOD)	Natural fibers (NAF)
<b>Pakistan 3/</b>										
Tariffs										
Ad valorem	100.0	100.0	97.3	83.3	96.4	65.5	0.0	100.0	100.0	96.8
Average tariff level	(108.1)	(41.5)	(90.5)	(52.5)	(52.5)	(71.0)	(0.0)	(33.3)	(100.5)	(31.9)
Specific	0.0	0.0	2.7	16.7	3.6	34.5	100.0	0.0	0.0	3.2
NTBs										
Restrictive licensing	0.0	10.0	17.8	75.0	60.0	72.4	80.0	72.2	65.0	61.3
Quotas	9.3	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prohibitions	88.4	70.0	82.2	16.7	9.1	20.7	20.0	5.6	0.0	3.2
Anti-dumping duties	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
State trading monopolies	2.3	3.3	0.0	0.0	27.3	0.0	0.0	0.0	0.0	0.0
<b>Sri Lanka</b>										
Tariffs										
Ad valorem	98.1	100.0	89.7	70.0	100.0	100.0	16.7	100.0	100.0	100.0
Average tariff level	(28.6)	(35.8)	(69.6)	(27.5)	(52.0)	(47.5)	(10.0)	(26.5)	(17.5)	(25.0)
Specific	1.9	0.0	10.3	30.0	0.0	0.0	83.3	0.0	0.0	0.0
BK preference scheme	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5
Average tariff level	(37.0)	(21.9)	(77.9)	(30.0)	(70.5)	(76.7)	(16.7)	(38.5)	(14.3)	(7.7)
NTBs										
Export promotion surcharge	5.6	25.0	11.8	10.0	0.0	3.3	100.0	0.0	0.0	0.0
Restrictive licensing	13.0	0.0	2.9	0.0	0.0	3.3	0.0	0.0	0.0	3.8
State trading monopolies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Indonesia</b>										
Tariffs										
Ad valorem rates	74.0	79.1	51.1	63.9	100.0	98.6	100.0	100.0	100.0	100.0
Average tariff level	(20.9)	(7.3)	(16.7)	(9.4)	(22.4)	(26.2)	(15.0)	(5.0)	(17.3)	(5.0)
Specific	26.0	20.9	48.9	36.1	0.0	1.4	0.0	0.0	0.0	0.0
GATT-bound	6.2	10.4	8.0	0.0	5.1	0.0	0.0	0.0	0.0	3.4
AS preference scheme	18.9	31.3	40.8	33.3	63.3	43.1	100.0	19.7	11.3	48.3
Average tariff level	(4.1)	(7.2)	(9.3)	(8.5)	(14.4)	(10.0)	(21.0)	(4.4)	(2.8)	(10.7)
NTBs										
Restrictive licensing	7.0	0.0	1.7	5.6	30.6	1.4	100.0	100.0	100.0	86.2
Quotas	19.4	31.3	65.5	38.9	0.0	6.9	0.0	0.0	0.0	0.0
Prohibitions	77.1	50.7	32.8	41.7	80.6	91.7	0.0	0.0	0.0	0.0
State trading monopolies	0.0	17.9	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0
Health regulations	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table (Continued). Barriers to Agricultural Imports in Asian Countries by Commodity Division, 1985

(Frequency ratios, in percent)

Country, Import Barrier	Foods						Raw Materials			
	Meat, Fish, Dairy (MFD)	Cereals (CER)	Fruits, vegetables (FVG)	Sugar (SUG)	Seeds, oils (SEO)	Beverages, spices (BSP)	Tobacco (TOB)	Rubber (RUB)	Wood (WOD)	Natural fibers (NAF)
<b>Malaysia</b>										
<b>Tariffs</b>										
Ad valorem	72.4	85.2	42.5	6.7	88.6	97.7	0.0	100.0	100.0	100.0
Average tariff level	(11.5)	(6.2)	(7.5)	(2.0)	(5.0)	(12.0)	(0.0)	(8.5)	(17.6)	(2.3)
Specific	27.6	13.0	57.5	93.3	11.4	2.3	100.0	0.0	0.0	0.0
AS preference scheme	56.9	59.3	63.8	73.3	62.9	48.8	0.0	25.0	34.6	40.7
Average tariff level	(8.4)	(5.3)	(13.5)	(20.3)	(5.2)	(3.5)	(0.0)	(2.3)	(7.3)	(0.0)
CW preference scheme	18.1	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average tariff level	(0.5)	(0.0)	(8.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
<b>NTBs</b>										
Restrictive licensing	3.4	27.8	1.6	73.3	0.0	2.3	0.0	0.0	36.5	0.0
Prohibitions	1.7	0.0	3.1	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Health, marking, technical regulations	41.4	75.9	18.1	0.0	10.0	7.0	0.0	0.0	0.0	3.7
Health inspection	0.0	57.4	42.5	0.0	20.0	37.2	0.0	0.0	0.0	0.0
<b>Philippines</b>										
<b>Tariffs</b>										
Ad valorem	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Average tariff level	(29.2)	(35.4)	(43.5)	(43.6)	(26.2)	(36.7)	(41.1)	(20.0)	(15.0)	(19.6)
Specific	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS preference scheme	73.9	53.8	64.2	72.7	68.9	70.8	22.2	75.0	35.7	30.8
Average tariff level	(15.5)	(11.0)	(12.9)	(15.0)	(14.6)	(14.6)	(4.4)	(15.0)	(7.1)	(6.3)
<b>NTBs</b>										
Restrictive licensing	56.5	38.5	77.6	63.6	31.1	25.0	44.4	58.3	0.0	0.0
Quotas	6.5	19.2	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Prohibitions	30.4	0.0	17.9	0.0	0.0	12.5	0.0	0.0	0.0	0.0
Automatic licensing	41.3	26.9	47.8	45.5	0.0	12.5	55.6	0.0	0.0	7.7
Foreign exchange license	2.2	11.5	31.3	0.0	0.0	50.0	0.0	0.0	21.4	0.0
State trading monopolies	0.0	26.9	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0
Health, marking regulations	100.0	76.9	95.5	100.0	100.0	100.0	100.0	0.0	0.0	3.8
Special entry procedures	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
<b>Thailand</b>										
<b>Tariffs</b>										
Ad valorem	95.0	55.6	96.7	66.7	78.5	100.0	100.0	100.0	100.0	84.6
Average tariff level	(44.8)	(18.6)	(53.2)	(38.9)	(22.7)	(32.1)	(60.0)	(22.5)	(9.6)	(29.6)
Specific	2.5	44.4	3.3	33.3	21.5	0.0	0.0	0.0	0.0	15.4
GATT-bound	27.5	7.4	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.8
AS preference scheme	5.0	22.2	29.5	0.0	36.9	69.2	0.0	0.0	0.0	11.5
Average tariff level	(1.0)	(4.4)	(6.6)	(0.0)	(7.4)	(14.6)	(0.0)	(0.0)	(0.0)	(2.3)
<b>NTBs</b>										
Restrictive licensing	20.0	14.8	57.4	0.0	49.2	42.3	0.0	0.0	100.0	11.5
Quotas	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	3.8
Prohibitions	0.0	18.5	45.9	55.6	49.2	7.7	0.0	0.0	0.0	0.0
State trading monopolies	0.0	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0
Health regulations	17.5	11.1	14.8	0.0	49.2	11.5	100.0	0.0	0.0	0.0
Special entry procedures	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table (Concluded). Barriers to Agricultural Imports in Asian Countries by Commodity Division, 1985

(Frequency ratios, in percent)

Country, Import Barrier	Foods						Raw Materials			
	Meat, Fish, Dairy (MFD)	Cereals (CER)	Fruits, vegetables (FVC)	Sugar (SUG)	Seeds, oils (SEO)	Beverages, spices (BSP)	Tobacco (TOB)	Rubber (RUB)	Wood (WOD)	Natural fibers (NAF)
<b>Hong Kong</b>										
<b>NTBs</b>										
Restrictive licensing	20.0	0.0	12.5	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Quotas	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Surveillance licensing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.2
Health regulations	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Korea <sup>2/</sup></b>										
<b>Tariffs</b>										
Ad valorem	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Average tariff level	(23.9)	(21.6)	(41.0)	(25.5)	(21.6)	(34.6)	(50.0)	(13.2)	(10.6)	(11.1)
Specific	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GATT-bound	13.8	24.6	14.8	4.8	27.9	5.3	100.0	57.1	28.9	0.0
BK preference scheme	0.0	0.0	0.0	4.8	0.0	18.4	0.0	0.0	0.0	0.0
Average tariff level	(0.0)	(0.0)	(0.0)	(0.7)	(0.0)	(5.3)	(0.0)	(0.0)	(0.0)	(0.0)
DC preference scheme	0.0	0.0	0.0	0.0	0.0	0.0	83.3	0.0	0.0	0.0
Average tariff level	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(41.7)	(0.0)	(0.0)	(0.0)
<b>NTBs</b>										
Excise taxes	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0
Restrictive licensing	55.1	1.8	47.7	9.5	16.3	18.4	0.0	7.1	0.0	11.1
<b>Singapore</b>										
<b>Tariffs</b>										
Ad valorem	97.6	100.0	100.0	52.6	100.0	100.0	0.0	100.0	100.0	100.0
Average tariff level	(0.0)	(0.8)	(0.0)	(0.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Specific	0.0	0.0	0.0	47.4	0.0	0.0	100.0	0.0	0.0	0.0
AS preference scheme	4.8	15.1	0.0	42.1	0.0	0.0	0.0	0.0	0.0	0.0
Average tariff level	(0.0)	(0.5)	(0.0)	(23.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
<b>NTBs</b>										
Stamp tax	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0
Restrictive licensing	66.7	24.5	0.0	5.3	17.0	18.9	0.0	0.0	0.0	30.8
Prohibitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Health regulations	45.2	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0

Sources: Compiled from data for developing Asian countries and Japan provided by the United Nations Conference on Trade and Development, Trade Information System; and the World Bank, International Economics Department (Trade Division), respectively.

<sup>1/</sup> The tariff data for Japan refer to Tokyo Round-bound rates. The NTB data do not include information about Japan's preferential trade arrangements, state trading, or special entry regulations.

<sup>2/</sup> Special tariff preferences granted to imports from Bangladesh and Laos under the Bangkok Agreement are not reflected in the data.

<sup>3/</sup> Pakistan extends preferences to imports from Iran and Turkey under the terms of an economic cooperation agreement among the three countries.

Notes: The commodity divisions correspond to United Nations Standard International Trade Classifications (SITC) as follows: meat and related products (SITC 01+02+03), cereals (SITC 04), fruits and vegetables (SITC 05), sugar (SITC 06), oilseeds and oils (SITC 22+4), beverages and spices (SITC 07), tobacco (SITC 121), rubber (SITC 23), wood (SITC 24 less 244), and natural fibers (SITC 26 less 266).

Ad valorem tariffs refer to general or statutory tariff rates, but where GATT-bound or other reduced rates apply the data have been adjusted to reflect the reduced rates. Frequency ratios refer to the relative incidence of restrictive import measures across detailed customs-line items in the indicated commodity category. Tariff levels are simple averages of ad valorem or preferential tariffs. AS = Association of Southeast Asian Nations preferential trade arrangement; BK = Bangkok Agreement preference scheme; CW = Commonwealth preference scheme; and DC = preference scheme of Korea for imports from developing countries. The data refer to the following years: 1985 (Pakistan, Thailand), 1986 (Bangladesh, Japan, Korea, Singapore, Sri Lanka), and 1987 (Hong Kong, India, Indonesia, Malaysia, Philippines).