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APEC

Situation and Outlook Series



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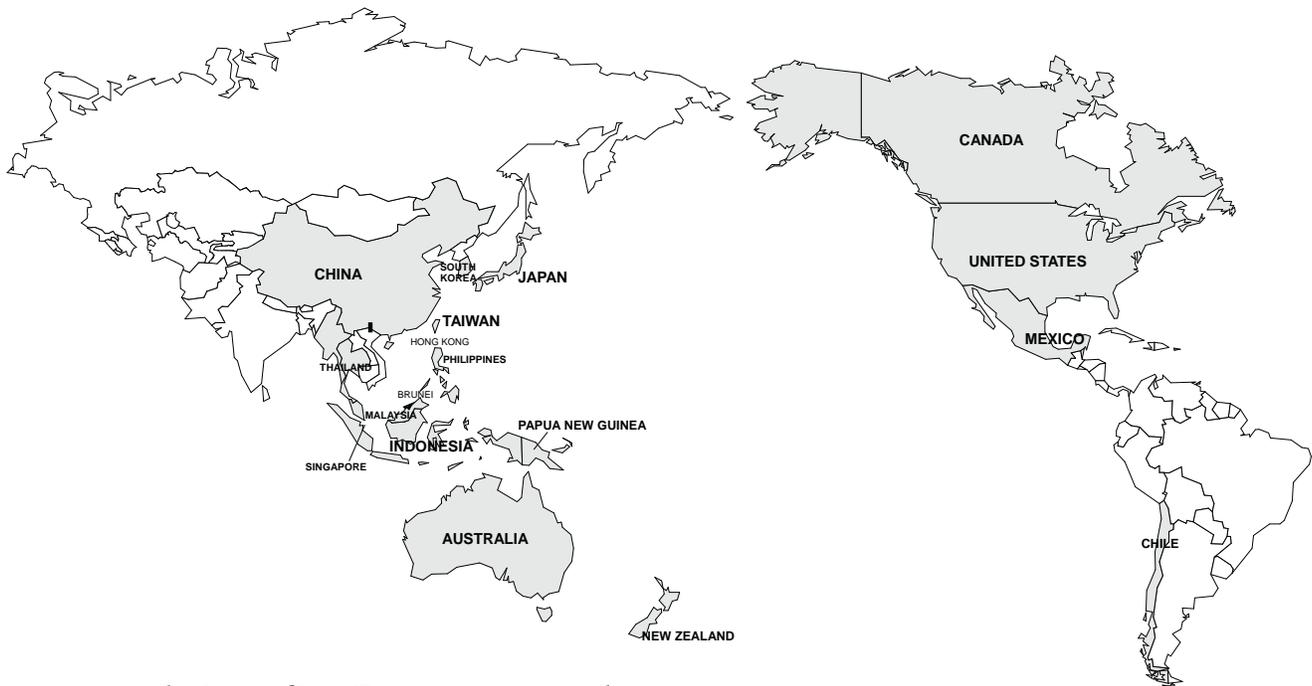
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The Markets of the Asia-Pacific Economic Cooperation Forum



Asia and Pacific Ocean Members

China

East Asia Region

Japan
South Korea
Taiwan
Hong Kong

Association of Southeast Asian Nations (ASEAN)

Brunei
Indonesia
Malaysia
Philippines
Singapore
Thailand
(Burma, Laos, and Vietnam
belong to ASEAN but not in APEC)

Oceania

Papua New Guinea
Australia
New Zealand

Western Hemisphere Members

North American Free Trade Agreement (NAFTA)

Canada
United States
Mexico

South America

Chile

Summary

U.S. agricultural exports to the APEC region reached a record \$36.7 billion in fiscal 1996, up 10 percent from the year before.¹ The region accounted for more than 60 percent of total U.S. agricultural exports, about the same as in recent years. Mexico, the Association of Southeast Asian Nations (ASEAN), and Japan showed the biggest gains, while exports to China dropped from \$2.4 billion in fiscal 1995 to \$1.8 billion. U.S. exports to Mexico were back on trend after a deep recession triggered a big drop in fiscal 1995. Drought-driven demand for bulk commodities and higher bulk prices explained the increase. Growth in exports to ASEAN was also impressive, with the Philippines and Indonesia nearing the \$1 billion mark. In fiscal 1996, the ASEAN market for U.S. agricultural exports totaled \$3.3 billion, almost the size of the Hong Kong and China markets combined.

Non-bulk commodities accounted for more than half of total U.S. agricultural trade in the APEC region in fiscal 1996. Trade with Japan, North American Free Trade Agreement partners (Canada and Mexico), and the other high-income East Asian markets (Hong Kong, South Korea, and Taiwan) is diversified across many products. Trade with China and Southeast Asia is more concentrated in a few bulk commodities.

Agricultural trade in the APEC region is strongly influenced by economic growth, though government policies and other factors, such as exchange rates and commodity prices, are also important. In 1997 the region's economic growth is expected to remain steady at 3.5 percent, the same as in 1996, and significantly above the rest of the world. The robust growth in 1996 in the region's two leading economies, Japan and the United States, was offset by slower growth in the rest of East Asia and ASEAN.

Japan has long been the world's largest net importer of agricultural products. But other Asian APEC members are now emerging as important markets because of rapid economic growth and large populations. There are two categories of these markets. The first includes South Korea and Taiwan, long-time importers of agricultural raw materials, who are diversifying their purchases to include more consumer-oriented products such as meats, horticultural products, and other processed products. The second includes some of the ASEAN markets (Thailand, Malaysia, Indonesia, and the Philippines), which are more richly endowed with agricul-

tural land resources than Taiwan or South Korea. In these countries, growth in demand for some commodities has outstripped domestic supply. Southeast Asia is emerging as a large market for raw agricultural materials and feedstuffs, as well as a few horticultural and processed products.

The dynamics underlying the six emerging markets (South Korea, Taiwan, Thailand, Malaysia, Indonesia, and the Philippines) vary, but several important themes emerge. Income growth has spurred a process of westernization that has included increased consumption of meats. Livestock products are a special case because imported feedstuffs can sustain high-cost domestic producers who are shielded from competition with other countries' low-cost livestock products. Whether the United States exports feedstuffs or livestock products to these markets depends upon each market's trade policy and comparative advantage. In Taiwan and South Korea, high barriers to trade are being reduced, leading to increased meat imports. The substitution of imported meat for domestic production will slow import growth of feed grains.

In the ASEAN countries, livestock industries are at a more incipient stage of development. Their international competitiveness is obscured by barriers to feedstuff imports that have raised costs of production, as well as by barriers to meat imports. Thailand, once a net exporter of corn, has become a small net importer, partly to support its expanding poultry and pork industries. Thailand's poultry exports are in doubt as domestic consumption is expanding more rapidly than its export markets.

Rising wages caused by economic growth have changed the economic structure of these emerging markets, shifting comparative advantage away from labor-intensive to more capital-intensive and service-oriented production. The wealthier economies, like Japan, South Korea, and Taiwan, have moved away from the apparel and leather industries, which have shifted to lower-wage economies like Thailand, Indonesia, and South Asia. Declining U.S. exports of cotton and cattle hides to high-income East Asia have been partially offset by rising exports to ASEAN and China.

Other factors affecting the APEC trade environment include the rising flow of foreign direct investment (FDI) into the APEC region's food processing sector. Sales of processed foods by U.S. foreign affiliates now exceed U.S. processed food exports to the region by about two to one, a trend observed globally. While there is some controversy over FDI displacing exports, both affiliate sales and exports are rising because of the region's strong demand for processed food. In 1996, U.S. foreign affiliate sales in APEC were greatest in Canada, Japan, Mexico, and Australia, while U.S. exports

¹APEC stands for Asia-Pacific Economic Cooperation forum, a vast region surrounding the Pacific Ocean. Members include Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, Philippines, Singapore, South Korea, Taiwan, Thailand, and the United States.

of processed products were greatest to Japan, Canada, Mexico, and South Korea.

State trading in grains is widespread, with wheat ranking first in value of trade followed by rice, barley, and corn. In 1990-95, wheat exports by state trading enterprises (STEs) of APEC averaged 34 percent of the world market, while wheat imports by STEs averaged 21 percent. Rice trade under STEs in the APEC region is concentrated among major importing STEs, which accounted for 14 percent of the world rice market. Barley and corn ranked third and fourth in grain trade under STEs in the APEC region, with barley exports by STEs holding 36 percent of the world market during 1990-95. Importing countries for the four commodities show greater potential than exporters for trade distortion.

While tariff protection for the region's agricultural and food markets is being reduced, tariffs agreed to in the Uruguay Round Agreement indicate still unfinished business in this area. Average tariff rate bindings for food and agricultural products range from 3.5 percent in Australia to 65 percent in Korea. Net exporting countries like the United States,

Australia, New Zealand, and Canada have relatively low average rates, while levels are much higher in developing Asia. City states like Hong Kong and Singapore with no agricultural base have zero or very low tariffs. While the tariff bindings do not by themselves adequately reflect the full tariff protection story, they provide an indication of relative tariff levels. They do not reflect, for example, applied rates that may be well below bindings (e.g. Chile has 26 percent bound rates, but 11 percent rates apply in most cases).

Technical barriers to trade are emerging at the center of agriculture trade policy discussions as resolutions and agreements are reached on more traditional trade barriers such as quotas and tariffs. The incidence of these barriers is high in the APEC region. Based on the estimated trade impact, APEC accounted for 63 percent of the technical barriers identified by a preliminary USDA assessment in 1996. Most of the technical barriers in APEC are justified by governments as necessary to protect human and plant health. They include Japanese restrictions on imports of certain apple varieties and South Korean inspection and testing requirements for chemical residues and pests.

APEC To Resume Healthy Growth

The APEC region experienced strong economic growth (3.5 percent) in 1996, significantly more than the rest of the world (2 percent). This healthy growth was largely due to robust performance in Japan, the United States, and Mexico. Most other APEC Asian members, however, encountered a slowdown as world demand slackened and their currencies appreciated in value against the yen. The outlook in 1997 is for continued steady growth, with lower growth in Japan and in Southeast Asia, while the United States and its NAFTA partners are expected to expand vigorously in 1997. [Alberto Jerardo (202) 219-0645 and Sophia Wu Huang (202) 219-0679]

The United States, Japan, and Mexico Led APEC's Economic Recovery in 1996 ...

The Japanese economy recorded a growth rate of 3.7 percent in 1996, the highest since 1991, following several successive years of low growth. The economic recovery picked up as the Japanese yen started to depreciate against the U.S. dollar after reaching its peak in the latter half of 1995 and business confidence in Japan returned. The yen fell more than 30 percent against the dollar from 80 yen per dollar in mid-1995 to 127 in March 1996. Since then the yen has remained relatively weak and is currently around 120 per dollar. The yen's depreciation was a boon to Japan's major exporting sectors such as automobiles, ships, semiconductors, and microchips.

The U.S. economic performance in 1996 was relatively strong, completing its fifth year of expansion with 2.4 percent GDP growth. Moreover, this impressive expansion took place with low unemployment and inflation. The unemployment rate, 5.4 percent in 1996, was in its fourth straight year of decline. Inflation was 2 percent as measured by the GDP deflator and 2.9 percent according to the consumer price index. However, one major economic indicator—the current account deficit—is of concern. The U.S. current account deficit climbed to \$164.1 billion in 1996 (2 percent of GDP), the largest in the world, reflecting steady growth in domestic income and appreciation of the U.S. dollar.

The impressive turnaround of Mexico's economy was also a major contributor to APEC's overall economic improvement in 1996. Mexico's economic recovery exceeded expectations as GDP rebounded from -7.2 percent in 1995 to 5.1 percent in 1996. The improvement of Mexico's economic health also permitted it to borrow again from international financial markets.

... But Most Asian APEC Economies Experienced Slower Growth in 1996

Except for China, Asia's other emerging markets—Hong Kong, Singapore, South Korea, Taiwan, Indonesia, Malaysia,

and Thailand—simultaneously experienced a slowdown in GDP growth in 1996. The slowdown was caused by sluggish import demand in Japan and Europe, the U.S. dollar's appreciation against the Japanese yen, and a slump in world prices of computer chips (the price of the most frequently used DRAM memory chip declined 70 percent in 1996). As heavy exporters of electronic components, many Asian APEC members faced lower sales to the advanced economies. Also, rising wages reduced competitiveness in these countries, especially in labor-intensive industries.

These economic events hit Singapore, South Korea, and Thailand the hardest. With electronics making up 44 percent of manufacturing output and 60 percent of its non-oil exports, Singapore was especially hurt by the weakness of the world electronics market in 1996. Singapore's GDP growth dropped 2.2 points to 6.7 percent. The economic crises in South Korea and Thailand, however, were more serious and worrisome.

South Korea suffered a slowdown in 1996 as most of its major industries—electronics, steel, petrochemicals, cars, and ships—suffered a drop in global demand and a fall in export prices. Because Japan and South Korea compete in many of the same export industries, the weak yen last year allowed Japan to undercut South Korean products such as cars, electronics, and ships in global markets. South Korea's GDP growth slowed to 7.1 percent in 1996 from 9 percent in the previous year, and South Korea's current account deficit swelled to a record \$23.7 billion (4.7 percent of GDP), second only to the United States. A crisis of confidence in the South Korean economy started when the Korean Composite Stock Price Index fell below the psychological barrier of 700 points in December 1996, when two of the country's giant conglomerates (chaebol) collapsed, and political corruption erupted anew.

Thailand's economy weakened to 6.5 percent in 1996 after a decade of more than 8 percent annual GDP growth. The slowdown was in part due to the government's unsuccessful efforts to fight inflation and reduce the current account

Table 1--APEC is expected to recover trend growth over the long term

Region/country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	Real GDP growth										
World	2.4	1.8	1.7	1.2	2.4	2.2	2.9	3.0	3.0	3.1	3.1
North America	1.3	-0.9	2.6	2.2	3.6	1.8	2.4	3.2	2.4	2.7	2.7
European Union	3.0	3.6	1.1	-0.6	2.1	1.9	1.6	2.3	2.6	2.4	2.5
Latin America	-0.1	3.4	2.8	3.6	1.2	0.0	3.2	4.0	4.5	4.5	4.7
Africa-Middle East	3.2	1.8	3.1	2.3	1.2	2.8	4.2	3.8	3.5	3.6	3.6
APEC Asia	5.4	5.0	3.2	2.7	3.3	3.5	5.1	3.6	4.0	4.0	4.0
Developing Asia 1/	6.1	6.0	8.1	7.9	8.8	8.3	7.6	6.6	6.6	6.7	6.6
NICs 2/	7.3	5.6	3.8	4.6	5.9	6.1	6.4	5.7	5.7	5.8	5.7
Southeast Asia 3/	8.9	7.3	6.6	7.1	7.8	8.1	7.2	4.4	5.0	6.0	6.3
Non-APEC Countries	2.0	2.1	0.5	-0.1	1.3	2.0	2.0	2.7	3.1	3.0	3.1
APEC Countries	2.8	1.4	2.8	2.5	3.6	2.6	3.5	3.5	3.1	3.0	3.1
Australia	-0.8	0.2	3.3	4.9	4.2	3.3	4.1	3.2	3.5	2.8	2.6
Canada	-0.3	-1.8	0.8	2.3	4.6	2.2	1.5	3.0	2.5	2.8	3.1
Chile	3.2	7.2	11.0	6.2	4.2	8.5	6.7	5.5	6.0	5.8	5.8
China	3.7	9.5	14.6	13.9	13.0	10.7	9.7	9.0	8.7	8.5	8.0
Hong Kong	3.4	5.1	6.3	6.1	5.4	4.6	4.9	5.7	5.2	5.3	5.2
Indonesia	8.9	8.9	7.2	7.2	7.5	8.1	7.8	5.5	6.0	6.5	6.3
Japan	5.1	4.0	1.0	0.1	0.4	0.9	3.7	2.0	2.5	2.3	2.3
Korea	9.7	9.2	5.0	5.8	8.4	9.0	7.1	5.5	5.8	6.1	6.0
Malaysia	9.7	8.8	7.8	8.4	9.4	9.4	8.2	5.5	6.5	7.6	7.2
Mexico	4.5	3.6	2.9	0.7	3.6	-7.2	5.1	5.0	5.3	5.3	5.1
New Zealand	-0.7	-0.5	2.2	5.4	6.1	2.6	2.1	2.0	2.3	2.6	2.5
Philippines	2.7	-0.2	0.3	2.1	4.4	4.8	5.7	5.0	5.5	5.7	5.5
Singapore	8.7	6.7	6.3	10.4	10.3	8.9	6.7	6.5	6.0	5.5	5.0
Taiwan	5.3	7.5	6.8	6.3	6.5	6.0	5.7	6.0	5.8	5.7	5.7
Thailand	11.7	8.0	8.1	8.3	8.8	8.7	6.5	2.0	2.5	4.5	6.0
United States	1.3	-1.0	2.7	2.2	3.5	2.0	2.4	3.2	2.3	2.6	2.6

1/ Developing Asia includes China, NICs, and Southeast Asia.

2/ NICs include Hong Kong, Singapore, South Korea, and Taiwan.

3/ Southeast Asia includes Indonesia, Malaysia, Philippines, and Thailand.

Source: Economic Research Service, USDA.

deficit. Thai inflation in 1996 reached 5.9 percent, while the current account deficit fell only slightly to 8 percent of GDP, the same size as Mexico's before its collapse in 1994. In addition, currency speculators repeatedly battered the Thai baht. The Thai stock market lost more than 35 percent of its value between January and December 1996, and fell to a 3-year low.

In contrast, the performances of the Philippines and China were not adversely affected. Five years into a reform program under President Ramos, the Philippine economy improved from near-zero growth in the early 1990's to a respectable 5.7 percent in 1996. In China, tight monetary and fiscal policies achieved a soft landing for the overheating economy, with GDP growth and inflation falling to single-digits of 9.7 and 6.1 percent in 1996, the first time since 1991. For the past 3 years, reducing inflation has been the top priority of China's economic agenda. One factor in

China's success in controlling inflation was improved agricultural production. A large crop in 1995, followed by the record 1996 grain output, helped stabilize prices.

Slower Growth in Japan and Other Asian APEC Members in 1997

The Japanese economy is not expected to repeat its strong performance of 1996. The recovery is not yet on a sustainable growth path because it is still clouded by the sizable fiscal deficit, inefficient non-manufacturing industries protected from international competition, and bad debts on the books of financial institutions. Recent fiscal tightening, including an increase in the consumption tax and new measures to lower government spending, will lead to slower GDP growth in 1997. Concern about the budget deficit is affecting agriculture, although spending on surplus rice remains high. The government's purchase prices for domestically produced wheat and barley have been cut for the first

time in years, and special subsidies supporting farm and rural infrastructure have been stretched over a longer period with no increase in total outlay. Despite these restraints, some bright spots exist, including vibrant manufacturing, a high savings rate, low interest rates, and near-zero inflation.

The 1997 outlook for the other Asian APEC markets has dimmed somewhat because of the successive currency devaluations initiated by the Thai baht in July and subsequent delinking from a U.S. dollar anchor. The financial crisis in Thailand led to a \$16.7 billion bailout, organized by the International Monetary Fund in late August. The size of the bailout is second only to the \$50 billion earmarked for Mexico in the 1994 peso crisis. In contrast to Latin America, however, most Southeast Asian countries have stronger fiscal positions and higher savings rates. Most have manageable debt and growth is expected to remain higher than in Latin America.

Led by private investment and exports, the emerging Asian markets will recover from their slowdown. Exports are expected to rebound as global industrial activity picks up, including electronics sales. Interest rates, however, will remain relatively high to counter inflationary pressures, to keep exchange rates stable, and to attract foreign funds that will help finance current account deficits. As these emerging Asian economies mature, they are unlikely to match the growth achieved during their years of economic takeoff. Nevertheless, they are expected to sustain average growth rates of between 5 and 7 percent, still more than double the rate in the advanced economies.

China's GNP growth in 1997 is expected to remain close to last year's 9.7 percent without increased inflation. While questions have been raised over what lies ahead for Hong Kong now as part of China, Hong Kong should continue to prosper as an international financial center. Under the stipulations of the Basic Law governing Hong Kong after July 1997, the Territory will continue its commercial autonomy for at least 50 years.

NAFTA Countries Maintain Momentum in 1997

The U.S. economy is expected to expand robustly in 1997, with inflation at 2.5 to 3 percent. The Federal Reserve's monetary policy will keep U.S. interest rates stable, helping the dollar react more to factors such as the trade balance and relative GDP growth. Business investment and private consumption, however, will continue to boost U.S. domestic demand even as the trade deficit widens, the delayed result of the dollar's previous and current strength.

As APEC's biggest economy, the United States is the group's largest trader. Asia's dynamic growth significantly increased U.S. trade with Asia in recent years. For example, from 1990 to 1995, U.S. exports to Asian APEC expanded 63 percent, while U.S. imports from the region rose 58 percent. In contrast, U.S. exports to and imports from the rest of the world increased 41 percent.

Canada's gross domestic investment and exports are expected to lead to stronger GDP growth in 1997 despite flat domestic consumption, partly reflecting the still high unemployment rate. Canadian economic activity in 1996 slowed because of a sharp drop in export growth. Mexico's strong export performance together with reduced inflation and interest rates should sustain economic recovery in 1997. The overall economy is gaining strength, external debt service is down, and the government deficit is small. Although Mexico's economy is recovering, job creation remains disappointing. Domestic consumption, as reflected in retail sales, will remain weak because wages have not kept pace with inflation.

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U.S. Agricultural Exports to APEC Region at Another Record

U.S. agricultural exports to the APEC region climbed to a record \$36.7 billion in fiscal 1996, up nearly 10 percent from a year earlier, but much less than the 23-percent jump in fiscal 1995. Increased bulk commodity exports led the growth, boosted by high prices for grains and soybeans. To a much lesser degree, U.S. exports of consumer-ready food products also increased. The United States sold 61 percent of its total agricultural exports to the region in fiscal 1996, about the same as the previous year. U.S. agricultural exports to the region in fiscal 1997 are projected to decrease slightly.
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Sales Rise for Bulk Commodities and Consumer-Oriented Food Products

U.S. bulk commodity exports to the APEC region surged 22 percent to a record \$16.5 billion in fiscal 1996 (table 2). The region accounted for 58 percent of total value of U.S. bulk commodity exports, including 73 percent of coarse grains, 37 percent of wheat, and 56 percent of soybeans. A 42-percent jump in the value of U.S. soybean exports to the region led the growth, boosted by high prices and strong import demand from Mexico, China, and the Association of Southeast Asia Nations (ASEAN). The increased export value of 29 percent for U.S. wheat and 37 percent for U.S. coarse grains was due to high grain prices, since the volume of U.S. wheat and coarse grain exports to the region declined 3 and 6 percent, respectively. The gains more than offset lower export values for cotton. U.S. cotton exports to the region dropped 9 percent to \$2.4 billion because of an abundant world supply and high U.S. cotton prices. In fiscal 1996, the APEC region was the destination for 80 percent of total U.S. cotton exports, used as raw material in the export-oriented textile industry.

U.S. exports of consumer-ready food products to the APEC region in fiscal 1996 reached a record \$14 billion or 71 percent of total U.S. consumer-ready food exports. Red meats (fresh, chilled, and frozen) contributed most to the growth, but some of the sharpest gains were in tree nuts, fruit and vegetable juices, and dairy products. Record exports were recorded for several other product groups, including processed fruits and vegetables and poultry meat. Increased exports to wealthy East Asia and, to a lesser degree, to fast economic growth countries of ASEAN were responsible for most of the growth in U.S. exports of consumer-ready food products to the region.

Red meats, mainly beef and pork, have been historically the most important consumer-ready products imported by the region, which received 92 percent of total U.S. red meat exports in fiscal 1996. Total U.S. red meat exports to the

APEC region increased 8 percent from fiscal 1995 to a record \$4 billion. Beef was the largest component (\$2.5 billion versus \$1.5 billion for non-beef red meats), but pork rose at a faster rate (30 percent versus 3.9 percent for non-pork red meats). Improved competitiveness of U.S. pork, particularly in Japan, fueled a rapid increase in exports to the region. U.S. chilled pork made significant inroads on the Japanese market due to improved packing and transportation technology. U. S. pork did well in Japan's main retail chain because the United States remained the only volume supplier of specific cuts (such as loins).

U.S. exports of intermediate agricultural products to the APEC region dropped 3 percent to \$6 billion in fiscal 1996. A sharp drop in soybean oil exports because China diversified its soybean oil suppliers to Brazil and Argentina, as well as a smaller drop in exports of hides and skins, led to the decline. Decreased exports of U.S. hides and skins were mainly due to the restructuring of the region's leather goods industry. High labor costs, particularly in East Asia, have for years caused many East Asian firms in the labor-intensive, export-oriented leather goods industry to either close their businesses or move to other cheaper production sites such as China and ASEAN. U.S. exports of hides and skins to China, ASEAN, and Mexico increased \$73.3 million to about \$270 million, but exports to East Asia dropped \$195 million to \$1.1 billion. In fiscal 1996, 88 percent of total U.S. hides and skins exports went to the APEC region.

Record U.S. Agricultural Exports to East Asia, NAFTA, and ASEAN, But Not to China

U.S. agricultural exports to many parts of the region set records in fiscal 1996 (figure 1). The emerging market of ASEAN grew rapidly (30 percent) to reach a record \$3.3 billion, or 5.6 percent of total U.S. agricultural exports (figure 2). With 10-percent growth, the huge East Asia market purchased a record \$20 billion, or 33.5 percent, of total U.S. agricultural exports. Similarly, with 11-percent growth, the NAFTA market purchased \$11 billion, or 17.6 percent, of

Table 2--U.S. agricultural exports to APEC by commodity, fiscal years 1995 and 1996

Category/ commodities	Sales to APEC members		Sales to APEC members as share of global U.S. exports		Share of commodity in U.S. agricultural exports to APEC	
	1995	1996	1995	1996	1995	1996
	--- Million dollars ---		--- Percent ---			
Bulk goods total	13,542	16,546	55.4	57.5	40.4	45.1
Coarse grains	5,352	6,814	72.2	73.0	16.0	18.6
Soybeans	2,481	3,532	47.0	56.0	7.4	9.6
Cotton	2,669	2,434	76.3	80.4	8.0	6.6
Wheat	1,978	2,551	39.9	37.0	5.9	6.9
Tobacco, unmanufactured	557	521	41.9	37.4	1.7	1.4
Rice	164	288	15.6	28.7	0.5	0.8
Intermediate goods total	6,222	6,016	54.3	54.9	18.6	16.4
Soybean meal	459	568	42.5	43.5	1.4	1.5
Soybean oil	473	130	58.4	47.9	1.4	0.4
Other vegetable oil	395	355	43.1	42.4	1.2	1.0
Feeds and fodders	824	889	43.5	45.6	2.5	2.4
Live animals	339	351	65.4	64.0	1.0	1.0
Hides and skins	1,569	1,453	91.2	88.1	4.7	4.0
Consumer-oriented products total	13,737	14,157	73.4	70.6	41.0	38.6
Red meats: fresh, chilled, frozen	3,660	3,969	91.2	92.2	10.9	10.8
Poultry meat	1,028	1,083	54.3	45.4	3.1	2.9
Dairy products	461	513	57.1	69.6	1.4	1.4
Fresh fruits	1,712	1,696	87.3	85.6	5.1	4.6
Fresh vegetables	1,063	901	93.6	92.0	3.2	2.5
Process fruit & vegetables	1,293	1,323	68.0	69.0	3.9	3.6
Fruit and vegetable juices	433	488	68.6	73.3	1.3	1.3
Snack foods (ex. tree nuts)	802	844	75.4	73.8	2.4	2.3
Tree nuts	360	419	32.4	30.5	1.1	1.1
Wine and beer	387	327	62.1	48.5	1.2	0.9
Agricultural products total	33,501	36,719	61.3	61.4	100.0	100.0

Source: U.S. Census Bureau trade data compiled by Trade and Marketing Analysis Branch, Foreign Agricultural Service, USDA.

total U.S. agricultural exports. U.S. agricultural exports to the region as a whole grew 10 percent in fiscal 1996, compared with 9 percent in the non-APEC region. Total U.S. agricultural exports to the region reached a record \$37.6 billion or 61 percent of total U.S. agricultural exports in fiscal 1996, about the same as the previous year.

Exports to China, however, declined 25 percent to \$1.8 billion in fiscal 1996. The substantial decline was largely due to reduced soybean oil purchases (caused by diversifying to other suppliers), and reduced purchases of coarse grains, wheat, and cotton. In a drive toward self-sufficiency, the Chinese government not only tightened control on grain imports but also strongly encouraged farmers to expand grain production through increased price supports. The volume of U.S. exports to China in fiscal 1996 declined 39 percent for wheat (from 3.8 to 2.3 billion tons) and 63 percent for corn (from 4 to 1.5 billion tons). China's expansion of grain production, however, has increasingly taken land from other crops, particularly soybeans, for which demand has increased over the years, resulting in increased soybean imports. China's cotton imports decreased because of substitution of cheaper synthetic fibers and increased domestic cotton supplies. Bulk commodities accounted for 81 percent of China's purchases of U.S. agricultural products in fiscal

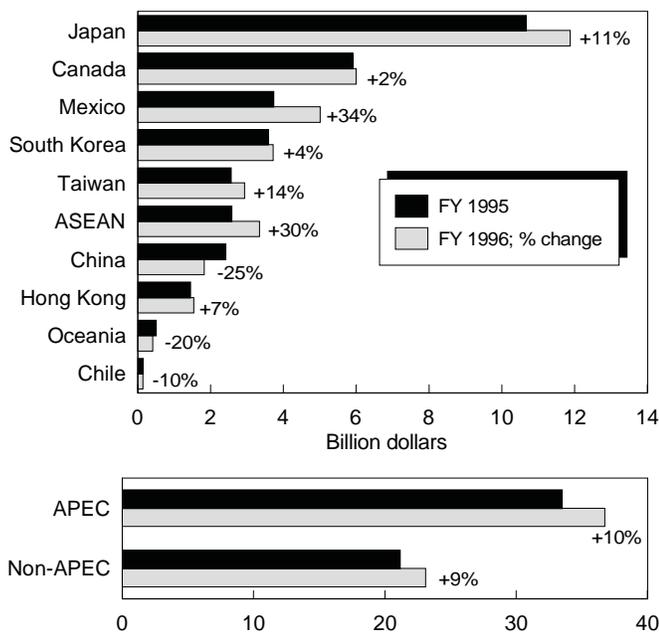
1996; intermediate and consumer-ready products accounted for 14 and 5 percent, respectively.

East Asia is a long-term, regular, and expanding market. In particular, sales to Japan, the long-term leading U.S. customer, rose 11 percent in fiscal 1996 to \$11.9 billion, after jumping 13 percent in the previous year. Strong import demand for U.S. meats caused by a continued decline in domestic livestock production, more open trade policies in compliance with Uruguay Round commitments, and, above all, rising prices for major bulk commodities raised the value of Japan's imports in fiscal 1996.

The NAFTA partners of Canada and Mexico were the second and third largest single markets, respectively, for U.S. agricultural products in fiscal 1996. Trade between the United States and Canada has expanded rapidly since 1989 when the two countries implemented the U.S.-Canada Free Trade Agreement, later incorporated into NAFTA in 1994. The preferential access to the Canadian market given to U.S. agricultural products by NAFTA has been a major factor in making Canada an important destination for U.S. agricultural exports. U.S. agricultural exports to Canada reached a record \$6 billion in fiscal 1996. Growth was only 2 percent, much less than the previous year's 11 percent, mainly due to decreased U.S. exports of beef and fresh vegetables. High

Figure 1

U.S. Farm Exports at Record Highs in Most APEC Markets



Source: USDA, Foreign Agricultural Service database.

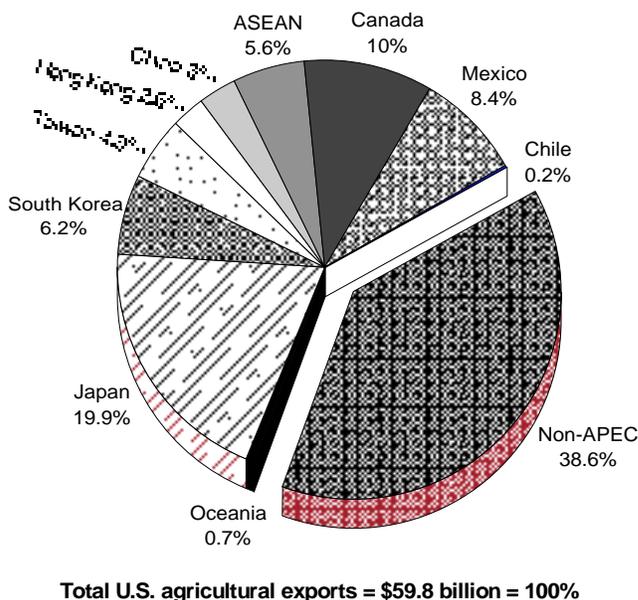
grain prices encouraged herd liquidation in Canada, lowering demand for beef imports. Low prices pushed down the value of U.S. fresh vegetable exports to Canada despite a slight increase in volume.

The most dramatic growth of U.S. sales in fiscal 1996 occurred in Mexico. U.S. agricultural exports staged a remarkable comeback after Mexico's peso crisis of December 1994 led to a deep recession and a sharp decline in U.S. agricultural exports in fiscal 1995. U.S. agricultural exports to Mexico surged \$1.3 billion to a record \$5 billion in fiscal 1996. In particular, high prices and sharp increases in import demand for many bulk commodities because of severe drought pushed U.S. bulk exports to Mexico to a record \$2.8 billion. Record-high values were set for corn, soybeans, wheat, cotton, and rice shipments. Sales in the consumer-ready product category, however, decreased nearly 7 percent to \$1.1 billion. Demand for consumer-ready products remained weak because of the lingering effect of Mexico's recent economic crisis.

U.S. exports to ASEAN grew consistently at a fast pace for the past several years, even though no country in ASEAN purchased more than \$1 billion of U.S. agricultural products. Growth in Malaysia, the Philippines, and Indonesia was particularly impressive, with Indonesia and the Philippines on the verge of becoming \$1 billion markets. Growth was primarily from increased purchases of grains

Figure 2

In Fiscal 1996, 61.4 Percent of U.S. Farm Exports Went to APEC Region



Source: USDA, Foreign Agricultural Service database.

and soybeans, but trade in intermediate and consumer-ready products also increased.

U.S. Agricultural Exports to APEC Region Expected To Drop Slightly in Fiscal 1997

After 2 years of record-setting U.S. agricultural exports to the APEC region, fiscal 1997 exports are projected at \$36 billion, down 1 percent from 1996 though still the second highest on record.

U.S. agricultural exports to East Asia and ASEAN are projected to decrease, and exports to China and the NAFTA partners to increase. Exports to Canada are expected to expand steadily, while a stronger Mexican economy will generate rising import demand. U.S. agricultural exports to China in fiscal 1997 also are projected to increase because of strong import demand for soybeans and soybean products and a whole range of high-value products, stimulated by fast economic growth. China's drive toward self-sufficiency, however, not only reduced its import demand for grains, but also is making the country a net exporter of corn again in fiscal 1997. In ASEAN and East Asia, the value of U.S. farm exports is expected to decrease slightly, mainly because of declining prices for wheat and coarse grains and the late 1996-early 1997 dollar appreciation versus the yen. The handover of Hong Kong to China in July will probably not have major effects on the trade flows of U.S. agricultural exports to the region for fiscal 1997.

U.S. Agricultural Imports from the Region Reached Record High in Fiscal 1996

U.S. agricultural imports from the APEC region in fiscal 1996 grew 7.5 percent to a record \$17 billion (table 3). The region provided more than half of total U.S. agricultural imports, with Canada (20 percent) and Mexico (11 percent) the dominant suppliers. Imports from Canada surged 20 percent to a record \$6.4 billion. The increases were led by cattle, beef, and hogs, as high grain prices encouraged rapid herd liquidation. U.S. farm imports from Mexico dropped 1 percent, to \$3.7 billion, but they were still the second highest on record. A jump of 33 percent in fiscal 1995 was largely due to favorable terms of trade following the peso's devaluation against the dollar. Together with Chile, the Western Hemisphere members of the APEC supplied a little more than one-third of total U.S. agricultural imports in fiscal 1996, consisting of a wide variety of products.

U.S. agricultural imports from the Asian APEC region are mostly concentrated in a few products. In fiscal 1996, more than half of U.S. farm imports from ASEAN were rubber and allied products and tropical vegetable oils, with the former accounting for 94 percent and the latter 99 percent of U.S. imports in these categories. ASEAN supplied more than 10 percent of U.S. agricultural imports in fiscal 1996, slightly lower than the previous year. More than 70 percent of U.S. agricultural imports from Australia and New Zealand are animals and their products. Together with the tiny supplier of Papua New Guinea, the Oceania members of APEC provided 5 percent of total U.S. agricultural imports, slightly lower than the nearly 6 percent in fiscal 1995. The rest of the APEC region does not play a leading role in U.S. agricultural imports. East Asia and China supplied only 4 percent of total U.S. agricultural imports in fiscal 1996, the same as the previous year, mainly specialty products, such as garlic, mushrooms, and canned bamboo shoots.

Table 3--U.S. agricultural exports and imports: Value by region, fiscal years 1995 and 1996

Region	U.S. agricultural exports		1996 share of	U.S. agricultural imports		1996 share of
	1995	1996	region in U.S. ag. exports	1995	1996	region in U.S. ag. imports
	--- Million dollars ---		---Percent---	--- Million dollars ---		---Percent---
East Asia	18,238	20,037	33.5	618	621	1.9
Japan	10,665	11,873	19.9	312	289	0.9
South Korea	3,581	3,710	6.2	73	78	0.2
Taiwan	2,555	2,924	4.9	137	158	0.5
Hong Kong	1,436	1,531	2.6	96	97	0.3
China	2,415	1,816	3.0	493	539	1.7
ASEAN	2,573	3,334	5.6	3,349	3,360	10.4
Thailand	517	599	1.0	915	856	2.7
Malaysia	377	628	1.0	460	388	1.2
Indonesia	708	908	1.5	1,368	1,508	4.7
Philippines	684	904	1.5	541	554	1.7
Singapore	286	296	0.5	65	54	0.2
Brunei	2	1	0.0	0	0	0.0
Western Hemisphere	9,767	11,124	18.6	9,663	10,834	33.6
Canada	5,898	5,988	10.0	5,385	6,439	19.9
Mexico	3,724	5,005	8.4	3,740	3,699	11.5
Chile	145	131	0.2	537	696	2.2
Oceania	508	407	0.7	1,661	1,619	5.0
Australia	408	307	0.5	870	853	2.6
New Zealand	93	95	0.2	764	737	2.3
Papua New Guinea	6	5	0.0	27	29	0.1
APEC total	33,501	36,719	61.4	15,784	16,974	52.6
Non-APEC total	21,128	23,075	38.6	13,854	15,305	47.4
World total	54,629	59,795	100.0	29,638	32,279	100.0

Source: U.S. Census Bureau trade data compiled by Trade and Marketing Analysis Branch, Foreign Agricultural Service, USDA.

Emerging Import Markets in Asia

by Gary Vocke (202) 501-5575¹

Abstract: U.S. agricultural exports to Asia expanded rapidly in the 1990s. The six Asian countries covered here accounted for one quarter of the expansion of U.S. agricultural exports from 1990 to 1996. In the last decade, under pressure from trade partners, South Korea and Taiwan have reduced and eliminated some barriers to trade and new trade flows in high-value products have emerged. The Southeast Asian countries are emerging markets for a much wider range of imports than East Asia, bulk commodities as well as high-value products.²

Keywords: South Korea, Taiwan, Philippines, Indonesia, Thailand, Malaysia, agricultural imports

Asia accounts for more than half of the 1990s expansion of U.S. agricultural exports (figure A-1). U.S. exports to Japan and China have historically received much of the attention. However, as the world map (figure A-2) shows, other Asian countries are also gaining importance. This paper investigates the agricultural imports of six of these other Asian countries: South Korea, Taiwan, Philippines, Indonesia, Thailand, and Malaysia.

Factors Causing Growing Markets For Agricultural Trade in Asia

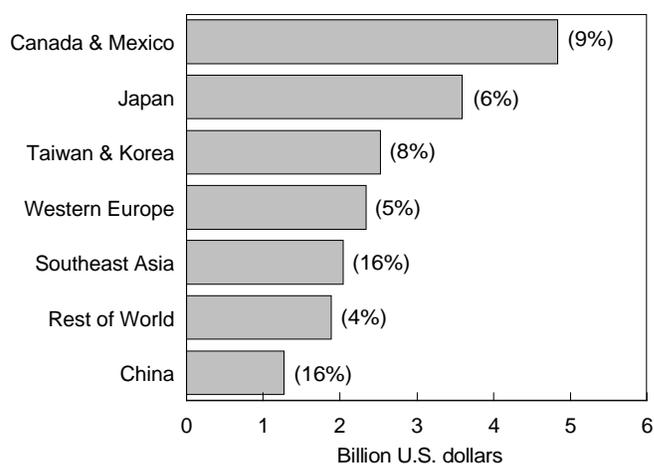
Important factors underlying the increased imports by these East and Southeast Asian countries are economic growth, urbanization, transportation and marketing changes, and trade policies.³ East Asian economic growth and urbanization since the 1970s initially created large import markets for bulk commodities for food, feed, and inputs for textile and leather industries. More recently these forces, in combination with transportation and marketing changes and trade policy shifts, are creating emerging markets for a wider range of imports. The early East Asian pattern, import markets dominated by bulk commodities, is now developing in Southeast Asia.

Economic Growth and Urbanization

Economic growth in the Asian region has been strong in the 1980s and 1990s (table A-1). Incomes across the six coun-

tries vary greatly, with income per person in the Philippines and Indonesia considerably below incomes in the other four economies. But, income is not distributed evenly over households in these countries. Even in the lower-income Southeast Asian countries, many households now have incomes high enough to create expanding markets for imported agricultural products. Moreover, growth among the various sectors has been uneven, with the agricultural sector growing much more slowly than the manufacturing and service sectors. Hence, job growth has occurred principally in urban areas, and wages have been rising. The outcome has been that many people have moved from rural to urban areas, drawn by new jobs and higher wages in manufacturing and services.

Figure A-1
Increase in the Value of U.S. Agricultural Exports in 1996 Compared to 1990



(Percentages shown in parentheses are average annual growth rates)

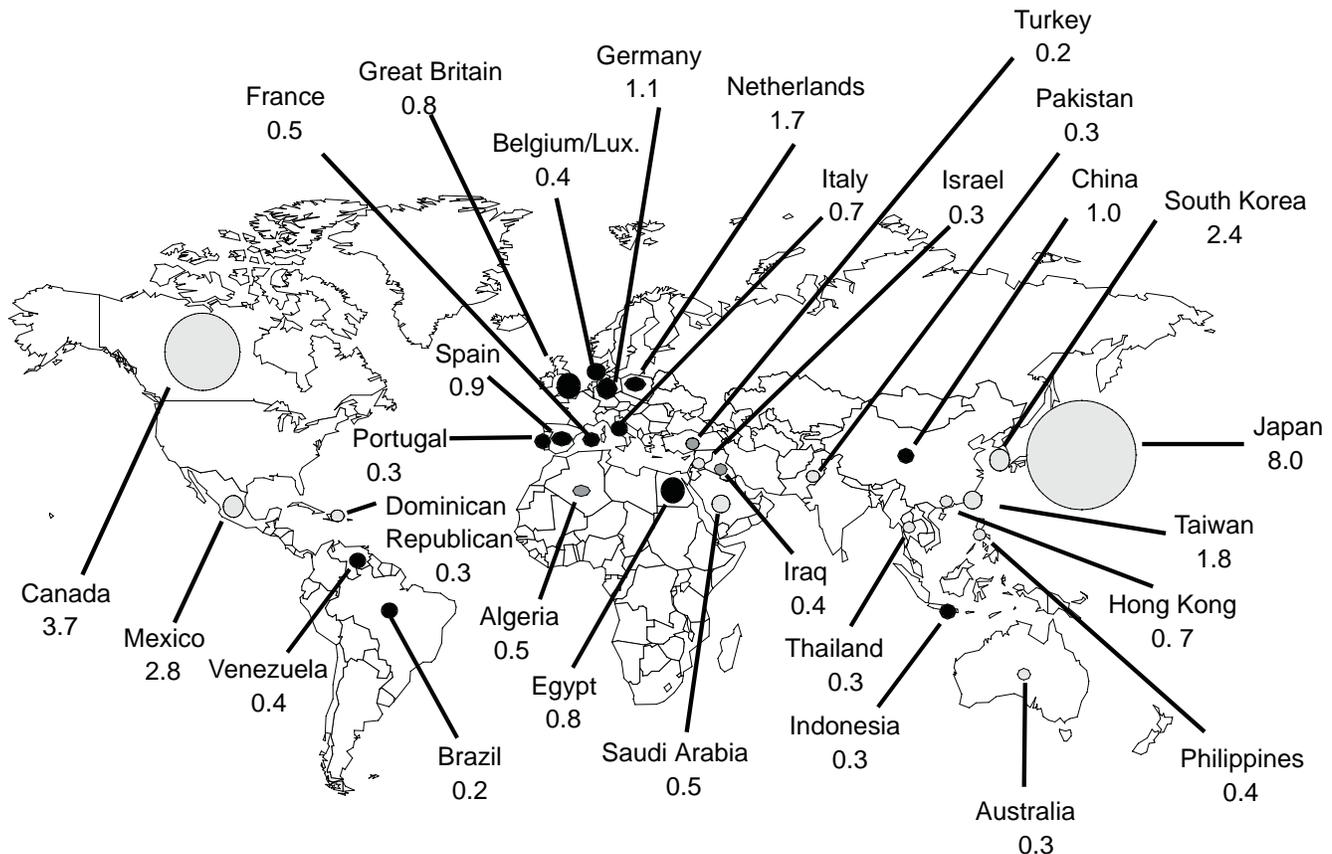
¹Agricultural economist, Commercial Agriculture Division, Economic Research Service, USDA.

²This paper was prepared before the July 1997 financial crisis in Southeast Asia. It is premature to assess the consequences of this financial crisis for the long-term trends discussed in this paper.

³For this paper, trade data for the six countries are summed into regional aggregates called East Asia (South Korea, Taiwan) and Southeast Asia (Philippines, Indonesia, Thailand, and Malaysia).

Figure A-2

Priority Markets for ... In the 1980s



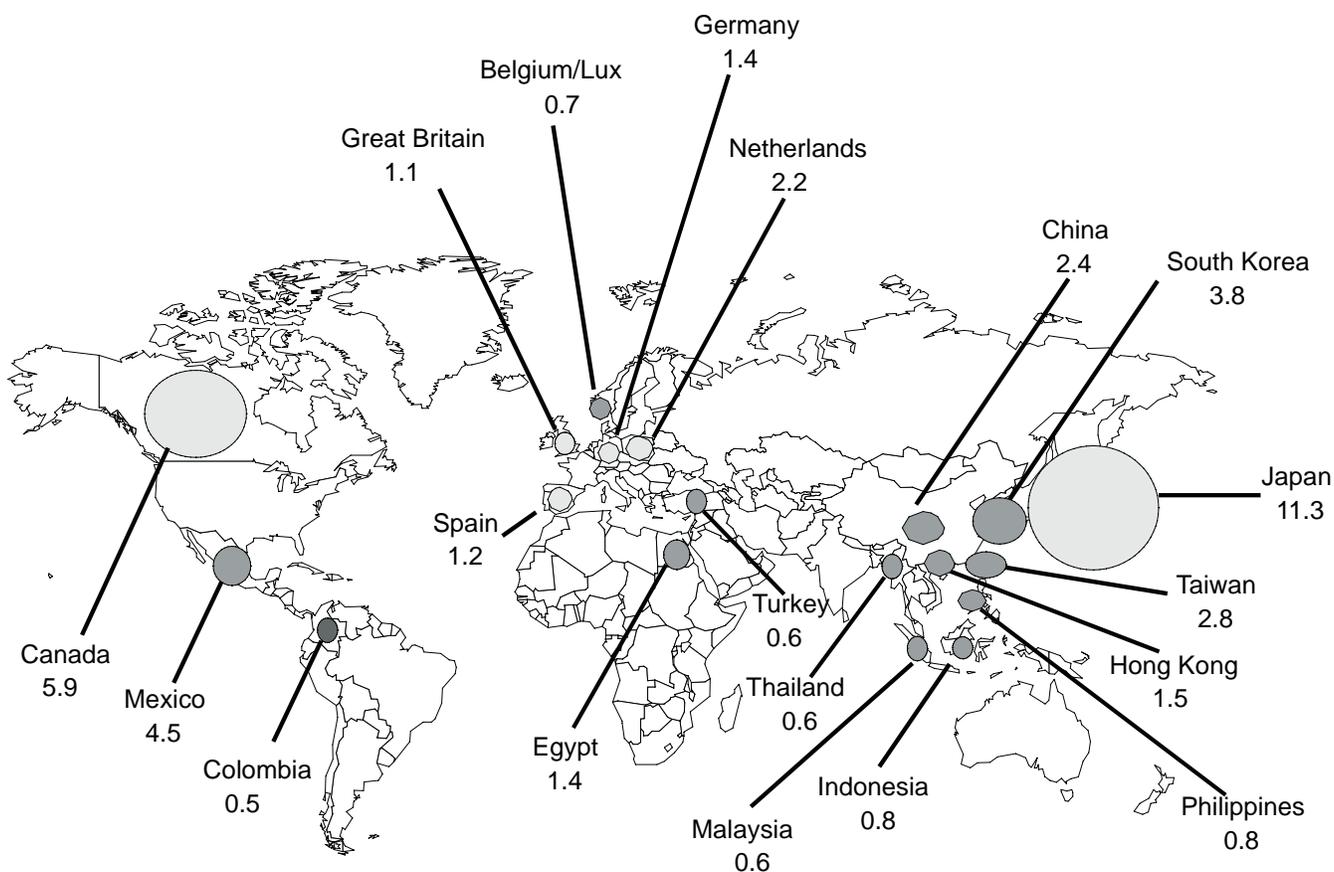
Market size: relative market size is designated by the size of the circles and is shown in billion of U.S. dollars.

Priority Markets are defined as (1) countries that imported 5 percent or more of total U.S. agricultural exports, or (2) countries that imported 1 percent or more of total U.S. agricultural exports and accounted for 1 percent or more of the growth in U.S. agricultural exports, or (3) countries that imported ½ percent or more of total U.S. agricultural exports and accounted for 2 percent or more of the growth in U.S. agricultural exports.

Structure of Export Growth changed dramatically between the 1980s and 1990s. In the 1980s there were 29 priority markets, in contrast to only 19 in the 1990s. Moreover, in the 1980s many markets were declining, many were medium growth markets, and only a very few were rapidly growing markets. In contrast, in the 1990s there are no declining markets, a moderate number of medium growth markets, and many rapidly growing markets.

U.S. Agricultural Exports

. . . In the 1990s



Market growth: ● rapidly growing market with growth of 10 percent or greater; ○ medium growth market with growth rate between 0 and 10 percent; ● declining market with negative growth rate.

The Number of Large and Enduring Markets is small with only two in the Western Hemisphere (Canada and Mexico) and two in Asia (Japan and South Korea) that have endured through the 1980s and 1990s. These four markets accounted for 43 percent of U.S. agricultural exports in the 1980s and 44 percent in the 1990s.

Japan Remains a Large Contributor to Growth in U.S. exports even though its imports from the United States are growing slower than the imports of other Asian nations.

European Trade Growth emerges from declines in the 1980s to moderate growth in the 1990s.

Asia Dominates Growth in the 1990s with three of the most rapidly growing large markets (Korea, Taiwan and China) accounting for a significant share of the overall growth in U.S. agricultural exports. In addition, there are five other markets in Asia that have grown rapidly in the 1990s (Hong Kong, Indonesia, Philippines, Malaysia and Thailand). [Lon Cesal (202) 219-0692]

Table A-1--Economic performance and size of population

	GDP per capita* 1995, \$	GDP growth, % 1980-89	GDP growth, % 1990-96	Population, 1996 (millions)
Taiwan	13,200	8.1	6.3	21
South Korea	11,900	8.0	7.7	45
Malaysia	10,400	5.7	8.8	20
Thailand	8,000	7.2	8.6	59
Indonesia	3,800	5.7	7.2	207
Philippines	2,800	1.8	2.8	74
Rich industrial countries	19,400	2.6	2.0	

* At purchasing power parity.

Source: The Economist, 1997; USDA, 1997.

In combination, rising incomes and urbanization explain much of the consumption increases that are outpacing East and Southeast Asian agricultural production, leading to imports. Rising incomes allow a household, whether urban or rural, to increase its consumption of more expensive food items such as meat and fruit products. A wealthier household can also save time spent in food preparation by purchasing more processed foods, such as instant noodles and fruit preparations. Urban residents have easier access to a wider variety of food choices than are available in rural areas. Hence, higher-income urban residents are consuming more meats, vegetable oils, baked products, and other processed foods.

Whether these desired foodstuffs are supplied domestically or imported is partially shaped by climate, land availability and use patterns, and availability of labor and capital. Government policies are also pivotal. The climate of Southeast Asia has, so far, not supported high yields for soybeans and corn, and precludes wheat production. The paddy fields of South Korea and Taiwan are better suited for growing rice than for corn or wheat. Throughout these Asian economies, the terrain and the land use patterns do not offer abundant land to produce feeder cattle or milk cheaply, leading some economies (Taiwan, for example) to rely heavily on imports.

Rising wages have also changed the industrial structure of Asian economies. The higher wages that occurred with economic growth in East Asia have caused a shift away from labor-intensive manufacturing of clothing and leather goods. Within Asia, this means that East Asia is importing less cotton fiber and cattle hides, while imports into low-wage Southeast Asia and China have increased.

Food Marketing Changes

The organization of food marketing has undergone significant changes in East Asia, and now in Southeast Asia. The increase in number and scale of retail food establishments, principally supermarkets and department stores, has allowed

significant savings on food distribution costs. These modern outlets can display a large variety of food products, especially perishable goods.

Other changes include improved refrigeration and storage that slow ripening and reduce spoilage, modular transport containers that reduce packing and unpacking, electronic tracking and organization of product movement, and many other innovations. For example, with controlled- and modified-atmosphere containers slowing the ripening process, U.S. exporters are now able to ship highly perishable horticultural products long distances by ship. Boat freight can cost as much as 60 percent less than shipping by air, making products more affordable to a wider set of consumers [Mongelluzzo, 1996]. The slowing of ripening also extends the shelf life for fruits and vegetables once they reach their destination. Advanced transportation methods have also affected the shipping of meat products, allowing fresher, better-quality meat products to reach Asia at a lower cost. These advances allow more distant suppliers, including the United States, to be more competitive with nearby suppliers.

Agricultural exports, usually processed products, have followed the spread of western-style fast food outlets in Asia. Western-style fast food was introduced in Asia at the 1970 World Expo Fair held in Osaka, Japan [State Regional Trade Groups, 1994]. Kentucky Fried Chicken opened its first outlet in 1970, Mister Donut and McDonalds in 1971, and Baskin-Robbins in 1974. While Japan has been a focus of the spread of such outlets, the pattern is being duplicated across Asia, first in East Asia, and now in Southeast Asia. Industry analysts estimate that imports supply more than 70 percent of the foods in these restaurants [State Regional Trade Groups, 1994]. Major imported items are beef, wheat for buns, and french fries.

Changing Trade Policies

With economic growth, first in East Asia and now Southeast Asia, the manufacturing and service sectors increasingly compete with agriculture for labor and capital. At the same time, demand for more livestock products sharply increases the pressure on the agricultural system to produce large supplies of feedstuffs. Supplementing grain diets with livestock products rapidly increases crop output requirements. One kilogram of livestock product produced in an intensive production system requires 2-6 kilograms of feedstuffs. Rising demands have often outpaced domestic feedstuff production. Governments are then confronted with a political choice: either stick with their long-standing political goals of agricultural and food self-sufficiency, or allow labor and capital to be drawn away from agriculture and import the needed foodstuffs. Asian governments have often limited the competition of foreign suppliers with their own producers, raising food prices for their consumers.

ASEAN's Impact on Trade

ASEAN (Association of Southeast Asian Nations) is an association of nine countries in the region: the five original members of Indonesia, Malaysia, Philippines, Singapore, and Thailand starting in 1967; Brunei Darussalam in 1984; Vietnam in 1995; and Laos and Myanmar in 1997. This regional grouping initiated the ASEAN Free Trade Area (AFTA) in 1993. Under AFTA, the ASEAN countries plan to reduce tariff and non-tariff barriers among the member countries in a preferential fashion. Because AFTA is not a customs union, individual countries are free to pursue their own independent trade policies towards non-members.

In 1993 the Common Effective Preferential Tariff (CEPT) came into effect. With CEPT, members agreed to a two-stage schedule of effective tariff reductions on products originating from ASEAN states over 15 years. Members were also to eliminate all quarantine restrictions and other non-tariff barriers, with respect to products under the CEPT scheme, within 5 years.

Under CEPT, manufactured products and processed agricultural products with at least a 40 percent ASEAN content are to be subject to tariff reductions and to gradual elimination of non-tariff barriers within ASEAN. CEPT is designed to be consistent with GATT requirements in that no new trade barriers are to be imposed against the rest of the world, and no existing trade barriers against the rest of the world are to be increased.

In 1994, ASEAN decided to accelerate AFTA implementation from 15 years to 10 years, i.e. by 2003 instead of 2008. As a result, tariffs on manufactures above 20 percent will be reduced to this level by January 1998, and to a maximum of 5 percent by January 2003. Tariffs below 20 percent will fall to a maximum of 5 percent by January 1998. ASEAN also agreed to include unprocessed agricultural products in the CEPT/AFTA scheme.

In East Asia, governments have developed their protectionist strategies around a few principles. One, inputs for manufacturing, like cotton fiber and cattle hides, can be readily imported. Second, domestic meat, egg, and milk production is expanded under strict import protection. Meanwhile, the inputs to animal agriculture—feedstuffs and breeding stock—are usually readily imported. Finally, these countries gave rice maximum protection from imports, propounding a doctrine of food security. However, a core aim of these self-sufficiency policies has been to support farm income by limiting foreign competition. The overall impact on consumers of this protectionist strategy has been to make food more expensive than in other countries, such as the United States.

In Southeast Asia there are differences in strategy by country and over time, but there are some commonalities in policies for the livestock sector. Malaysia, the wealthiest of the four Southeast Asian economies covered here, has long depended on agricultural imports, including rice and feedstuffs. Livestock product imports are limited by tariffs. Labor shortages are a serious constraint for the agricultural sector. Thailand is a highly competitive exporter of large quantities of rice, cassava, poultry meat, and until recently, corn. The country, however, has had to protect its soybean and livestock producers from import competition. When domestic feed demand outpaced domestic corn production, Thailand initially attempted to restrict imports to promote increased local corn production. With the recent loss of poultry meat export markets to lower-cost competitors, the government has liberalized the imports of both corn and soybean meal. Labor shortages are beginning to constrain its agricultural sector.

The Philippines has shifted recently from a policy of self-sufficiency, especially for rice and corn, to a policy of food security. This new policy is based on the use of imports of grain to maintain price stability. The country uses tariff rate quotas for limiting the competition of livestock product imports. Indonesia has removed feedstuffs imports from its state trading regulations (corn in 1989 and soybean meal in 1996) and is not now pressing major campaigns for self-sufficiency in rice as in the past. Imports of livestock products are strictly controlled through licensing of importers. Finally, membership of these four countries in the Association of Southeast Asian Nations (ASEAN) and participation in its regional free trade agreement are not expected to raise barriers to imports from countries outside the region (see box).

Asian Food and Feed Import Patterns

The traditional mix of agricultural imports by East Asia after World War II has primarily been staple foods, feedstuffs for livestock production, and raw materials for manufacturing (cotton, hides, rubber, etc.). The composition of agricultural imports by South Korea and Taiwan from the 1960s until the early 1980s followed this traditional pattern. Since the 1980s, however, the import mix by these East Asian countries has changed rapidly. Import markets for a wider variety of agricultural products have emerged as incomes rise and trade is deregulated.

The changing composition of agricultural imports by South Korea and Taiwan is reflected in the share of these products imported from the United States. The share of these emerging market products (meats, fruits, vegetables, processed foods, and beverages) more than doubled from 11 to 26 percent over the past decade (figures A-3 to A-6). Imports of staple food grains, oilseeds, and oilseed products, have also increased, but not as rapidly, thus losing share. Imports of cattle hides and cotton fiber, in contrast, have declined as

Figure A-3
**U.S. Agricultural Exports to Southeast Asia,
 1994-96 Average**

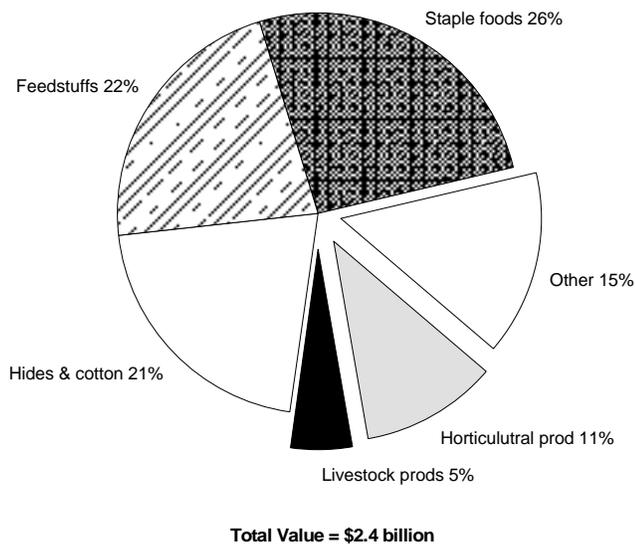


Figure A-4
**U.S. Agricultural Exports to Southeast Asia,
 1984-86 Average**

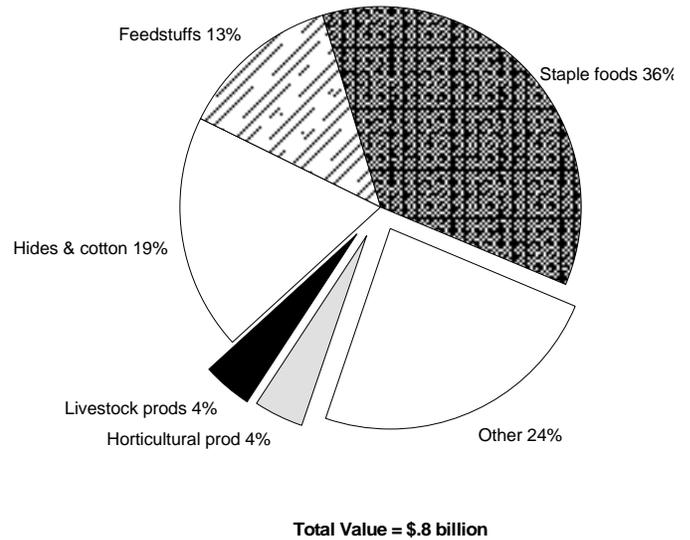


Figure A-5
**U.S. Agricultural Exports to East Asia,
 1994-96 Average**

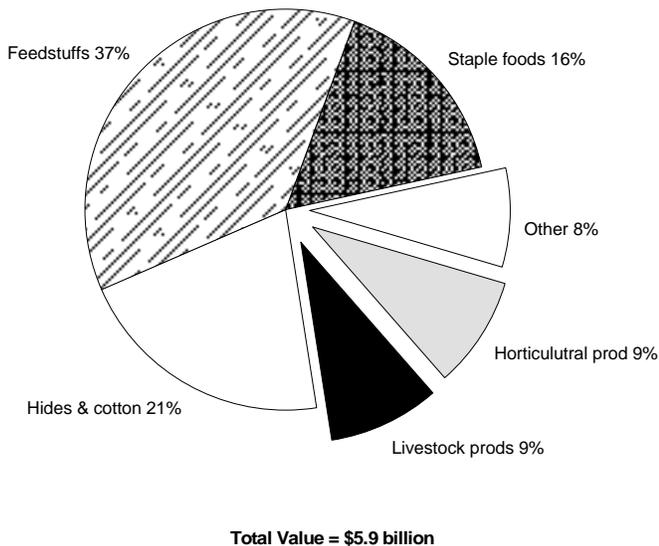
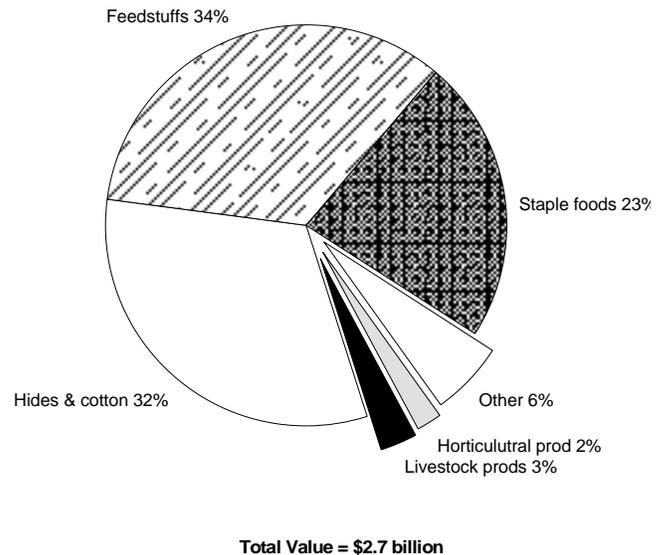


Figure A-6
**U.S. Agricultural Exports to East Asia,
 1984-86 Average**



textile and leather manufacturing moved to lower-wage countries.

In Southeast Asia, imports from the United States are now concentrated in the staple foods, feedstuffs, and manufacturing inputs. The growing export of U.S. feedstuffs and cotton fiber is driving the rapid expansion of U.S. agricultural exports to the region. Notable, however, is the rise of U.S. horticultural exports, primarily fruits and fruit preparations, to the region.

Imports of Staple Foods

Rice is the traditional staple grain grown over most of Asia. Of the countries covered here, only Thailand produces a large surplus for export. Maintaining self-sufficiency in production and stability in prices are important objectives in the other countries, except for Malaysia, which is quite dependent upon rice imports. Indonesia and the Philippines are sometimes significant importers during periods of unexpected production shortfalls due to bad weather, pests, or other natural causes. However, rice's role as a staple food is

changing as incomes rise. Asian consumers go for a diversified diet and prefer high-cost quality food, such as wheat products, horticultural products, fish, and meat.

Wheat products are substitutes for rice in higher-income, urban populations in Asia. However, in East Asia, this substitution has probably reached its limit. Wheat consumption per person has been stable for over a decade. Rice consumption, however, is still declining in East Asia because consumers are increasing their consumption of livestock and horticultural products.

In Southeast Asia, the substitution of wheat products for rice is still on-going. Wheat-based products are not traditional food staples for tropical Asia because wheat is not a tropical crop. Consumption is only possible with imports. Southeast Asian markets are expected to be fast growing wheat markets over the next few years (figure A-7). With this growth, these countries will account for 20 percent of the projected increase of world wheat trade by 2005 [Commercial Agriculture Division, 1997].

U.S. shares of Asian wheat markets vary widely, with the smallest shares in the fast growing markets of Southeast

Asia (table A-2), mostly because of competition from nearby Australia. Besides being very price competitive, the noodle-making characteristics of Australia's white wheats are an important quality advantage in Asian markets (see box). For example, South Korean millers say Australia increased its market share after deregulation of South Korea's wheat imports because noodle manufacturers preferred flour from Australian white wheat [Stephens, 1997. Huo, 1997]. Prior to deregulation, the United States had a 100 percent share of the milling wheat market. Now, the U.S. share is 70 percent, and Australia has a 28 percent share.

Oriental noodles are an increasingly important use of wheat in Asia. For example, in Indonesia, the largest importer in Southeast Asia, noodles' share of wheat consumption has doubled in the past decade. U.S. wheats are very competitive for breads and other uses, including wheat products for western-style, fast food restaurants. These products include hamburger buns, pizzas, and donuts.

Oilseeds straddle two end-use groups: the feedstuff group (oilseed meal) and the staple foods group (vegetable oil, tofu and other processed bean products). Soybean products are a particularly important source of protein in Indonesia

Figure A-7
Wheat Imports: History and Projections to 2005

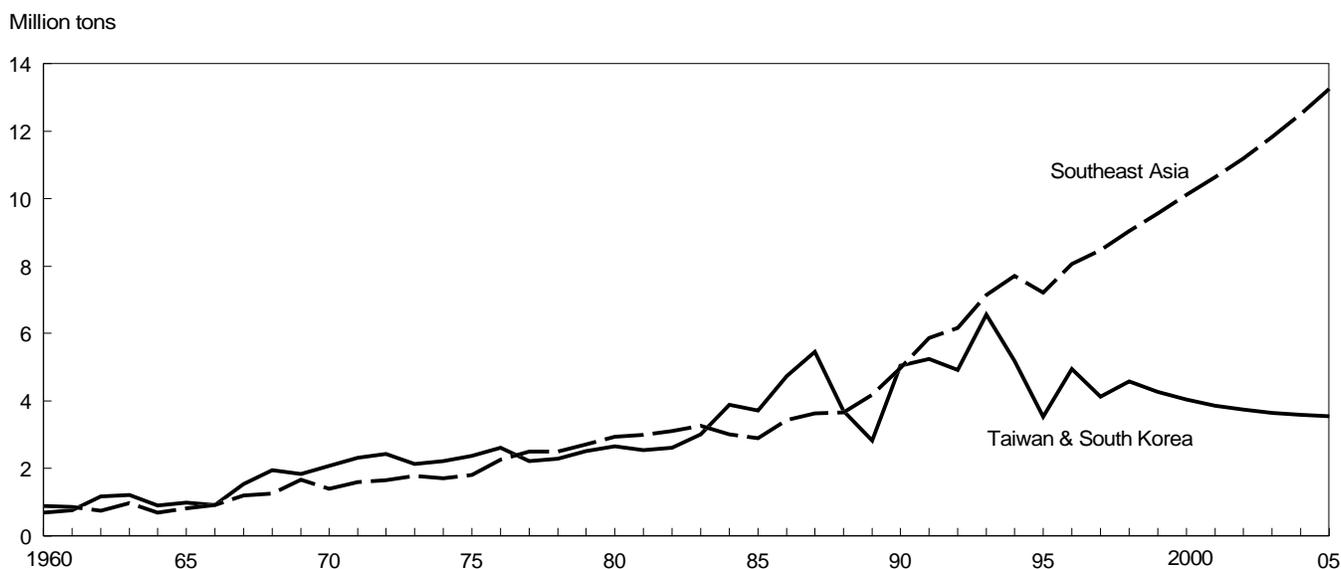


Table A-2--U.S. wheat exports to Asia by type, average 1995-96

	U.S. share of imports (Percent)	Total U.S. exports (1,000 bu)	Percent hard red	Percent soft white	Percent of all wheat for noodles
Indonesia	19	15,230	86	14	55
South Korea	43	54,807	57	43	46
Malaysia	12	4,903	90	10	42
Philippines	94	72,223	67	33	30
Taiwan	88	31,024	86	14	40
Thailand	41	10,460	79	21	40

Source: USDA, 1997; U.S. Wheat Associates, 1997.

End Use Characteristics for Oriental Noodles

Oriental noodles made from wheat can be divided broadly into white, Japanese-style noodles and yellow, Chinese-style noodles [Kansas Wheat Commission, 1997]. The Japanese-style noodles are made with low-protein flours from soft wheats, and salt. The Chinese noodles use higher-protein flours from hard wheat, and are made using a mixture of potassium carbonate and sodium carbonate. When dough is prepared with this higher-protein flour and these alkaline salts, it turns yellow, and is stronger and more elastic than Japanese style noodles.

Most Asian noodle manufacturers use a flour made from a blend of wheats. The Australians have created a niche for their wheat in blends for making oriental noodles because of the color and texture characteristics imparted by their white wheats. In Malaysia and Thailand, for example, the most popular Chinese-style noodles, Hokkien and Ba-Mee, respectively, are made only using the Australian hard white wheats [Huo, 1997]

U.S. soft white wheat does not have a high enough protein content for Chinese style noodles. Milling the higher protein U.S. hard red wheat at a low extraction rate produces a flour with desirable yellow color characteristics, but the low extraction rate makes U.S. wheat less price competitive.

U.S. researchers have been screening U.S. hard white wheats to identify suitable varieties to grow in the United States for export to the Asian noodle market. Attention is focussed on color and starch characteristics of these hard white wheat varieties [Drynan, 1997].

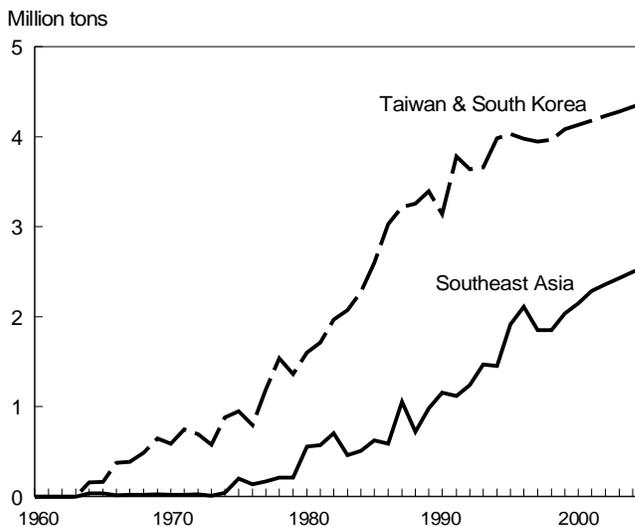
for about 65 percent of the population in traditional preparations of tofu, tempe (fermented soybean cake) and soy sauces. Tofu producers prefer relatively soft soybeans, thus their preference for freshly harvested domestic soybeans. Tempe producers prefer large, dry grains typical of imported soybeans. Imports of soybeans are expected to increase, for processing into food products and for soybean meal for domestic livestock production (figure A-8).

Feedstuff Imports: A Policy Decision

Countries with rising meat demands have a choice of strategies to fulfill consumption. A market-based strategy would allow international prices to determine whether livestock products will be imported or produced domestically. If profitable, feedstuff shortfalls for domestic livestock production can be offset through imports of corn and soybeans/soybean meal. An alternative strategy was adopted by South Korea and Taiwan. Both restricted livestock product imports and allowed feedstuffs to be readily imported to support the expansion of their sheltered domestic producers.

Figure A-8

Soybean Imports: History and Projections to 2005



In the late 1970s, livestock sector output was already 30 percent of agricultural output in Taiwan and South Korea. The livestock sectors of these countries expanded steadily under their government's protectionist umbrella to more than 50 percent of agricultural output in 1995 [Food and Agriculture Organization, 1997]. Consequently, South Korea and Taiwan became very dependent upon imported feedstuffs. In total, they produced only 6 percent of their coarse grain use for 1995-96.

In contrast, the value of livestock output in Southeast Asia was only 15 percent in the late 1970s. This proportion was constant until the early 1990s. Livestock output growth then began outpacing crops in 1990, achieving a 20 percent share in 1995 [Food and Agriculture Organization, 1997]. These countries now must choose whether to continue using protectionist strategies against imported livestock products as demand within their countries for livestock products has started to rise.

Continuation of present policies is projected to make Southeast Asia an increasingly important feedstuff importer (figures A-9 and A-10). Even though domestic corn production will increase, it will not keep pace with the region's rapidly expanding livestock sector. This trend was sharply re-enforced with the recent switch of the region's only major corn exporter, Thailand, from an exporter to importer of corn (figure A-11).

To ensure adequate feedstuff supplies, these countries are also expected to give their feed manufacturers easier access to low-cost, imported feedstuffs. Their goal is twofold: raise rural incomes with a rapidly growing domestic livestock sector and to increase animal protein consumption without increasing imports. Presently, meat consumption is low in Southeast Asia (figure A-12).

Figure A-9

Soybean Meal Imports: History and Projections to 2005

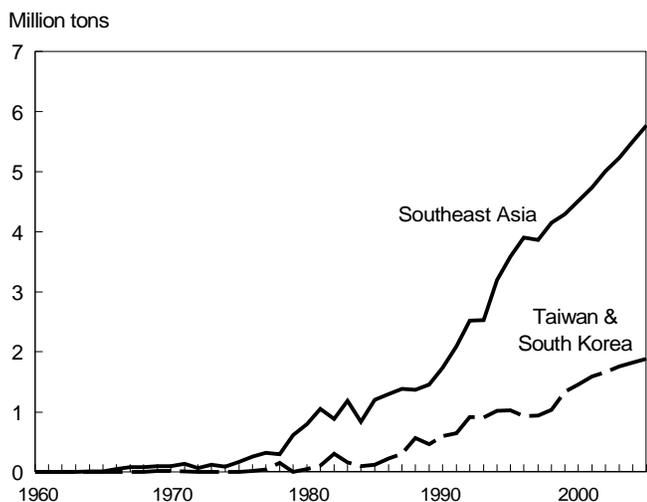


Figure A-10

Corn Imports: History and Projections to 2005

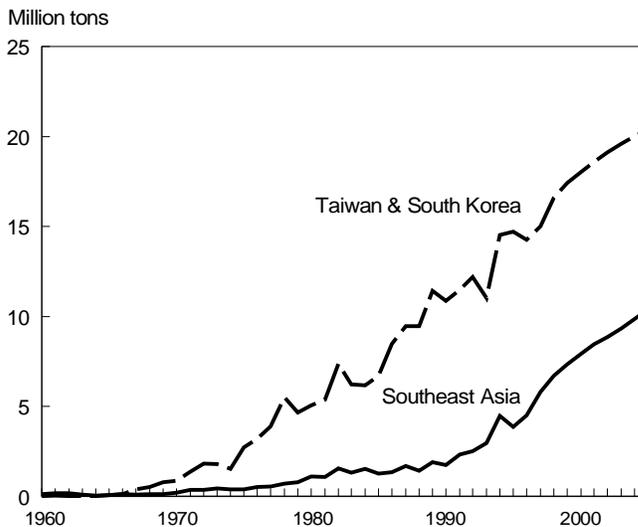


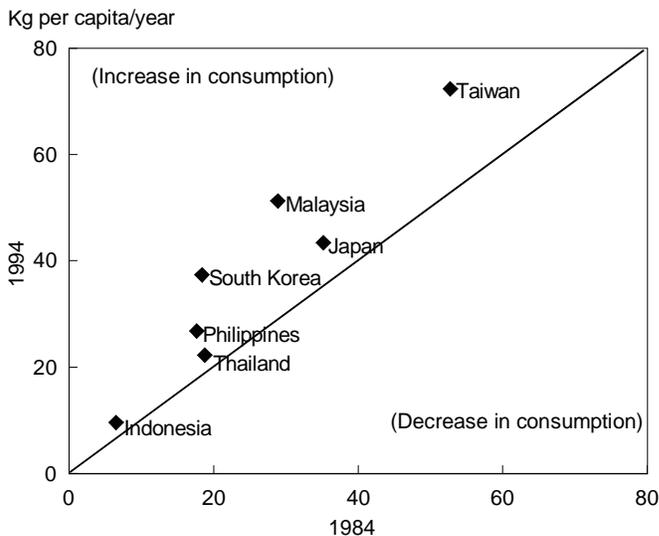
Figure A-11

Historical and Projected Corn Imports and Exports by Southeast Asia



Figure A-12

Comparison of Changes in Per Capita Meat Consumption



Consumer-Ready, High-Value Product Imports Liberalized

Most agricultural imports into East Asia rarely involved products that went directly to retail shelves for consumers. Feed was processed through animals, wheat and vegetable oil were processed into various foods, and the industrial raw materials underwent transformation into clothes, shoes, and other products. However, East Asia's agricultural imports have broken through the old pattern, and a wider range and increasing volume of imports are reaching consumers more directly. These include meats, fruits, vegetables, processed foods, and beverages, in chilled, frozen, canned, and other forms. Meats dominate the value of trade in this new category.

Modern meat trade in Asia developed first in Japan, and Japan remains central to the dynamics of the Asian meat trade. The opening of Japan's large market was the stimulus for the development of Taiwan's pork export industry and the poultry meat export industries of Thailand and China. Thus, Japan's meat imports also help explain the structure of the region's feedstuff trade.

As Japan opened its large consumer market, foreign live-stock producers proved to be very competitive with the country's high-cost domestic producers. The country is now a huge import market for animal products. While Asia accounted for 54 percent of U.S. meat export growth from 1990 to 1996, the gains were mostly due to Japanese

Table A-3--Meat self-sufficiency; production divided by consumption (percent)

	Early 1990s	Projected for 2005
East Asia	75	63
Southeast Asia	99	97

Source: USDA, 1997.

imports. Consequently, Japanese feedstuff imports have slowed as the country's meat consumption increasingly depends on imports.

Meat self-sufficiency is also expected to decline for South Korea and Taiwan (table A-3). Pressure from trade partners is expected to encourage these countries to adopt policies allowing even more import competition, which is expected to slow the expansion of their livestock production. Southeast Asia governments are projected to continue protecting their livestock producers from foreign producers while allowing the import of cheap feedstuffs. Import markets for U.S. meats in these countries will be limited mostly to supplying the hotel and restaurant sectors over the next decade.

Beef and Pork Trade. Growth of the South Korean livestock sector was mostly to meet domestic demand. In Taiwan, however, sector expansion also was aimed at exporting pork to Japan. Taiwan has been supplying 30 to 40 percent of imports by Japan, its only pork export market. When Taiwan was forced to cease exporting pork in 1997 because of a disease outbreak, the United States lost some feedstuff sales to Taiwan, but, with Denmark and Canada, gained Taiwan's share of the Japanese pork market.

U.S. beef is a very competitive product for high-income consumers of western-style meals. The U.S. practice of grain-feeding young steers and heifers produces tender beef that is considered a high-quality product. Beef from grain-fed cattle is more tender because grain-fed cattle reach a mature weight at an earlier age and the beef they produce has a higher degree of marbling. Canada and Japan also produce mainly grain-fed beef. Beef production in Australia, New Zealand, South Korea and Taiwan is mostly grass or forage based, though grain feeding is becoming more important in Australia and South Korea.

Lower-priced, grass-fed beef exports from Australia and New Zealand have a competitive advantage in the western-style, fast food sector for hamburgers. Also, many traditional Asian beef dishes do not require a tender product because the meat is thinly sliced or ground first, and cooked for long periods.

Broiler Meat Trade. Asian poultry meat trade has also been influenced by the opening of Japanese markets. Japanese preference for dark meat to white, the opposite of U.S. consumers, created export opportunities for bone-in legs from the United States and deboned leg meat first from Thailand,

and now China and Brazil. Thailand has been very successful in exporting broiler meat to Japan since the late 1980s, exploiting its low-wage competitive advantage for producing deboned products, its own corn production (Thailand was a net exporter until 1994), and imported protein supplies. Thailand supplied about half Japan's frozen, processed-parts imports. Subsequently, China, with even lower wages, emerged as an exporter to Japan, surpassing Thailand in 1994.

Rising labor costs for deboning and high feed costs have hampered the competitiveness of Thai poultry exports. Thailand's total costs for a ready-to-cook broiler are slightly less than the United States' and greater than China's (table A-4). Compared with the United States and China, Thailand's feed costs are high because the prices of corn and soybean meal are more expensive than in competing countries. In the United States, higher labor costs in poultry processing plants offset lower feed costs. Thailand's better feed conversion partially offsets China's lower feed costs, but China's labor costs are also lower than in Thailand [Charoen Pokphand, 1996].

Consequently, the Thai exporting firms responded by developing high-value cooked products for export; ready-to-eat meals, TV dinners, etc. Rapidly expanding cooked product exports have partially offset the loss of uncooked product exports. Also, these Thai firms have been able to increase their sales domestically with the rapid expansion of western-style, fast food restaurants.

South Korea and Taiwan have not been large participants in Asian poultry trade. Both countries have protected their domestic poultry producers from import competition, so poultry imports are limited. In July of this year, South Korea freed trade by converting from a quota system to tariffs that will be steadily reduced until 2005. Taiwan will also change its policies if it joins the WTO.

Horticultural Imports. Rising incomes, advancing transportation technology, and falling trade barriers are increasing Asian horticultural imports. Besides price, which tariffs have sometimes raised to high levels, horticultural exports depend upon a mix of characteristics: (1) quality, (2) exotic produce from a different climate, (3) status of branded, imported products, and (4) off-season supply. Based on

Table A-4--Indices of broiler ready-to-cook (RTC) production costs for 1994

	Thailand	United States	China
Total cost/kg RTC	100	102	87
Feed cost/kg	100	71	83
(a) Feed conversion ratio	100	100	115
(b) Feed cost/ton	100	71	72
Processing labor cost/kg	100	188	na

Source: Henry and Rothwell, 1995.

these characteristics, U.S. exports, for example, apples in tropical and subtropical regions, have good prospects.

Asia accounted for 35 percent of the expansion of U.S. horticultural exports in the 1990s. High-income Japan, Hong Kong, Taiwan, South Korea, and Singapore are the top Asian markets. The top ranked U.S. horticultural exports are citrus, apples, frozen potatoes (mostly french fries), and almonds. These items accounted for about 30 percent of U.S. horticultural exports to Asia.

These markets are opening, not because of a recent rise of income, but because of changing trade policy. For example, U.S. fresh orange exports expanded rapidly when a tariff rate quota was finally negotiated with South Korea in 1995. Orange imports from the United States increased six-fold from \$1.7 million in 1995, and nearly 9-fold by 1996. The demand was always there, but it took negotiations to open the market.

Although incomes are lower, Southeast Asian imports of horticultural products have also grown rapidly as tariffs have been reduced. There is an expanding middle class in each of the Southeast Asian countries that can afford imported products, especially if retail prices can be lowered by reducing tariffs. For example, fruit imports by Indonesia, with the lowest incomes of the four countries, have grown rapidly since the country dropped its restrictions on fruit imports in 1991. In addition, since dropping the restrictions, tariffs have been cut twice. Consequently, fresh fruit imports have increased more than 20-fold from 1990 to 1996. Indonesia imported nearly \$44 million in fruits from the United States in 1996, primarily apples and grapes.

Consumer Preferences Ensure Markets for U.S. French Fries

Markets for U.S. french fries in Asia are large and growing. These markets will continue to grow, even though potatoes can be grown in Asia for french fries. Asian potato varieties produce a french fry with different characteristics than U.S. varieties. As long as Asian consumers continue to favor U.S. product characteristics, U.S. exporters will have expanding markets. U.S. french fries have unique qualities due to both genetics and production practices.

A key potato producing area for high-quality french fries is the Pacific Northwest of the United States. The area's preferred variety is Russet Burbank. Producers enhance the unique quality of the fries from this variety through their production practices [Wise, 1997 #1]. Quality U.S. fries also require potatoes with a low moisture content. Producers can grow low-moisture potatoes with careful irrigating because their crop is grown on sandy soils in areas of low rainfall.

The leading exports to Southeast Asia are apples, grapes, frozen potatoes, and citrus. Temperate-climate product imports by these tropical countries are likely to continue to expand as incomes rise. Even frozen french fry imports should continue to grow with the expansion of western-style fast-food restaurants, despite the fact that potatoes are an important crop in the region. Many Asian consumers prefer U.S. french fries (see box).

Cotton Fiber and Cattle Hide Import Patterns

Increasing wages can alter the comparative advantage a country might have for the export of manufactured goods. Since many processes in clothing and leather goods production use unskilled labor, these are among the first sectors to appear in newly industrializing countries. As wage rates rise, the industries move labor-intensive activities to lower-wage countries. Imports of raw materials (cotton, hides, rubber) follow the migration of the labor-intensive processes (see figures A-13 and A-14).

The Asian share of the world textile and footwear markets has grown substantially since the 1970s, mostly at the expense of Europe. Within Asia, textile production has been shifting recently from East to Southeast Asia and China. These countries not only have lower production costs for producing goods for export, they also have rapidly expanding domestic markets themselves. Investments in the latest technology, often made by textile firms from East Asia, combined with low wages, enhanced Southeast Asia's export competitiveness. Now, however, the United States' two biggest markets in Southeast Asia, Indonesia and Thailand, are facing contrasting labor situations.

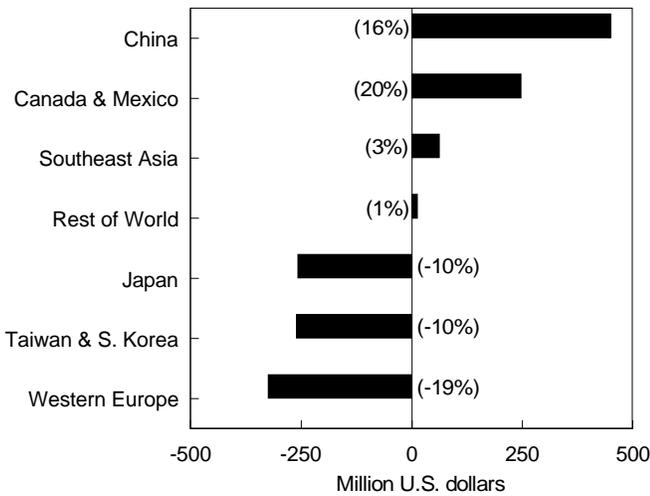
A comparison of Indonesia's labor cost with selected countries shows that Indonesia's labor cost position has not changed much over the past decade (table A-5). Based on current labor costs, Indonesia remains very competitive. Indonesia is dependent on large cotton imports for its export-based textile industry.

Recently, the Thai textile industry has been threatened by an emergence of lower-cost competitors (i.e., China, Indonesia, Pakistan, India, etc.). In response, Thailand may have to switch from "commodity" types of textile products marketed in Eastern Europe and the Middle East, which are subject to fierce low-wage competition, to development of specialty product lines that command better prices. The higher profit margin of such fashionable products can cover the cost of higher-wage employees, but are more difficult to produce.

The U.S. share of the market in Indonesia, Thailand, and elsewhere in Southeast Asia, is presently about one-third. U.S. exporters face strong price competition from other suppliers for several reasons. The Southeast Asian industries use supplies from several countries to obtain the mix of cot-

Figure A-13

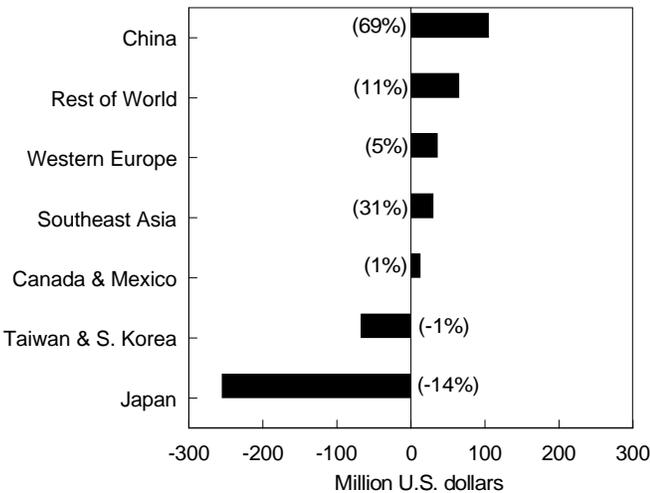
Change in Value of U.S. Cotton Fiber Exports in 1996 Compared to 1990



(Percentages shown in parentheses are average annual growth rates)

Figure A-14

Change in Value of U.S. Hides and Skins Exports in 1996 Compared to 1990



(Percentages shown in parentheses are average annual growth rates)

ton fiber types needed for the range of goods produced. Also, because the Southeast Asian countries are almost entirely dependent on imports and they import the year round to avoid carrying large stocks, they are importing seasonally from the Northern and Southern Hemispheres.

A similar generational sequence has occurred for leather products manufacture and export in Asia. Most major exporters of leather products in Asia import much of the raw material, hides and skins or leather. Domestic availability of raw material is not essential for the successful development of a national leather goods industry. Korea, Japan, and Taiwan remain the largest importers of hides, but their demand is declining. Leather industries in these countries

have transferred highly labor-intensive assembly operations to other countries with lower labor costs. Subsequently, China's imports of hides increased substantially. The increase of hide imports by Southeast Asia was about one-third of China's increase.

In contrast, tanning (and, for cotton, spinning) operations have transferred much more slowly because they are less labor-intensive than assembly, and require a higher level of technical sophistication. South Korean exports of unfinished leather, therefore, are increasing rapidly. Korea's tanning industry grew rapidly in the early 1980s and peaked in the early 1990s. Hide imports account for more than 95 percent of South Korea's supply. South Korea will be a large, but declining market, as tanning gradually follows the leather goods manufacturing industry to China, Thailand, and other countries. Taiwan's use of hides is also expected to decline in the long term.

The United States is the world's leading producer and exporter of cattle hides. U.S. exporters had 44 percent of the import market in East Asia, and 13 percent in Southeast Asia in 1995 [United Nations, 1997]. In contrast, the U.S. shares in 1990 were 29 percent in East Asia and only 2 percent in Southeast Asia. U.S. exporters have rapidly increased their share in Southeast Asia principally because of increased exports to Thailand.

U.S. hides are both the highest quality and the most expensive, partly due to transportation costs relative to competing suppliers. As long as the hides are being imported to make high-quality products for export, the higher U.S. prices are not a problem because the return is enough to cover the extra expense [United States Hide, Skins, and Leather Association, 1997]. The domestic hides are of poor quality

Table A-5--U.S. textile labor cost index compared to selected countries for 1994 and 1995*

	Index for 1994 (USA = 100)	Index for 1984 (USA = 100)
Japan	215	73
Italy	132	74
United States	100	100
Taiwan	50	19
South Korea	34	22
Thailand	12	6
Philippines	8	NA
India	4	3
China	4	2
Indonesia	4	2
Pakistan	4	6
Vietnam	3	NA

*Index is ratio of United States' cost to each country's cost based on local labor cost per hour converted to U.S. dollars.

Source: Textile Digest, 1996.

because they are from old, draft animals whose hides have been damaged during their long life or through inappropriate slaughtering practices. Hides from Australia and China are also exported to Thailand, but their quality is not as high as the U.S. hides.

Conclusions

Asia's agricultural imports expanded rapidly in the 1990s. The United States benefited from this trade growth as the six Asian countries covered here accounted for one quarter of the expansion of U.S. agricultural exports from 1990 to 1996. While the trend of individual commodity markets varies by country, the rapid growth of these economies, reinforced by policies reducing trade barriers, made the six countries some of the most dynamic markets for U.S. exporters.

In the last decade, under pressure from trade partners, South Korea and Taiwan have reduced and eliminated some barriers to trade. The sectors involved in these liberalizations are the ones where new trade flows have emerged. These emerging markets are generally for consumer-ready, high-value products, including meats, fruits, vegetables, processed foods, and beverages. With continued trade liberalization, more new markets for such products can emerge.

The Southeast Asian countries are emerging markets for a much wider range of imports than East Asia, as they include bulk commodities as well as high-value, consumer-ready products. As in East Asia, liberalizing trade and lowering tariffs have made a big difference in the retail price and availability of imported consumer-ready products.

In the future, the underlying forces of income growth and urbanization will continue to change diets in predictable ways in Southeast Asia. With higher incomes, people will consume less rice and more wheat products, as well as horticultural and livestock products. This desire for more diversity in diets includes the variety and status of imported, consumer-ready items.

The future of Southeast Asian bulk commodity imports is problematic because much depends upon policies toward the countries' livestock sectors. Will Southeast Asian policies follow the East Asia model of putting a protective umbrella over domestic livestock producers, but not their feedstuff producers? To date, there has been a tendency for the deregulation of imports of corn and soybean meal, albeit at an uneven pace across the region.

Imports of cotton fiber and cattle hides will remain subject to the export competitiveness of each country's textile and leather product industries. Wage rates for producing these products are critical, but so are other factors, such as exchange rates.

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U.S. Direct Investment in the APEC Food Processing Sector

Foreign direct investment has proved to be an important means for food processing firms to reach overseas markets. The United States is no exception in following this global pattern. From a cumulative investment of \$10 billion, U.S.-owned affiliates in the APEC region generated sales of \$39 billion, relative to the \$20-billion of direct exports, in 1996. Both affiliate sales and exports are rising because of strong demand for processed food in the region. [Chris Bolling (202) 219-0668, Charles Handy (202) 219-0859, and Steve Neff (202) 501-6761]

The APEC region is a \$20-billion market for U.S. exports of processed foods¹ that has increased more than 50 percent since 1990 (figure 3). The region is the destination for two-thirds of total U.S. processed food exports, with Japan, Canada, South Korea, and Mexico the major destinations and the principal growth markets in the 1990s (tables 4 and 5). Meat, miscellaneous foods (largely processed seafoods), fruit, vegetables, and oilseed products are the leading exports of the U.S. food processing sector to the region. Most of the increase in U.S. processed food exports in 1990-96 was accounted for by meat products (\$3.7 billion, a 79-percent increase), although exports of dairy products, baked goods, and beverages all doubled.

Foreign direct investment (FDI) has proved to be an important means for U.S. food processing firms to reach overseas markets. Product sales from affiliates of U.S.-owned companies in the APEC region totaled \$40 billion in 1996, 67 percent higher than in 1990, and one-third of all U.S. food industry affiliate sales abroad. Affiliate sales are supported by the U.S. cumulative foreign direct investment of \$10 billion in the APEC food processing industries. FDI is defined as the book value of APEC food processing establishments in which U.S. firms have at least a 10-percent equity share.

More than 50 of the United States' largest food processing companies have affiliates in the APEC region, with products ranging from cookies to fruit juice. The largest investments are in Canada, Mexico, Australia, and Japan, countries that are neighbors or have high incomes, and have relatively lib-

¹Processed food is defined as the products listed in the U.S. Department of Commerce Standard Industrial Classification SIC-20 as "Food and Kindred Products". SIC-20 includes establishments that manufacture or process foods and beverages for human consumption, as well as certain related products such as chewing gum, fats and oils, and animal feeds. Products in SIC-20 must be value-added products. Many processed food products, such as some dairy products, grain milling products, and fats and oils, serve as inputs into other manufactured foods and other goods. The major categories of SIC-20 include meat, dairy products, fruit and vegetable products, milled grain products, baked goods, sugar and confections, oilseed products, beverages, and miscellaneous foods (mostly seafood).

eral foreign investment regimes. The biggest absolute growth in foreign direct investment (and the resulting affiliate sales) has been in these same countries since 1990. Rapid income growth and relative economic stability have also spurred foreign direct investment in a second tier of countries—Chile, China, and Thailand—where U.S. FDI has grown the fastest in 1990-96.

Table 4--U.S. processed food exports, affiliate sales, and direct investments in APEC, 1990-95 average

Country	Exports	Affiliate sales	Ratio of	U.S. direct
			affiliate sale to exports	investment in food industry
---Billion dollars---			Ratio	Billion dollars
Japan	6.2	4.6	0.7	0.8
Canada	3.5	10.4	3.0	3.3
Mexico	1.3	5.1	4.0	1.9
Korea	1.8	1.0	0.7	0.3
Australia	0.3	4.8	17.6	1.4
Other APEC	2.0	4.3	2.1	0.9
Total APEC	15.1	30.1	2.0	8.4
Total World	23.4	93.6	4.0	23.0

Sources: (2),(3), and (4).

Table 5--U.S. processed food exports, affiliate sales, and direct investments in APEC, 1996

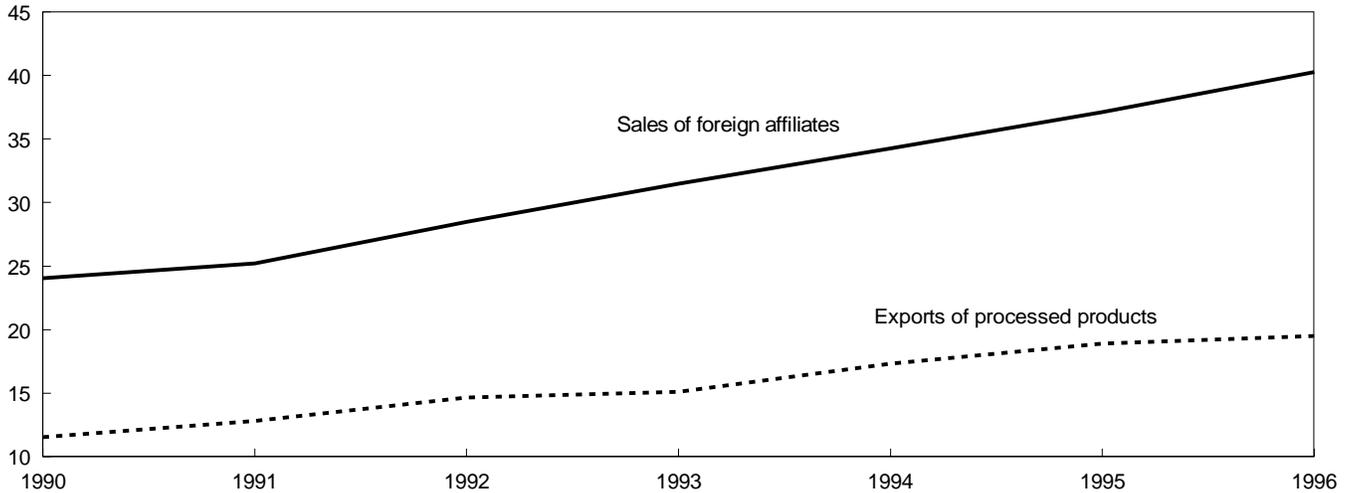
Country	Exports	Affiliate sales	Ratio of	U.S. direct
			affiliate sale to exports	investment in food industry
---Billion dollars---			Ratio	Billion dollars
Japan	7.2	6.6	0.9	1.0
Canada	4.6	12.1	2.6	3.9
Mexico	2.0	6.5	3.2	2.3
Korea	1.5	1.3	0.9	0.3
Australia	0.3	6.4	21.3	1.8
Other APEC	3.4	6.2	1.8	0.9
Total APEC	19.0	39.1	2.0	10.2
Total World	30.1	123.3	4.1	31.0

Sources: (2),(3), and (4).

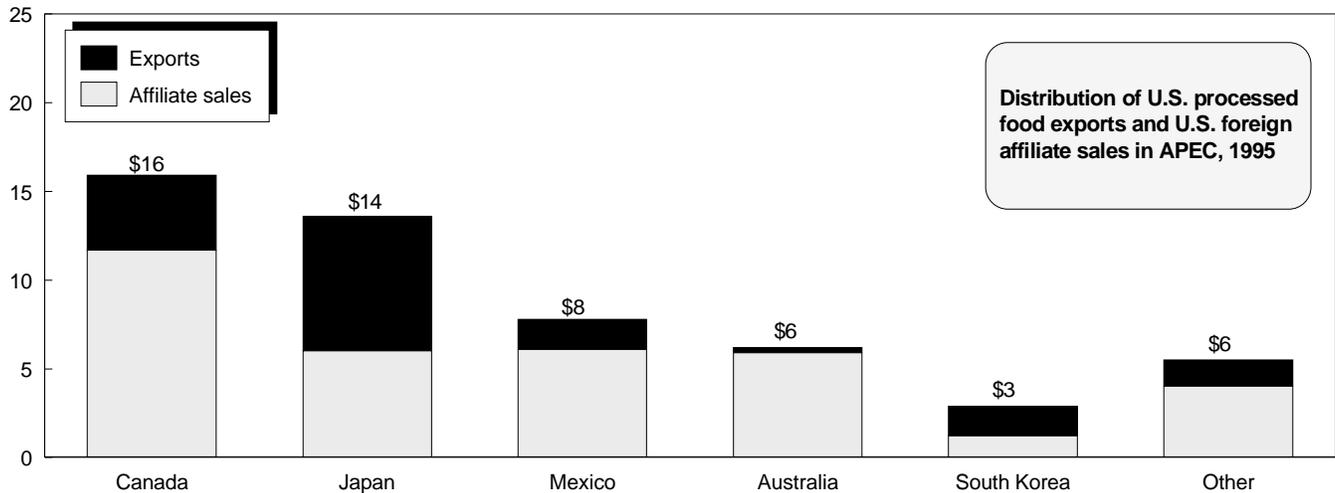
Figure 3

APEC: Sales of Processed Food by U.S. Foreign Affiliates Surpass U.S. Exports of Processed Food by 2 to 1 in 1995

Billion US\$



Billion US\$



Sources: (2), (3), and (4).

Other Countries Participate in the APEC Region's Food Processing Industry

The United States is not alone in foreign direct investment in food processing in the APEC region. Asian conglomerates from capital centers in Japan, Hong Kong, Taiwan, Korea, Thailand, and Singapore also play an important role in this expansion through FDI. In addition, Nestlé (Switzerland), Grand Metropolitan (United Kingdom), and Unilever (United Kingdom and Netherlands) are examples of European companies that have extensive food processing facilities in the APEC region.

In particular, Japan has an interest in other APEC food industries that is about the same level as the United States.

Japan has a cumulative investment of over \$1.8 billion in Asia, including \$300 million each in China and Thailand, and \$500 million in Singapore. Japan also has \$1.5 billion in cumulative investments in Australia. Japan is not alone as an Asian exporter of capital. Charoen Pokhphand, a prominent Thai poultry company, has extensive poultry and feed milling operations in China and Indonesia, and recently opened an affiliate in the United States. Many overseas Chinese from Hong Kong (through mid-1997), Singapore, and Malaysia have also invested in China, founding joint ventures in the Chinese food processing industry. In fact, overseas Chinese have a larger stake in the Chinese food processing industry than either Japan or the United States (1, 9, 11).

In addition, APEC direct investment in the U.S. food processing industry reached nearly \$7 billion in 1995. Because of their roles as important capital exporting countries, Canada and Japan are important players in the inward investment in the U.S. food processing industry. Canadian investors have been the second ranking source of foreign direct investment in the U.S. food processing industry after the United Kingdom (UK) since 1994. By the late 1980's, Japan had risen to be the fourth largest investor in the U.S. processing industry after the UK, the Netherlands, and Germany.

Affiliate Sales Exceed U.S. Processed Food Exports

The importance of FDI is demonstrated by the fact that sales from foreign affiliates of U.S.-owned companies exceed U.S. exports of processed food by 4 to 1 globally. Affiliate sales, while large, exceed U.S. processed food exports 2 to 1 in the APEC region, mainly indicating the large role played by U.S. processed exports to Japan and the less aggressive investment in the region compared to Western Europe. There is a wide variance among APEC countries in how affiliate sales relate to U.S. processed food exports. U.S. processed food exports to Japan, Taiwan, China, and Korea exceed sales from U.S.-owned affiliates. Except for China, these same countries are also our largest export markets for processed foods. Even so, the trade represents a small share of total food sales in Japan and Taiwan, who have large domestic food processing industries. China and Korea have had formal and informal government measures that limited FDI. At the other end of the spectrum, Canada and Mexico are in the intermediate range where the ratio is 3 or 4 to 1. Both countries have seen a sharp increase in trade and investment induced by regional specialization under NAFTA.

In the case of Japan, food processing became relatively expensive, particularly during the years when the Japanese yen was appreciating in comparison to other currencies. It became more economical to import some semi-processed and processed foods (sometimes from Japanese-owned affiliates abroad) than to produce them at home. In the case of China, until recently U.S. firms were not large investors in the Chinese food industry, but have increased interest as the Chinese economy has expanded and become more integrated with the global economy.

Affiliate Sales from FDI and U.S. Processed Food Exports Are Both Growing

While there is some controversy over FDI displacing U.S. exports, U.S. exports and affiliate sales are both growing because of the strong demand for processed foods in the region. The United States often finds that it has new markets for farm products and intermediate products because of for-

eign direct investment. Many companies such as CPC International and Kraft Foods are deeply involved in foreign direct investment, and their affiliate sales and direct exports have both increased (6).

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State Trading Enterprises in the APEC Region: Grain Markets

State trading in grains is widespread in APEC, with wheat ranking first in value of trade followed by rice, barley, and corn. In 1990-95, wheat exports by state trading enterprises (STEs) of APEC averaged 34 percent of the world market, while wheat import share by STEs averaged 21 percent. Rice trade under STEs in the APEC region is concentrated among major importing STEs, accounted for 14 percent of the world rice market. Barley and corn rank third and fourth in grain trade under STEs in the APEC region, with barley exports by STEs holding 36 percent of the world market during 1990-95. [Suchada Langley¹ (202) 219-0006]

STEs: A Pervasive Feature of Agricultural Trade In APEC

Thirteen of the eighteen member countries of the Asia-Pacific Economic Cooperation (APEC) forum use STEs. Commodities traded under APEC's STEs are diverse, but wheat dominates with at least 34 percent of world wheat exports and 21 percent of world wheat imports during 1990-95, based on the Food and Agriculture Organization database. The General Agreement on Tariffs and Trade (GATT), which governs global trading in goods and services, recognizes state trading enterprises as legitimate participants in international trade, but establishes guidelines on their behavior. These guidelines are contained in Article XVII of GATT (1947) and require state trading enterprises to conduct their trading activities according to the principles of non-discriminatory treatment. Article XVII and the Understanding on Article XVII apply to STEs in manufactured goods as well as agricultural products.

The Uruguay Round (UR) of multilateral trade negotiations, through the Understanding on Article XVII, added a working definition of STEs to clarify existing rules on such entities. STEs are defined as "governmental and non-governmental enterprises, including marketing boards, which have been granted exclusive rights or privileges, including statutory or constitutional powers, in the exercise of which they influence through their purchases or sales the level or direction of imports or exports." Based on this working definition, several countries have reported to the World Trade Organization (WTO) the existence of agricultural STEs in their countries. Table 6 lists STEs in the APEC countries. Not all STEs listed in the table were reported to WTO. Application to join the WTO is under review for China and Taiwan.

¹John Dyck, Linda Bailey, Gary Vocke, Dan Plunkett, Frederick Crook, Michael Speight, Agapi Somwaru, and Karen Ackerman provided input.

STEs Established for Many Reasons

Countries establish STEs to achieve a variety of objectives. These objectives include maximizing price received by producers, maximizing quantity exported, stabilizing food prices, controlling foreign currency, increasing market share, minimizing consumer purchasing price, or maximizing total revenues. The efforts to capture economies of scale or externalities are two potential economic justifications for STE's.

The emphasis that is placed on any one of these objectives affects the nature and behavior of the STE. Typically, an export STE attempts to enhance international trade and competition of its products. A private or a government-owned (or authorized) exporting firm can try various pricing and non-pricing strategies to exert market power for higher revenue. Examples of pricing strategies are price discrimination and price leadership. An example of a non-pricing strategy to increase revenue is through accentuating differences in quality. In addition to these strategies, state traders can adopt trade policy instruments such as an optimal export tax or create a producer marketing board.

Importing STEs are likely to have different objectives than exporters. These state traders view protecting domestic production, food security, controlling of foreign currency, and stabilizing price as important objectives. Many importing STEs are more interested in restricting trade and increasing protection of the domestic markets. Attaining these objectives requires some form of border control.

Concerns About STEs Growing

The UR has improved market access, restricted export subsidies, provided some recourse against the use of safety and health standards as disguised barriers, and disciplined state trading activities for member countries in the APEC region. However, activities of STEs on both the export and import side remain in a gray area, often difficult to judge. The manner or secrecy in which STEs operate makes it difficult to determine whether those activities conform with interna-

tional trade rules and regulations. Efforts are underway in the WTO to improve the reporting of STE activities.

Concerns that STEs will be used to violate the WTO agreement are growing. The chief concern with export STEs is whether they violate their WTO export subsidy commitments. Concerns about import STEs focus on potential violations of WTO commitments to reduce import protection. More discussion on state traders can be found in Ackerman, Dixit, and Simone (Agricultural Outlook, June 1997).

Many of the largest STEs in world grain trade are in the APEC region. Among exporters, the Canadian Wheat Board (CWB) and the Australian Wheat Board (AWB) are the two most dominant wheat export STEs in the region. The Office of Supply in the Republic of Korea (OSROK), the Japan Food Agency (JFA), the National Logistics Authority (BULOG) of Indonesia, and China's National Cereal, Oils, and Foodstuffs Import/Export Corporation (COFCO) are major STE importers in the region.

Wheat Dominates Trade under STEs

Commodities traded under APEC's STEs are diverse, including wheat, barley, corn, rice, dairy products, sugar, vegetable oils, soybeans, tobacco, alcoholic beverages, and

livestock products (table 6). State trading in grains is widespread, with wheat being the leading grain (in value terms) followed by rice, barley, and corn (table 7). Total trade value of wheat exports and imports of five major STE countries averaged \$8 billion annually during 1990-95, and accounted for nearly 28 percent of world wheat trade. The AWB and the CWB accounted for 34 percent of world wheat exports, in quantity terms, with each holding 22.3 and 11.4 percent, respectively, of world wheat exports during the period. The AWB controls 100 percent of the country's wheat exports, while the CWB handles 96-99 percent of Canada's wheat exports and issues export licenses for the remainder.²

On the importing side, about 21 percent of world wheat imports was bought by China, Japan, and Indonesia, with an import value of more than \$3.6 billion during 1990-95. Importing state traders such as China's COFCO and Indonesia's BULOG handle almost 100 percent of their countries' wheat imports. In Japan, the Japan Food Agency

²The rest of wheat exports is mainly grown in eastern Canada. With an export license, the CWB also allows private sales to the United States. Ontario Wheat Producers Marketing Board (OWPMB) has jurisdiction on wheat grown in eastern Canada. OWPMB receives export licenses from the CWB. In turn, it allows other exporters to make the sales. All OWPMB sales are made through accredited exporters.

Table 6--STE's in the APEC region

Country	STE exporter	STE importer
Australia	barley*, dairy products, sugar, wheat, wool	none
Brunei	none	none
Canada	barley, wheat, freshwater fish, butter	none
Chile	none	none
China**	corn, rice, soybeans, tea, cotton	corn, cotton, edible oils, rice, soybean meal, wheat, sugar, tobacco
Hong Kong	none	none
Indonesia	rice	garlic, rice, soybeans, wheat, wheat flour
Japan	tobacco	barley, dairy products, raw silk, rice, tobacco, wheat
Korea	none	barley, beans, beef, buckwheat, genus capsicum, citrus fruits, garlic, ginger, ground nuts, onions, sesame seeds, raw silk, rice, soybeans
Malaysia	none	rice
Mexico	none	dairy products***
New Zealand	apples and pears, dairy products, kiwifruits, raspberries, hops	none
Papua, New Guinea	none	none
Philippines	none	corn, rice
Singapore	none	none
Taiwan**	Sugar, tobacco	sugar, tobacco
Thailand	tobacco	potatoes, potato seed
United States	dairy products	none

* Barley is largely exported by a number of Australian state-level STEs. ** China's and Taiwan's application to join the WTO is under review.

*** Mexico reported it had no agricultural STEs to the WTO. However, CONASUPO, Mexico's STE, is the sole importer of powdered milk.

Table 7--Grain trade under state trading enterprises in the APEC region 1/

Country	Wheat	Rice 2/	Barley	Corn
Australia*				
Value (Mil. US\$)	1,441	177	281.5	
Quantity (Mil. m.t.)	10.3	0.49	2.4	
Share of world market 3/	11.4%	3.4%	15.6%	
Canada*				
Value (Mil. US\$)	2,970		343	
Quantity (Mil. m.t.)	20.2		3.2	
Share of world market 3/	22.3%		20%	
China, PRC*				
Value (Mil. US\$)		231		761
Quantity (Mil. m.t.)		0.93		6.9
Share of world market 3/		6%		11.3%
China, PRC**				
Value (Mil. U.S.\$)	2,026	118	150	144
Quantity (Mil. m. t.)	11.59	0.43	0.9	0.92
Share of world market 3/	11.6%	2.3%	6%	1.3%
Japan**				
Value (Mil. U.S. \$)	1,160	236	228	
Quantity (Mil. m.t.)	5.9	0.42	1.6	
Share of world market 3/	6.8%	2.6%	10%	
Indonesia**				
Value (Mil. US\$)	479	359.6		
Quantity (Mil. m.t.)	2.7	1.3		
Share of world market 3/	3.1%	7.50%		
Philippines**				
Value (Mil. US\$)		41.4		16.3
Quantity (Mil. m.t.)		0.18		0.09
Share of world market 3/		1.2%		0.14%
South Korea**				
Value (Mil US\$)		n/a	9.8	
Quantity (Mil. mt)		n/a	0.58	
Share of world market 3/		n/a	0.37%	
Total				
Value of trade (Mil. US\$)	8,076	1,163	1,012.3	921.3

* Exports are for calendar year, excluding intra EU. Export values are f.o.b. basis.

** Imports are for calendar year, excluding intra EU. Import values are c.i.f. basis.

1/ Data are an average of 1990-95. 2/ Milled rice equivalent. 3/ In quantity terms.

Source: FAOSTAT data base, China's Customs Statistics, and EUROSTAT database.

(JFA) has the sole authority to import wheat within the tariff quota. It determines internal resale prices for most imported wheat. However, private firms that export wheat flour have been allowed to import wheat for their own use, with government certification required. The JFA bought about 67 percent of Japan's wheat imports in 1995. China alone accounted for nearly 12 percent of world wheat imports and Japan captured about 7 percent of the share, in quantity terms, during 1990-95.

Rice trade under STEs in the APEC region is primarily done by importing STEs, and was valued at \$1.2 billion during 1990-95. Importing state traders such as the JFA, China's COFCO, Indonesia's BULOG, and the Philippines' STE imported an average of more than \$755 million of rice annually during 1990-95. In terms of market share, they held 14 percent of the world market, with Indonesia BULOG holding nearly 8 percent during the period.

While Japan and Indonesia imported 100 percent of their countries' rice imports, China has allowed provincial governments to import rice through importing quotas since 1993. A major share of China's rice imports, however, are under China's National COFCO. Nearly 10 percent of world rice exports was marketed under APEC STEs during the period. Major rice exporters such as Thailand and the United States, both APEC members, market through the private sector.

All barley ranks third in grain trade under STEs in the APEC region, with a total of \$1 billion. Canada and Australia are two major barley exporters, with a world market share of nearly 20 percent and 16 percent, respectively, in quantity terms in 1990-95. While the CWB markets almost 100 percent of Canada's barley exports, the chief exporters of Australian barley are Australian state-level marketing boards. Similar to wheat, the CWB allows private

sales to the United States as long as the seller gets an export license and pays the fees.

China, Japan, and South Korea accounted for more than 16 percent of world barley imports, with the JFA holding 10 percent of the world market. China and South Korea market 100 percent of their countries' barley imports. Similar to wheat, Japan's Food Agency has the sole authority to import barley within the tariff quota. It determines internal resale prices for barley for nonfeed uses. Firms can also import barley for feed, with government certification required. The JFA imported nearly 73 percent of Japan's barley in 1995.

The value of corn trade under APEC STEs was greater than \$920 million. China accounted for more than 11 percent of world corn exports during 1990-95.

A Few STEs Remain Dominant in the APEC Region

STEs in the APEC region are widespread but a few remain dominant. The AWB and CWB hold major shares in world

wheat trade. For China, its agricultural marketing system has gone through many changes since 1988. The central government, for example, has given provincial governments more discretion to market grains locally and in some cases export and import. Over 16 percent of grains, for instance, is traded in open domestic markets, compared to zero percent 10 years ago. Over 40 percent of vegetables is freely marketed. However, exports and imports of a few commodities such as wheat, corn, and rice, among others, are heavily influenced by STEs. In the case of rice, the provincial governments receive quotas to import; national COFCO and COFCO affiliates still have a major role in marketing rice in world markets. For Japan, imports have become freer, but the JFA retains the sole authority to import rice, wheat, and barley within the tariff quotas. Government certification is required for non-JFA imports.

The Tariff Walls of APEC

The tariff walls of APEC members have only begun to be dismantled. Although much progress has been made toward opening up trade throughout the Asia-Pacific region, agricultural tariff commitments under the Uruguay Round Agreement illustrate that much remains to be done in this highly political, frequently protected sector. [Jeff Clark and William T. Coyle (202) 501-8136]

Post-Uruguay Round Actions

Many countries, unwilling to wait for the next round of global multilateral negotiations, have continued through regional agreements to liberalize their economies beyond their Uruguay Round commitments. APEC members have pledged that “developed” economies will remove all tariffs and nontariff barriers (NTBs) by 2010, while “developing” economies will do so by 2020. Indonesia made significant progress toward achieving that goal in its Individual Action Plan (IAP) submitted at the Manila Summit of APEC in November 1996. From the relatively high tariff rates Indonesia committed to in the Uruguay Round (bound rates averaging over 40 percent on agricultural goods), it has pledged to reduce *all* tariffs to no more than 10 percent by 2003. China has also taken steps toward opening its economy to the international market. Singapore, already a very open market, has pledged that it will be completely duty-free by 2010.

A review of the bound tariffs in APEC reveals that developing countries with significant domestic agricultural sectors

have high tariffs to protect their farmers while the developed economies and net exporters have low average tariff rates. Hong Kong and Singapore, two markets with minimal agricultural sectors to protect, also have low or zero tariffs. Malaysia is the only developing economy that has an average rate below 20 percent.

Variability within a single country’s tariff schedule appears to follow the same pattern as the simple average rates. Net exporters and those without domestic agricultural sectors have fairly low variability, while developing economies have considerable variability. Even those economies with relatively high base rates, such as Mexico, Thailand, Indonesia, and China, have rates spread over a large range. South Korea sets the standard for greatest variability with rates from 1.8 to 887.4 percent.

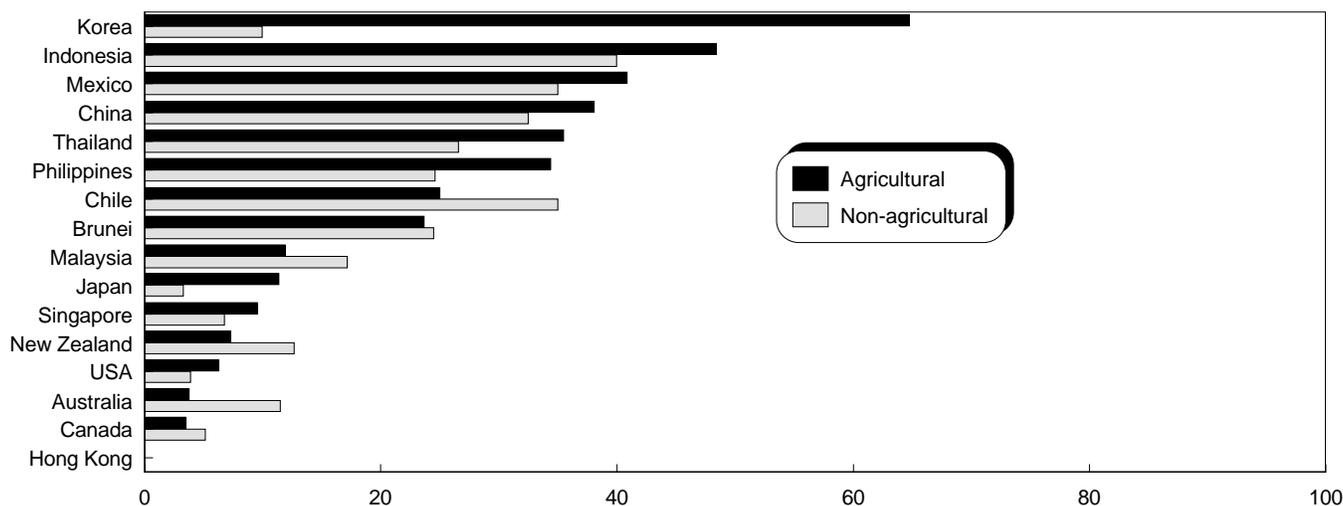
APEC Members Ad Valorem Agricultural Tariff Commitments Through the Uruguay Round

Although most APEC economies have made commitments to reduce their tariffs and open their markets, there is still significant variability in agricultural tariffs across the region.

Figure 4

Potato Chips vs. Computer Chips

Are Agricultural and Non-agricultural Tariff Rate the Same in APEC?



Simple average tariff rates.
Source: 1995 WTO Tariff Schedules

Percent, ad valorem basis

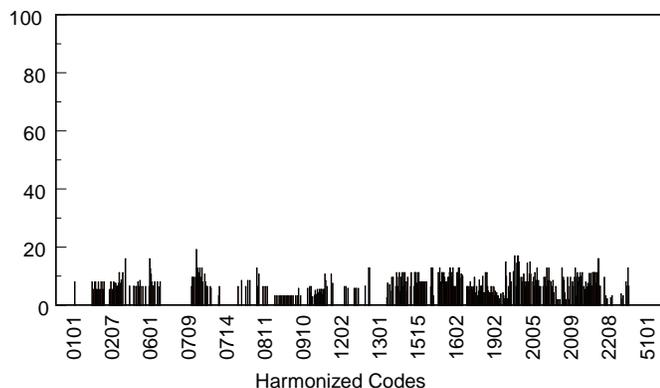
Figure 5

Bound Agricultural Tariff Rates Among Apec Countries: Major Producers

Canada

Tariff lines: 846, Simple average tariff: 3.5%

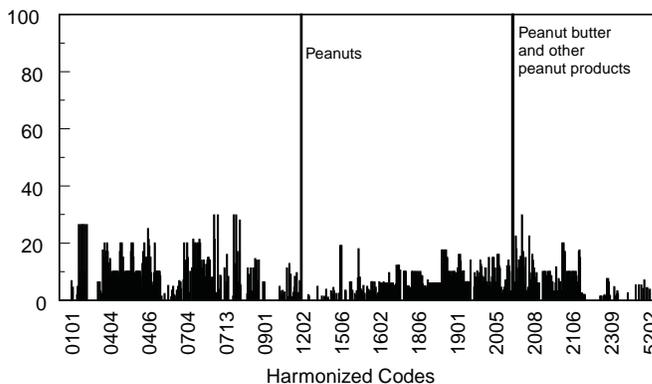
Percent, ad valorem basis



United States

Tariff lines: 952, Simple average tariff: 6.3%

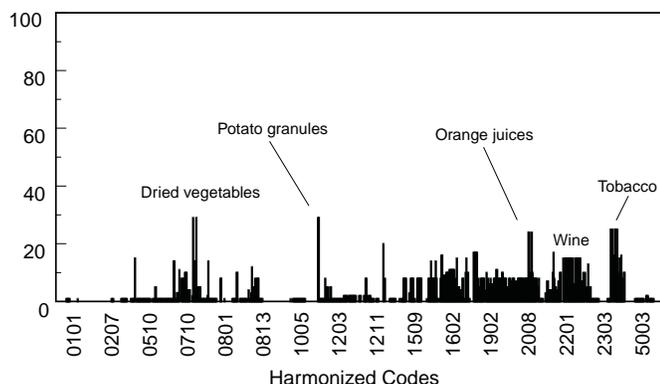
Percent, ad valorem basis



Australia

Tariff lines: 729, Simple average tariff: 3.8%

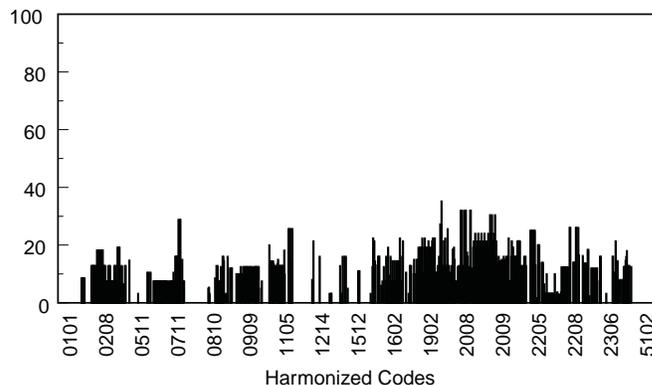
Percent, ad valorem basis



New Zealand

Tariff lines: 943, Simple average tariff: 7.3%

Percent, ad valorem basis



Canada—Canada’s average bound rate is 3.5 percent. As expected of a net exporter, over 90 percent of Canada’s tariff lines have rates below 10 percent. The highest duty (19.1 percent) is assessed on frozen asparagus.

United States—Its average rate is 6.3 percent. Of the 952 agricultural tariff lines, more than a third are duty-free. Forty-two lines have rates in excess of 20 percent. The five lines that have rates greater than 30 percent are for peanuts and peanut products (131.8 to 163.8 percent).

Australia—The simple average¹ bound rate for food and agricultural products is 3.8 percent in Australia, among the lowest in the region. Fewer than 10 percent of its agricul-

tural tariff lines have rates greater than 10 percent, with the highest in-quota rate being 29 percent for potatoes and potato products, and dried vegetables. Other items that receive above average protection include tobacco, orange juice, and mandarin juice.

New Zealand—New Zealand’s average bound rate is 7.3 percent. Of the 946 agricultural tariff lines, more than 400 are duty free. Only 79 have rates greater than 20 percent. Fruits and vegetables are accorded the greatest protection with processed tomatoes at the head of the list with 35.2 percent. Prepared fruits, other than jams and jellies, containing sugar are at 32 percent. Apple and grape juice containing sugar and tomato juice without sugar share a 30.4 percent rate. The rate for dried potatoes, mushrooms, and truffles is 28.8 percent. Wines, spirits, and starches constitute the rest of the items with rates of 25 percent or higher.

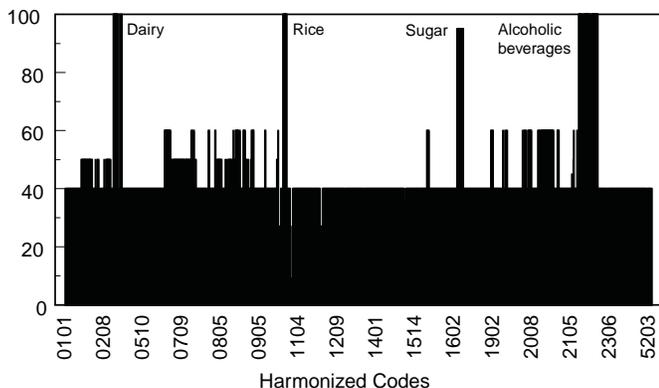
¹The sum of all tariffs divided by the number of tariff lines.

Figure 6
The Tariff Walls in APEC: ASEAN-4*

Indonesia

Tariff lines: 1282, Simple average tariff: 48.4%

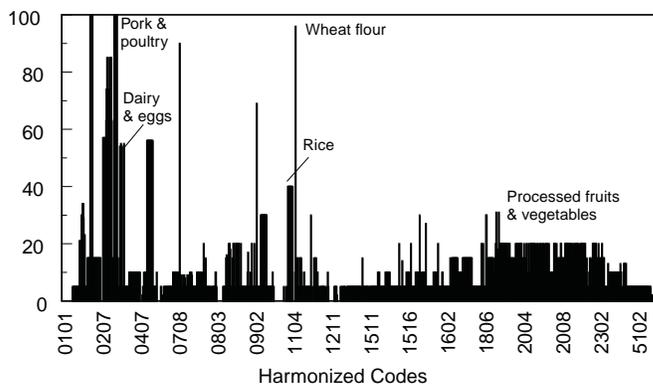
Percent, ad valorem basis



Malaysia

Tariff lines: 1138, Simple average tariff: 11.9%

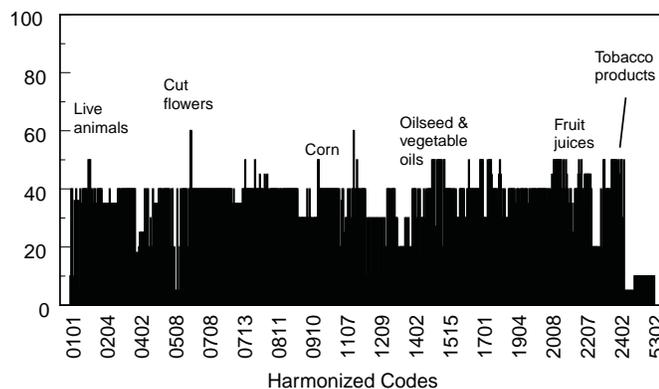
Percent, ad valorem basis



Philippines

Tariff lines: 716, Simple average tariff: 34.4%

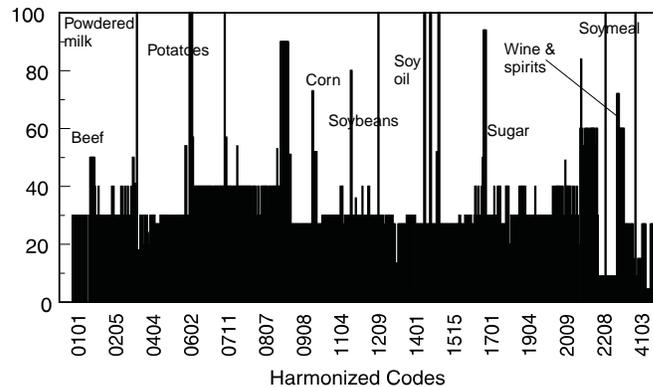
Percent, ad valorem basis



Thailand

Tariff lines: 701, Simple average tariff: 35.5%

Percent, ad valorem basis



Indonesia—Indonesia’s average rate is 48.4 percent, but it has a highly variable tariff schedule. Three sectors are subjected to rates of 150 percent or greater: dairy, 210 percent; rice, 160 percent; and alcoholic beverages, 150 percent. Sugar is next at 95 percent, followed by alcoholic preparations at 70 percent. Subsequent rates are 40-60 percent. Only 24 lines, including grain flours, soybeans, and cotton, have duties of less than 40 percent.

Malaysia—Malaysia’s average bound rate for agricultural and food products is 11.9 percent. Malaysia committed to lower rates through the Uruguay Round than most ASEAN members. With only 85 lines having rates greater than 20 percent, the country’s simple average bound rate is almost as low as Singapore’s. The greatest tariff protection is provided to the livestock sector. Pork is the sole product with a rate higher than 100 percent; its rates vary from 139 to 168 percent, depending on the cut. Poultry meat has rates of 57-85 percent. A few non-livestock products are also subjected to high rates: wheat flour (96 percent), round cabbage (90 percent), and coffee (69 percent). Rice has a duty of 40 percent.

Philippines—Its average bound rate for agricultural and food products is 34.4 percent. Cut flowers and copra enjoy the greatest protection with a rate of 60 percent. Fifty-five lines have a rate of 50 percent, including coconuts, bananas, corn, tropical oils, canola, corn oil, sugar and molasses, chewing gum and cocoa products, fruit juices (including tomato), soy sauce, wine, meals from tropical oils, and tobacco.

Thailand—The average rate for Thailand is 35.5 percent. The items given the greatest protection are raw silk (226 percent), onion seed (218 percent), and powdered milk (216 percent). The rates then fall below 150 percent with soyoil, palm oil, fresh or dried onions, soymeal, and potatoes all subject to tariffs of 125-146 percent. Other items with rates of 60 percent or greater include sugar, tea, coffee, soybeans, corn, tobacco, wine and spirits, and sweetened soft drinks. Rice and beef have bound tariffs of 52 percent and 50 percent, respectively.

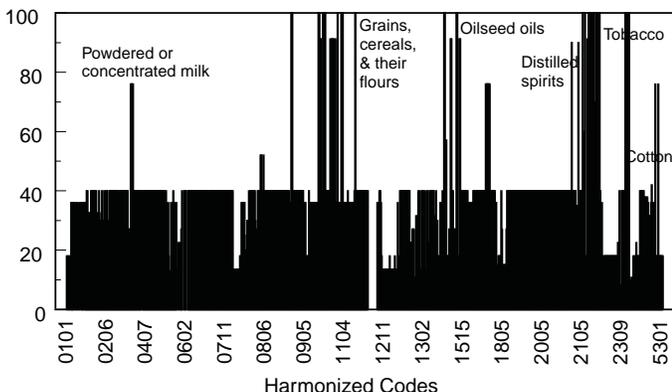
*The selected markets are the largest agricultural producers in ASEAN. Singapore and Brunei, also members, have practically no agriculture.

Figure 7
The Tariff Walls in APEC: East Asia

China

Tariff lines: 814, Simple average tariff: 38.1%

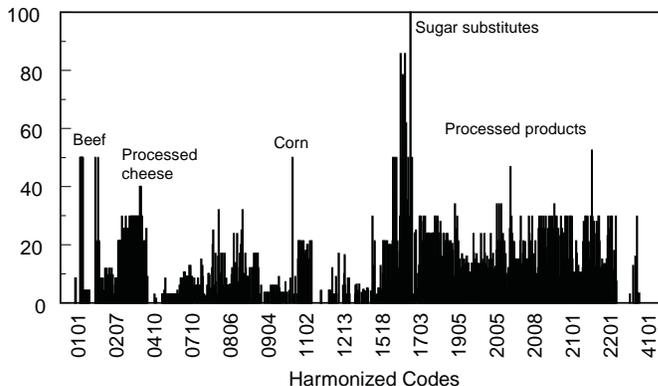
Percent, ad valorem basis



Japan

Tariff lines: 1084, Simple average tariff: 11.4%

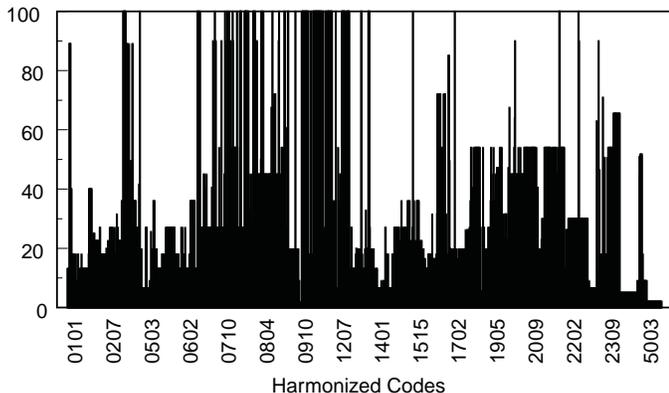
Percent, ad valorem basis



South Korea

Tariff lines: 1239, Simple average tariff: 64.8%

Percent, ad valorem basis



Hong Kong

Percent, ad valorem basis



China—China’s average rate is 38.1 percent. China has chosen to protect tobacco, alcoholic beverages, and some of its grains and oilseeds with tariffs. The tariff binding on rice is substantial (114 percent), but it is consistent with the rates for other major grains. Other areas with high rates are bottled water, coffee, concentrated milk, sugar, and cotton. Meat and meat products enter at 30-40 percent.

Japan—Japan’s average rate is 11.4 percent. Japan has a fairly open market. It provides significant protection for sugar substitutes and other sweeteners, with rates as high as 114 percent. All other items are subject to rates of 50 percent or less. Fresh and frozen beef, offal of most animals, some prepared meats, and corn other than for feed, seed, or popping are at the 50 percent tariff level. Only a few other items have rates of at least 30 percent: prepared pineapple (46.8 percent), processed cheese (40 percent), rice crackers, fruit juices, and fruit jams and jellies with sugar added (34 percent), and fresh and preserved oranges, December through May, (32 percent). Another collec-

tion of items sharing a 29.8 percent rate includes fruit juices, dairy products, fermented fruit beverages, confections, and other processed products containing sugar or milk.

South Korea—South Korea’s average bound rate is 64.8 percent. Although a member of the “developed countries club,” the OECD, it has high tariff bindings more representative of a developing country. The highest rate, on fresh or dried cassava, is almost 900 percent. Of the 1,239 lines included in the schedule, more than 100 have rates in excess of 200 percent. “Other cereals” has a tariff rate of 800 percent. Red ginseng in its various processed and unprocessed forms is protected by a rate of 754 percent.

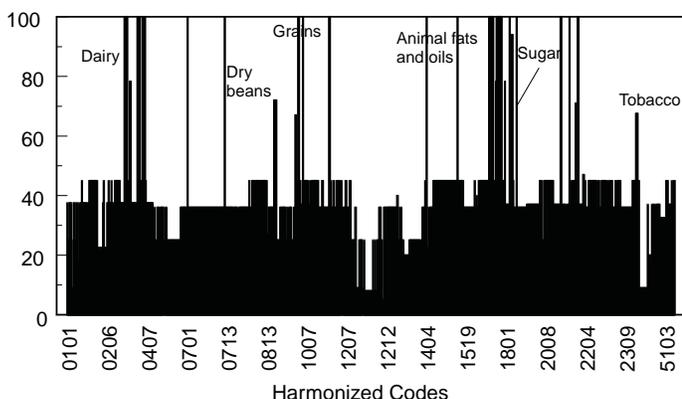
Hong Kong—Hong Kong’s average rate is close to zero. Hong Kong provides duty-free access for all agricultural goods, except tobacco and alcohol. Tobacco is subject to a specific rate while a 30 percent or 100 percent *ad valorem* rate is imposed on alcoholic beverages, depending on the alcohol content.

Figure 8
The Tariff Walls in APEC: Other

Mexico

Tariff lines: 885, Simple average tariff: 40.9%

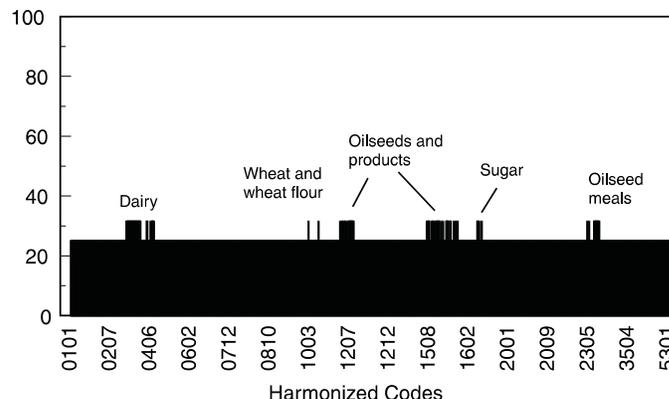
Percent, ad valorem basis



Chile

Tariff lines: exceptions only, Simple average tariff: 25+%

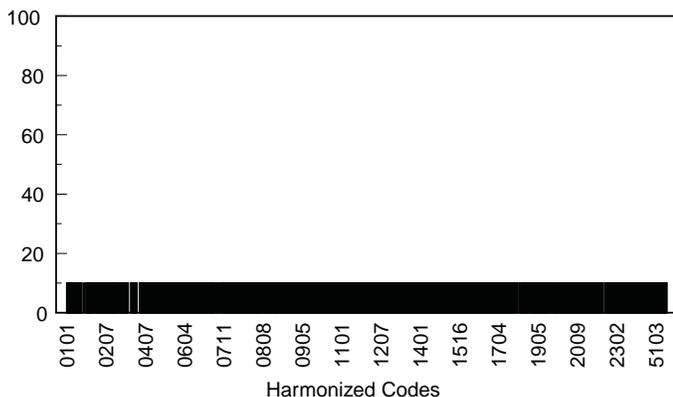
Percent, ad valorem basis



Singapore

Tariff Lines: 749, Simple average tariff: 9.6%

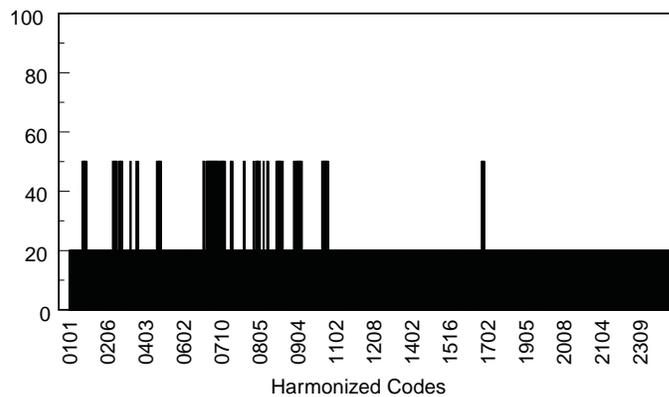
Percent, ad valorem basis



Brunei

Tariff lines: 794, Simple average tariff: 23.7%

Percent, ad valorem basis



Mexico—Mexico’s simple average bound rate is 40.9 percent. Of the 885 lines with *ad valorem* rates, only 57 have rates below 10 percent. At the opposite end of the spectrum, seven lines have rates greater than 200 percent and 40 have rates in excess of 100 percent. Animal fats and oils are accorded the greatest protection with rates of 254 percent. Next is “other” fresh vegetables at 245 percent. Numerous sugar and sugar substitute lines have rates exceeding 100 percent, reaching as high as 210 percent. The dairy processing industry is also well protected with rates of 125 percent on powdered milk and various cheeses.

Chile—Chile’s average rate is 25.6 percent. Chile committed to a flat rate of 25 percent for agricultural goods by 2000, except for a few sectors that will receive slightly greater protection of 31.5 percent (86 lines of exceptions). These sectors include dairy, wheat, wheat flour, oilseeds and products, and sugar.

Singapore—Its average bound rate is 9.6 percent. Thirty of the 752 lines are duty free. All other items enter with a flat 10 percent rate. Some of the items that enter duty-free include beef, lamb and mutton, dairy products, fresh apples, artificial sweeteners, potato chips, and frozen peas and sweet corn preparations.

Brunei—The simple average bound rate is 23.7 percent for Brunei. It has a flat rate of 20 percent, with a few key sectors, such as poultry, dairy, rice, and various fruits and vegetables, receiving greater protection (50 percent).

These graphs do not capture the full tariff or protectionist story in the region, however. Important caveats are:

- Only the *ad valorem* bound rates agreed to in the Uruguay Round Agreement concluded in 1994 are used. All specific duties (e.g., a duty expressed in cents per pound) are omitted. For example, the United States protects its sugar industry via a specific tariff rate quota (TRQ), not evident in the U. S. graph, and Japan applies a specific duty to sugar.
- The graphed *ad valorem* rates represent only the maximum tariffs a country can apply to protect its agricultural sector. Many countries use applied rates considerably lower than the bound rates. For example, Chile's applied tariff rates are 11 percent. Since each country's specific

rates and applied rates are variable, an analysis of these rates would probably soon be obsolete.

- Only in-quota tariff rates are used for items that have TRQ's.
- Taiwan is not included in this analysis because it is not a member of the WTO. China, aspiring to be a founding member of the WTO, submitted a tariff schedule at the conclusion of the Uruguay Round. Papua New Guinea's schedule is also absent from the WTO collection because it joined the trade body after it was founded.
- NTB's do not appear in this analysis.
- The drive for free trade globally and regionally since these data were compiled in 1995 has encouraged some countries to reduce tariffs below their Uruguay Round commitments.

The Harmonized Codes

The 2-digit chapter designations and descriptions are given. The chapter descriptions have been abbreviated.

01 Live animals	11 Milling products	20 Prepared vegetables, fruit, nuts
02 Meat and edible offal	12 Oilseeds and products	21 Miscellaneous edible preparations
04 Dairy; eggs; honey	13 Gums, resins, vegetable sap	22 Beverages, spirits and vinegar
05 Products of animal	14 Vegetable plaiting	23 Food industry residues
06 Live plants; cut flowers	15 Animal or vegetable oils, fats	24 Tobacco
07 Vegetables, roots and tuber	16 Preparations of meat and fish	41 Raw hides; leather
08 Nuts and fruit	17 Sugar; confectionery	50 Silk
09 Coffee, tea, and spices	18 Cocoa and cocoa products	51 Wool
10 Cereals	19 Preparations of cereals, flour, starch	52 Cotton
		53 Vegetable fibers

Technical Barriers to Agricultural Trade in APEC

Technical barriers to agricultural trade, frequently justified on the basis of protecting human health and controlling animal and plant pests and diseases, sometimes have the effect of threatening, constraining, and blocking U.S. agricultural exports. Based on the estimated trade impact, the APEC region accounts for 63 percent of the technical barriers identified by a 1996 preliminary USDA assessment. In particular, U.S. agricultural exports confront substantial technical barriers in China and East Asia (Japan, South Korea, and Taiwan). [Kate DeRemer and Alisa Livensperger (202) 501-8540]

Technical barriers to trade are emerging at the center of agricultural trade policy discussions as resolutions and agreements are reached on more traditional trade barriers such as quotas and tariffs. Countries may now turn to “non-traditional” barriers such as new technical requirements to protect their domestic agricultural producers. The APEC region accounts for 63 percent of the technical barriers identified by a 1996 USDA survey.¹ The survey estimated that technical barriers in the APEC region reduced U.S. food and agricultural exports there by about \$2.6 billion that year (expansion and access categories).

In 1996, USDA’s ERS and Foreign Agricultural Service (FAS) surveyed FAS field offices in 50 countries, solicited input from the private sector, and consulted experts in USDA’s four regulatory agencies² to gather and analyze information on technical barriers. Posts in eleven of the eighteen members in APEC—Australia, Canada, Chile, China, Japan, Mexico, New Zealand, Philippines, Singapore, South Korea, and Taiwan—reported one or more technical barriers with an adverse impact on U.S. agricultural and food exports.

The three types of technical barriers identified in the inventory are ones that:

Threaten current levels of trade (retention issues)—

These are measures under consideration by a foreign government that threaten all or a part of established trade in a commodity. Based on the 1996 inventory, established U.S. agricultural exports amounting to \$350 million could have been affected in the APEC region that year.

*Limit expansion—*Measures that limit the amount of a U.S. product currently exported to a country. These

issues include limited import bans, in which only products of a particular type and specification have access to a market, or technical requirements, in which a specific procedure limits the amount of a U.S. product entering a country by raising production and/or handling costs. The estimated trade impact of this category of barrier in APEC was \$2.3 billion in 1996.

*Deny access—*Complete bans on U.S. exports of certain commodities from entering a market. The trade impact in APEC of this category was \$390 million in 1996.

The estimated trade impact (ETI) of these three types of technical barriers is equal to the estimated annual value of U.S. export gains (for expansion or access issues) or the estimated annual value of export losses that were prevented (for retention issues), if the issues were resolved or the barriers eliminated.

The total ETI of the three types of technical barriers that threaten, constrain, and block U.S. food and agricultural exports to APEC countries relative to the rest of the world is shown in figure 9. These estimates give an order-of-magnitude judgement by USDA field staff (as of June 1996). They are not estimated using a rigorous or uniform methodology.

Dividing APEC into three subregions facilitates comparisons of the nature of technical barriers and the magnitude of their trade effect within the diverse APEC region. The subregions are: the Americas (Canada, Mexico, and Chile), East Asia (Japan, South Korea, Taiwan, and for purposes of this article, China), and Oceania and Southeast Asia (Australia, New Zealand, the Philippines, and Singapore). Technical barriers in the East Asian region have the largest impact on U.S. agricultural exports. As illustrated in figure 10, the majority of technical barriers in the East Asian region are in the expansion category, with U.S. exports likely to expand by about \$2.3 billion if these technical barriers were changed or eliminated.

¹Roberts and DeRemer, Overview of Technical Barriers to U.S. Agricultural Exports, U.S. Department of Agriculture, ERS Staff Paper Number 9705, March 1997.

²Agricultural Marketing Service (AMS), Animal and Plant Health Inspection Service (APHIS), Food Safety and Inspection Service (FSIS), and Grain Inspection, Packers and Stockyards Administration (GIPSA).

Figure 9
Technical Barriers Threaten, Constrain, and Block U.S. Agricultural Exports to APEC

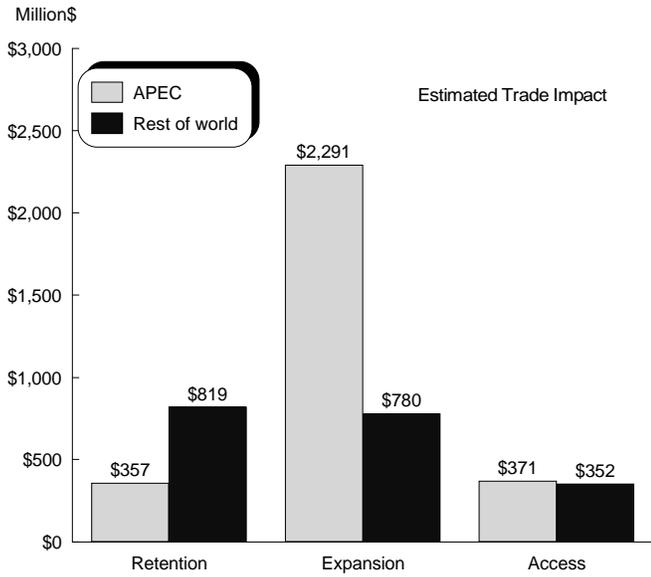


Figure 10
U.S. Agricultural Exports to APEC Face More Technical Barriers in the East Asian Region

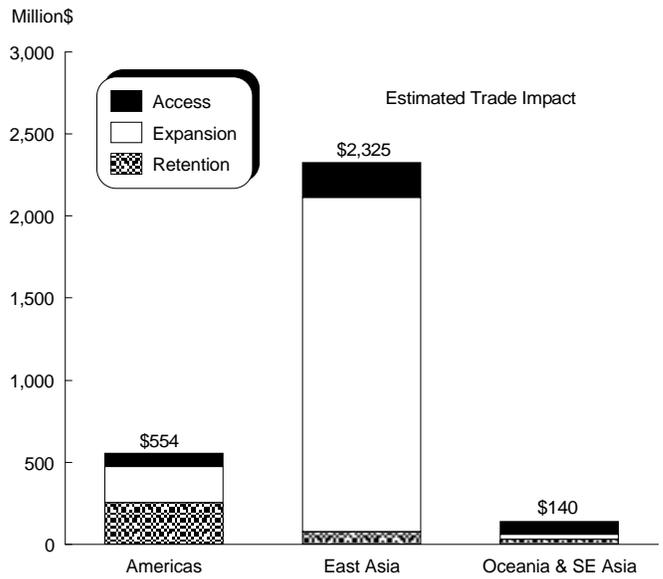
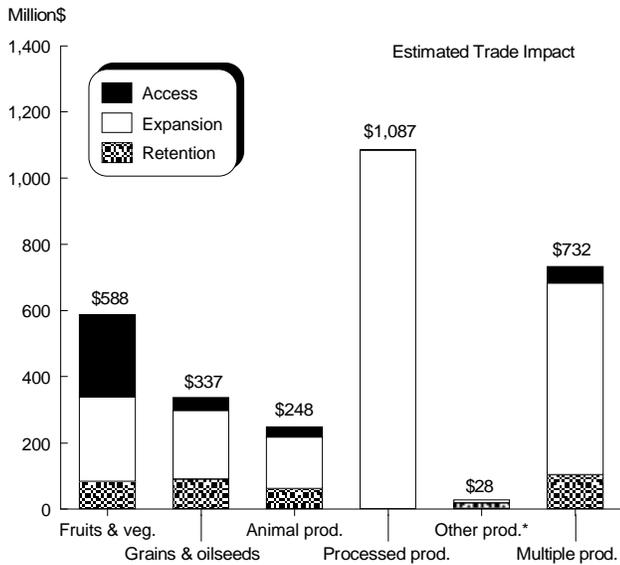
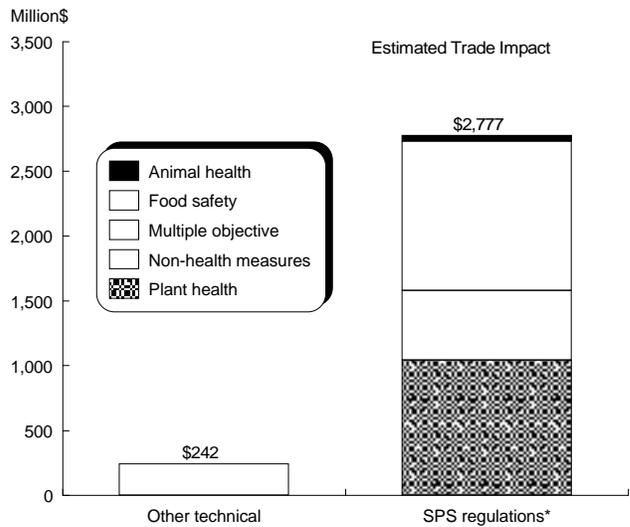


Figure 11
Technical Barriers Constrain U.S. Agricultural Exports of Processed Products to APEC More Than Any Other Category



*Includes cotton, seeds, nuts, fish and forestry products.

Figure 12
Technical Barriers to Trade in APEC Are Dominated by Measures To Protect Plant and Human Health



*Sanitary/phytosanitary.

Japan's limited import ban on apples is an example of a barrier in the *expansion* category. Japan imports only Red and Golden Delicious apples from the United States. The Japanese claim that each apple variety must be subjected to the same testing regime for phytosanitary reasons. This procedure is viewed by the United States as redundant and raising an unnecessary hurdle to the imports of U.S. apples such as Gala, Fuji, Braeburn, and Granny Smith. The United States has requested consultations with the World Trade Organization on the varietal restrictions, which also affect apples from other supplying countries. It is hoped that resolution of this "varietal issue" may have an impact on similar debatable varietal barriers applied by other APEC countries.

A variety of U.S. agricultural products exported to South Korea is affected by another technical barrier in the *expansion* category. Like most countries, South Korea mandates inspection and sampling procedures of agricultural imports for chemical residues and pests. However, unjustifiable port clearance delays cause the spoilage of some products and raise the costs of doing business in South Korea. Despite commonly accepted commercial tolerances specified in the buyer-seller contracts, South Korea required that shipments of imported fresh produce be unpacked, sorted and repackaged to remove any spoiled product. This practice was officially ended in late 1996, but continues to be applied in practice for some orange shipments. This raises the financial risk for U.S. orange exporters to South Korea.

Figure 11 shows that technical barriers in the APEC region threaten or constrain different products by varying degrees. Processed products, multiple products,³ and fruits and vegetables are those that are most affected by technical barriers in APEC. When the rest of the world is examined, grains and oilseeds are the most affected products followed by animal and multiple products.

Figure 12 shows the ETI of sanitary/phytosanitary (SPS) measures compared to other technical barriers in APEC. Ninety percent of the barriers identified for the APEC region in the survey are SPS measures. The remaining 10 percent are other technical barriers that address non-health related concerns, principally food quality standards not related to health. Food safety restrictions account for about 40 percent of the value of all SPS barriers in the region, compared to the world survey in which plant health restrictions dominate. The trade impact of the plant health restrictions accounts for just under 35 percent of the value of all technical barriers in the region. Third largest among the technical barriers are those designed to protect more than one type of concern, such as protection of both human and animal health. Animal health measures alone account for a mere 1 percent of the total value of SPS issues in the APEC region.

³Multiple products refer to all agricultural and food commodities.

Table 1--APEC agricultural indicators

APEC member	1995			1995	1994		Latest available data		1995	
	GDP per capita*	Population	Share of agricultural population	Agricultural share of GDP	Total land	Arable and permanent cropland	Number of farm households	Average farm size**	Agricultural trade as share of total trade Exports	Imports
	1990 US\$	Millions	----- Percent -----		----- 1,000 hectares -----		1,000	Hectares	----- Percent -----	
United States	24,708	263	3	2	936,352	187,776	2,063	190	11	4
Australia	18,741	18	5	3	774,122	47,205	116	3,987	26	5
Brunei	--	0.3	--	--	577	7	--	--	0	0
Canada	20,876	29	2	2	997,061	45,500	275	244	7	6
Chile	3,066	14	18	--	75,663	4,154	360	--	1	7
China	560	1,221	71	19	959,696	95,782	232,815	0.40	6	8
Hong Kong	15,782	6.2	1	0	107	7	--	--	3	5
Indonesia	774	198	49	17	190,457	30,171	--	--	12	12
Japan	24,984	125	5	2	37,780	4,422	3,644	1.39	0.4	12
Malaysia	3,219	20	21	13	32,975	7,604	965	1.45	11	5
Mexico	2,945	94	24	8	195,820	24,730	--	--	12	11
New Zealand	13,368	3.6	10	5	27,053	3,071	69	241	45	7
Papua New Guinea	1,151	4.3	78	26	46,284	440	--	--	14	18
Philippines	703	68	42	22	30,000	9,370	6,848	1.44	11	8
Singapore	18,876	2.8	0	0	62	1	--	--	4	4
South Korea	8,113	45	12	7	9,926	2,033	1,558	1.30	1	7
Taiwan	10,520	21	19	4	3,601	872	797	1.10	5	9
Thailand	2,155	59	56	11	51,312	20,445	5,149	4	16	4

-- = not available.

* Calculated as real GDP (or GNP for Taiwan) in local currency at 1990 prices, converted to U.S. dollars at the 1990 exchange rate, divided by midyear population. For Papua New Guinea, data are from 1993, not 1995.

** Average farm area owned per household.

Sources

Taiwan: For GDP per capita--the Central Bank of China, Financial Statistics, November 1996.

For all other series--Council of Agriculture, 1995 Basic Agricultural Statistics, June 1996.

Other places:

GDP per capita: International Monetary Fund, Financial Statistics, May 1997.

Population, share of agricultural population, total land, arable and permanent cropland, and agricultural trade as share of total trade:

Food and Agriculture Organization, FAOSTAT database.

Agricultural share of GDP: World Bank, World Development Indicators 1997, and country sources.

Number of farms and average farm size: Country sources.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
AUSTRALIA							
Population, midyear estimates	Million	17.06	17.28	17.49	17.66	17.84	18.05
Exchange rate	\$/US\$	1.28	1.28	1.36	1.47	1.37	1.35
Foreign exchange reserves	Mil. US\$	15,605	15,894	10,536	10,470	10,706	11,340
GDP	Bil. \$A	377.12	380.26	395.30	416.45	444.34	473.39
Real GDP	Bil. \$A (1990)	377.12	371.69	381.51	396.40	417.51	432.96
Real per capita GDP*	1990 US\$/person	17,271	16,806	17,043	17,537	18,285	18,741
Real GDP growth (local currency)	Percent	(0.4)	(2.7)	1.4	2.9	4.3	2.5
Change in CPI	"	7.3	3.2	1.0	1.8	1.9	4.6
Current account balance	Mil. US\$	(16,084)	(11,422)	(11,525)	(10,476)	(17,545)	(20,060)
Merchandise exports, f.o.b.	"	39,642	42,362	42,813	42,637	47,331	53,142
Merchandise imports, f.o.b.	"	39,284	38,833	41,173	42,666	50,611	57,311
Balance	"	358	3,529	1,640	(29)	(3,280)	(4,169)
Agricultural exports, f.o.b.	"	11,750	10,449	11,064	11,108	11,955	12,709
Agricultural imports, f.o.b.	"	1,717	1,752	1,837	1,870	2,029	2,590
Balance	"	10,033	8,697	9,227	9,238	9,926	10,119
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	8,538	8,404	8,876	8,277	9,781	10,789
Total U.S. imports from	"	4,447	3,988	3,688	3,297	3,202	3,323
U.S. agricultural exports to	"	225	286	272	330	409	340
U.S. agricultural imports from	"	1,174	1,180	1,107	1,075	988	851
CANADA							
Population, midyear estimates	Million	26.58	28.12	28.43	28.94	29.25	29.61
Exchange rate	\$/CAN/US\$	1.17	1.15	1.21	1.29	1.37	1.37
Foreign exchange reserves	Mil. US\$	15,802	14,079	9,382	10,471	10,219	12,629
GDP	Bil. \$CAN	669.51	676.48	690.12	712.86	747.26	776.30
Real GDP	Bil. \$CAN (1990)	669.51	657.55	662.58	677.29	704.86	721.26
Real per capita GDP*	1990 US\$/person	21,588	20,041	19,974	20,058	20,653	20,876
Real GDP growth (local currency)	Percent	(1.5)	(7.2)	(0.3)	0.4	3.0	1.1
Change in CPI	"	4.8	5.6	1.5	1.8	0.2	2.2
Current account balance	Mil. US\$	(22,577)	(24,571)	(22,592)	(23,391)	(17,278)	(8,693)
Merchandise exports, f.o.b.	"	128,440	126,153	132,115	143,953	163,813	189,854
Merchandise imports, f.o.b.	"	120,106	122,282	126,415	136,026	151,505	167,513
Balance	"	8,334	3,871	5,700	7,927	12,308	22,341
Agricultural exports, f.o.b.	"	9,181	9,619	10,926	10,351	11,239	12,789
Agricultural imports, f.o.b.	"	7,101	7,346	7,585	7,984	8,607	9,080
Balance	"	2,080	2,273	3,341	2,367	2,632	3,709
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	83,674	85,150	90,594	100,444	114,439	127,226
Total U.S. imports from	"	91,380	91,064	98,630	111,216	128,406	145,349
U.S. agricultural exports to	"	4,223	4,581	4,938	5,327	5,575	5,812
U.S. agricultural imports from	"	3,168	3,328	4,140	4,664	5,299	5,631

* Calculated as real GDP in local currency at 1990 prices, converted to U.S. dollars at the 1990 exchange rate, divided by population.

Sources

Agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others: International Monetary Fund, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
CHILE							
Population, midyear estimates	Million	13.10	13.32	13.54	13.77	13.99	14.20
Exchange rate	Peso/US\$	304.90	349.22	362.58	404.17	420.18	396.77
Foreign exchange reserves	Mil. US\$	6,068	7,041	9,167	9,639	13,087	14,137
GDP	Bil. Peso	9,270	12,017	15,500	18,454	21,918	26,702
Real GDP	Bil. Peso (1990)	9,270	9,942	11,002	11,733	12,231	13,276
Real per capita GDP*	1990 US\$/person	2,321	2,448	2,665	2,794	2,867	3,066
Real GDP growth (local currency)	Percent	21.5	5.5	8.9	4.9	2.6	6.94
Change in CPI	"	26.0	21.8	15.4	12.7	11.4	8.20
Current account balance	Mil. US\$	(536)	109	(703)	(2,073)	(646)	157
Merchandise exports, f.o.b.	"	8,372	8,942	10,008	9,199	11,603	16,038
Merchandise imports, f.o.b.	"	7,037	7,354	9,236	10,181	10,879	14,655
Balance	"	1,335	1,588	772	(982)	724	1,383
Agricultural exports, f.o.b.	"	1,201	1,356	1,613	1,540	1,803	2,238
Agricultural imports, c.i.f.	"	379	516	663	698	842	1,070
Balance	"	822	840	950	842	961	1,168
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	1,664	1,839	2,466	2,599	2,774	3,615
Total U.S. imports from	"	1,313	1,302	1,388	1,462	1,821	1,931
U.S. agricultural exports to	"	55	72	92	111	103	170
U.S. agricultural imports from	"	481	445	495	458	543	547
CHINA							
Population, midyear estimates	Million	1,155	1,170	1,184	1,196	1,209	1,222
Exchange rate	Yuan/US\$	4.78	5.32	5.51	5.76	8.62	8.35
Foreign exchange reserves	Mil. US\$	28,594	42,664	19,443	21,199	51,620	73,579
GDP	Bil. Yuan	1,855	2,162	2,664	3,463	4,662	5,826
Real GDP	Bil. Yuan (1990)	1,855	2,025	2,314	2,626	2,958	3,270
Real per capita GDP*	1990 US\$/person	336	362	409	459	512	560
Real GDP growth (local currency)	Percent	7.6	7.8	12.97	12.3	11.5	9
Change in CPI	"	1.4	5.1	6.30	14.6	24.2	16.9
Current account balance	Mil. US\$	11,997	13,272	6,401	(11,609)	6,908	1,618
Merchandise exports, f.o.b.	"	51,519	58,919	69,568	75,659	102,561	128,110
Merchandise imports, f.o.b.	"	42,354	50,176	64,385	86,313	95,271	110,060
Balance	"	9,165	8,743	5,183	(10,654)	7,290	18,050
Agricultural exports, f.o.b.	"	10,204	11,620	12,045	12,197	14,580	14,324
Agricultural imports, c.i.f.	"	9,794	9,429	9,800	8,569	12,419	18,256
Balance	"	410	2,191	2,245	3,628	2,160	(3,931)
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	4,806	6,278	7,418	8,763	9,282	11,754
Total U.S. imports from	"	15,237	18,969	25,728	31,540	38,787	45,543
U.S. agricultural exports to	"	818	725	547	379	1,084	2,635
U.S. agricultural imports from	"	273	330	383	454	444	493

* Calculated as real GDP in local currency at 1990 prices, converted to U.S. dollars at the 1990 exchange rate, divided by population.

Sources

Agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others: International Monetary Fund, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
HONG KONG							
Population	Million	5.71	5.76	5.81	5.92	6.06	6.19
Exchange rate	\$HK/US\$	7.80	7.77	7.74	7.74	7.73	7.74
Foreign exchange reserves	Mil. US\$	--	--	--	--	--	--
GDP	Bil. \$HK	556	643	779	900	1,011	1,085
Real GDP	Bil. \$HK (1990)	556	580	650	692	728	762
Real per capita GDP*	1990 US\$/person	12,484	12,910	14,343	14,986	15,402	15,782
Real GDP growth (local currency)	Percent	3.2	3.4	11.1	4.5	2.8	2.5
Change in CPI	"	9.7	6.9	10	8.7	8.6	9.1
Current account balance	Mil. US\$	3,640	2,850	5,780	8,160	1,580	(4,940)
Merchandise exports, f.o.b.	"	81,904	98,799	119,319	134,966	150,932	173,392
Merchandise imports, f.o.b.	"	82,244	100,489	123,233	138,365	161,341	192,355
Balance	"	(340)	(1,690)	(3,914)	(3,399)	(10,409)	(18,963)
Agricultural exports, f.o.b.	"	3,611	4,316	4,806	4,622	5,405	5,765
Agricultural imports, c.i.f.	"	6,822	7,699	8,436	8,069	9,460	10,575
Balance	"	(3,211)	(3,383)	(3,630)	(3,447)	(4,055)	(4,810)
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	6,817	8,137	9,077	9,874	11,441	14,231
Total U.S. imports from	"	9,622	9,279	9,793	9,554	9,696	10,291
U.S. agricultural exports to	"	703	775	867	883	1,244	1,503
U.S. agricultural imports from	"	108	109	122	107	111	93
INDONESIA							
Population, midyear estimates	Million	179.5	181.4	184.5	187.6	190.7	193.8
Exchange rate	Rupiah/US\$	1,843	1,950	2,030	2,087	2,161	2,249
Foreign exchange reserves	Mil. US\$	7,353	9,151	10,181	10,988	11,820	13,306
GDP	Bil. Rupiah	195,597	227,450	259,884	329,776	382,220	452,381
Real GDP	Bil. Rupiah (1990)	195,597	209,192	222,705	237,172	255,442	276,422
Real per capita GDP*	1990 US\$/person	591	626	655	686	727	774
Real GDP growth (local currency)	Percent	7.0	5.8	4.7	4.7	6.0	6.5
Change in CPI	"	7.8	9.4	7.5	9.7	8.5	9.4
Current account balance	Mil. US\$	(2,988)	(4,260)	(2,780)	(2,106)	(2,792)	(7,023)
Merchandise exports, f.o.b.	"	26,807	29,635	33,796	36,607	40,223	45,479
Merchandise imports, f.o.b.	"	21,455	24,834	26,774	28,376	32,322	39,769
Balance	"	5,352	4,801	7,022	8,231	7,901	5,710
Agricultural exports, f.o.b.	"	2,802	3,122	3,401	3,618	4,844	5,493
Agricultural imports, c.i.f.	"	1,591	2,051	2,412	2,353	3,129	4,884
Balance	"	1,211	1,071	989	1,265	1,715	609
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	1,897	1,891	2,779	2,770	2,809	3,360
Total U.S. imports from	"	3,341	3,241	4,529	5,435	6,547	7,435
U.S. agricultural exports to	"	274	300	344	344	484	817
U.S. agricultural imports from	"	684	686	824	819	1,019	1,431

-- = not available.

* Calculated as real GDP in local currency at 1990 prices, converted to U.S. dollars at the 1990 exchange rate, divided by population.

Sources

Agricultural exports and imports, Hong Kong merchandise exports and imports, and Hong Kong population:

Food and Agriculture Organization, FAOSTAT database.

Change in CPI: International Monetary Fund (IMF), International Financial Statistics, May 1997.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others (Hong Kong): DRI/McGraw-Hill, World Markets Report, Hong Kong, various issues.

All others (Indonesia): IMF, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
JAPAN							
Population, midyear estimates	Million	123.5	123.9	124.3	124.7	125.0	125.2
Exchange rate	Yen/US\$	144.79	134.71	126.65	111.20	102.21	94.06
Foreign exchange reserves	Mil. US\$	69,487	61,758	61,888	88,720	115,146	172,443
GDP	Billion Yen	424,537	451,297	463,145	465,972	469,240	480,693
Real GDP	Bil. Yen (1990)	424,537	441,389	446,041	446,612	448,750	452,902
Real per capita GDP*	1990 US\$/person	23,734	24,600	24,780	24,742	24,802	24,984
Real GDP growth (local currency)	Percent	3.7	3.7	0.7	(0.2)	0.2	0.7
Change in CPI	"	3.1	3.3	1.7	1.3	0.7	(0.1)
Current account balance	Bil. US\$	35.87	68.20	112.57	131.64	130.26	111.04
Merchandise exports, f.o.b.	"	280.35	308.17	332.56	352.66	385.70	428.72
Merchandise imports, f.o.b.	"	216.77	212.08	207.79	213.24	241.51	296.93
Balance	"	63.58	96.09	124.77	139.42	144.19	131.79
Agricultural exports, f.o.b.	Mil. US\$	1,165	1,284	1,448	1,526	1,636	1,750
Agricultural imports, c.i.f.	"	28,659	29,625	31,311	31,720	37,704	41,181
Balance	"	(27,494)	(28,341)	(29,863)	(30,194)	(36,067)	(39,431)
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	48,580	48,125	47,813	47,892	53,488	64,343
Total U.S. imports from	"	89,684	91,511	97,414	107,246	119,156	123,479
U.S. agricultural exports to	"	8,192	7,793	8,495	8,847	9,463	11,170
U.S. agricultural imports from	"	250	266	258	264	288	307
MALAYSIA							
Population, midyear estimates	Million	17.76	18.18	18.61	19.06	19.65	20.14
Exchange rate	Ringgit/US\$	2.70	2.75	2.55	2.57	2.62	2.50
Foreign exchange reserves	Mil. US\$	9,327	10,421	16,784	26,814	24,888	22,945
GDP	Mil. Ringgit	115,828	129,559	147,784	163,039	185,344	--
Real GDP	Mil. Ringgit (1990)	115,828	125,575	135,366	146,665	160,218	175,379
Real per capita GDP*	1990 US\$/person	2,411	2,554	2,689	2,845	3,014	3,219
Real GDP growth (local currency)	Percent	7.2	5.9	5.31	5.8	6.0	6.8
Change in CPI	"	2.6	4.4	4.80	3.5	3.7	5.3
Current account balance	Mil. US\$	(870)	(4,183)	(2,167)	(2,809)	(4,147)	--
Merchandise exports, f.o.b.	"	28,806	33,712	39,823	46,226	56,906	--
Merchandise imports, f.o.b.	"	26,280	33,321	36,673	43,201	55,325	--
Balance	"	2,526	391	3,150	3,025	1,581	--
Agricultural exports, f.o.b.	"	4,360	4,422	4,958	5,014	6,565	8,228
Agricultural imports, c.i.f.	"	2,137	2,397	2,597	2,734	3,182	3,877
Balance	"	2,223	2,025	2,361	2,280	3,382	4,351
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	3,425	3,900	4,363	6,064	6,969	8,816
Total U.S. imports from	"	5,272	6,101	8,294	10,563	13,982	17,453
U.S. agricultural exports to	"	124	155	167	198	231	537
U.S. agricultural imports from	"	308	299	346	311	372	462

* Calculated as real GDP or GNP in local currency at 1990 prices, converted to U.S. dollars at 1990 exchange rate, divided by population.

Sources

Agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others: International Monetary Fund, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
MEXICO							
Population, midyear estimates	Million	86.15	87.84	89.54	91.21	93.01	90.49
Exchange rate	New Peso/US\$	2.81	3.02	3.09	3.12	3.38	6.42
Foreign exchange reserves	Mil. US\$	9,446	17,140	18,394	24,886	6,101	15,250
GDP	Mil. New Peso	694,872	876,933	1,034,733	1,256,196	1,423,364	1,792,695
Real GDP	Mil. New Peso(1990)	694,872	724,211	750,490	765,129	799,240	749,651
Real per capita GDP*	1990 US\$/person	2,868	2,931	2,980	2,983	3,055	2,945
Real GDP growth (local currency)	Percent	2.5	2.2	1.7	0.1	2.4	(3.6)
Change in CPI	"	26.7	22.7	15.5	9.8	7.0	35.0
Current account balance	Mil. US\$	(7,451)	(14,888)	(24,442)	(23,400)	(29,418)	(654)
Merchandise exports, f.o.b.	"	40,711	42,687	46,196	51,885	60,879	79,543
Merchandise imports, f.o.b.	"	41,592	49,966	62,130	65,366	79,346	72,454
Balance	"	(881)	(7,279)	(15,934)	(13,481)	(18,467)	7,089
Agricultural exports, f.o.b.	"	2,937	3,171	2,972	3,585	4,032	5,718
Agricultural imports, f.o.b.**	"	4,990	4,587	5,999	5,862	7,135	5,333
Balance	"	(2,053)	(1,416)	(3,027)	(2,277)	(3,103)	385
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	28,279	33,277	40,592	41,581	50,844	46,292
Total U.S. imports from	"	30,157	31,130	35,211	39,917	49,494	61,685
U.S. agricultural exports to	"	2,560	3,008	3,802	3,619	4,593	3,540
U.S. agricultural imports from	"	2,614	2,532	2,379	2,720	2,895	3,836
NEW ZEALAND							
Population, midyear estimates	Million	3.35	3.41	3.44	3.45	3.49	3.54
Exchange rate	\$NZ/US\$	1.68	1.73	1.86	1.85	1.68	1.52
Foreign exchange reserves	Mil. US\$	4,071	2,872	2,929	3,195	3,561	4,245
GDP	Mil. \$NZ	72,138	72,146	74,426	80,297	85,875	91,045
Real GDP	Mil. \$NZ (1990)	72,138	71,754	70,904	71,442	75,999	79,269
Real per capita GDP*	1990 US\$/person	12,856	12,562	12,305	12,363	13,000	13,368
Real GDP growth (local currency)	Percent	(3.1)	(2.3)	(2.0)	0.5	5.2	2.8
Change in CPI	"	6.1	2.6	1.0	1.3	1.7	3.8
Current account balance	Mil. US\$	(1,453)	(1,159)	(1,370)	(1,070)	(2,371)	(3,778)
Merchandise exports, f.o.b.	"	9,190	9,555	9,735	10,468	11,984	13,485
Merchandise imports, f.o.b.	"	8,375	7,485	8,108	8,749	10,648	12,584
Balance	"	815	2,070	1,627	1,719	1,336	901
Agricultural exports, f.o.b.	"	4,780	4,787	5,093	4,945	5,374	6,136
Agricultural imports, c.i.f.	"	668	655	653	715	831	1,005
Balance	"	4,112	4,132	4,440	4,230	4,544	5,131
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	1,135	1,007	1,307	1,249	1,508	1,691
Total U.S. imports from	"	1,197	1,209	1,218	1,208	1,421	1,452
U.S. agricultural exports to	"	59	53	63	79	77	100
U.S. agricultural imports from	"	852	863	809	767	776	756

* Calculated as real GDP in local currency at 1990 prices, converted to U.S. dollars at the 1990 exchange rate, divided by population.

** Mexican import values are c.i.f. through 1991.

Sources

Agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others: International Monetary Fund, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
PAPUA NEW GUINEA							
Population, midyear estimates	Million	3.70	3.77	3.85	3.92	4.00	4.07
Exchange rate	Kina/US\$	0.96	0.95	0.96	0.98	1.01	1.28
Foreign exchange reserves	Mil. US\$	403	323	238	141	96	261
GDP	Mil. Kina	3,076	3,606	4,140	4,979	--	--
Real GDP	Mil. Kina (1990)	3,076	3,369	3,767	4,311	--	--
Real per capita GDP*	1990 US\$/person	870	935	1,024	1,151	--	--
Real GDP growth (local currency)	Percent	(4.8)	7.5	9.5	12.4	--	--
Change in CPI	"	7.0	7.0	4.3	5.0	2.9	17.3
Current account balance	Mil. US\$	(76)	(157)	95	646	569	674
Merchandise exports, f.o.b.	"	1,175	1,482	1,948	2,604	2,651	2,670
Merchandise imports, f.o.b.	"	1,106	1,404	1,323	1,135	1,325	1,262
Balance	"	69	78	625	1,470	1,326	1,408
Agricultural exports, f.o.b.	"	220	202	230	259	360	387
Agricultural imports, f.o.b.	"	189	209	206	201	229	228
Balance	"	31	(7)	24	58	131	159
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	54	96	72	50	66	51
Total U.S. imports from	"	22	34	64	98	115	50
U.S. agricultural exports to	"	0.6	0.9	1.0	1.7	1.5	7.2
U.S. agricultural imports from	"	21	23	26	25	30	27
PHILIPPINES							
Population, midyear estimates	Million	61.48	63.69	65.34	66.98	68.62	70.27
Exchange rate	Peso/US\$	24.31	27.48	25.51	27.12	26.42	25.71
Foreign exchange reserves	Mil. US\$	868	3,186	4,283	4,546	5,866	6,235
GDP	Bil. peso	1,077	1,248	1,352	1,475	1,693	1,906
Real GDP	Bil. peso (1990)	1,077	1,072	1,075	1,098	1,146	1,201
Real per capita GDP*	1990 US\$/person	721	692	677	674	687	703
Real GDP growth (local currency)	Percent	0.7	(4.0)	(2.2)	(0.4)	1.9	2.3
Change in CPI	"	14.1	18.7	8.9	7.6	9.1	8.1
Current account balance	Mil. US\$	(2,695)	(1,034)	(1,000)	(3,016)	(2,950)	(1,980)
Merchandise exports, f.o.b.	"	8,186	8,840	9,824	11,375	13,483	17,447
Merchandise imports, f.o.b.	"	12,206	12,051	14,519	17,597	21,333	26,391
Balance	"	(4,020)	(3,211)	(4,695)	(6,222)	(7,850)	(8,944)
Agricultural exports, f.o.b.	"	1,230	1,261	1,379	1,359	1,441	1,881
Agricultural imports, c.i.f.	"	1,363	1,054	1,299	1,473	1,872	2,378
Balance	"	(133)	207	80	(114)	(431)	(497)
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	2,471	2,265	2,759	3,529	3,886	5,295
Total U.S. imports from	"	3,384	3,471	4,355	4,894	5,719	7,007
U.S. agricultural exports to	"	381	374	521	484	577	766
U.S. agricultural imports from	"	418	417	551	438	435	568

- = not available.

* Calculated as real GDP in local currency at 1990 prices, converted to U.S. dollars at the 1990 exchange rate, divided by population.

Sources

Agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others: International Monetary Fund, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
SINGAPORE							
Population, midyear estimates	Million	2.71	2.76	2.82	2.87	2.93	2.99
Exchange rate	\$/US\$	1.81	1.73	1.63	1.62	1.53	1.42
Foreign exchange reserves	Mil. US\$	27,535	33,931	39,661	48,066	57,890	68,349
GDP	Mil. \$S	67,879	75,321	80,998	94,259	108,224	120,629
Real GDP	Mil. \$S (1990)	67,879	72,861	77,394	85,473	94,064	102,299
Real per capita GDP*	1990 US\$/person	13,819	14,565	15,142	16,431	17,712	18,876
Real GDP growth (local currency)	Percent	6.0	5.4	4.0	8.5	7.8	6.6
Change in CPI	"	3.4	3.4	2.3	2.3	3.1	1.7
Current account balance	Mil. US\$	3,097	4,884	5,615	4,205	11,284	15,093
Merchandise exports, f.o.b.	"	54,678	61,333	66,565	77,858	97,918	119,019
Merchandise imports, f.o.b.	"	56,311	61,443	68,388	80,582	96,567	117,394
Balance	"	(1,633)	(110)	(1,823)	(2,724)	1,351	1,625
Agricultural exports, f.o.b.	"	2,555	3,014	3,260	3,410	4,015	4,320
Agricultural imports, c.i.f.	"	3,521	3,923	4,265	4,623	4,931	5,249
Balance	"	(966)	(909)	(1,005)	(1,213)	(915)	(929)
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	8,023	8,804	9,626	11,678	13,020	15,333
Total U.S. imports from	"	9,800	9,957	11,313	12,798	15,358	18,561
U.S. agricultural exports to	"	172	193	208	229	266	294
U.S. agricultural imports from	"	73	56	56	46	59	67
SOUTH KOREA							
Population, midyear estimates	Million	42.87	43.27	43.66	44.06	44.45	44.85
Exchange rate	Won/US\$	707.76	733.35	780.65	802.67	803.45	771.27
Foreign exchange reserves	Mil. US\$	14,459	13,306	16,640	19,704	25,032	31,928
GDP	Bil. Won	179,539	215,734	240,392	267,146	305,970	351,295
Real GDP	Bil. Won (1990)	179,539	195,936	205,860	217,699	236,376	257,537
Real per capita GDP*	1990 US\$/person	5,917	6,398	6,662	6,981	7,514	8,113
Real GDP growth (local currency)	Percent	8.4	8.1	4.1	4.8	7.6	8.0
Change in CPI	"	8.6	9.3	6.2	4.8	6.3	4.5
Current account balance	Mil. US\$	(1,745)	(8,291)	(3,939)	1,016	(3,855)	(8,251)
Merchandise exports, f.o.b.	"	63,123	69,581	75,169	80,950	93,676	123,203
Merchandise imports, f.o.b.	"	65,127	76,561	77,315	79,090	96,822	127,949
Balance	"	(2,004)	(6,980)	(2,146)	1,860	(3,146)	(4,746)
Agricultural exports, f.o.b.	"	1,145	1,102	1,177	1,105	1,331	1,651
Agricultural imports, c.i.f.	"	6,459	6,952	7,019	6,685	7,791	9,606
Balance	"	(5,314)	(5,850)	(5,842)	(5,580)	(6,460)	(7,955)
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	14,404	15,505	14,639	14,782	18,025	25,380
Total U.S. imports from	"	18,485	17,018	16,682	17,118	19,629	24,184
U.S. agricultural exports to	"	2,648	2,110	2,228	1,940	2,339	3,759
U.S. agricultural imports from	"	63	57	60	67	71	74

* Calculated as real GDP or GNP in local currency at 1990 prices, converted to U.S. dollars at 1990 exchange rate, divided by population.

Sources

Agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others: International Monetary Fund, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
TAIWAN							
Population, midyear estimates	Million	20.22	20.45	20.64	20.82	21.03	21.21
Exchange rate	\$NT/US\$	26.89	26.82	25.16	26.39	26.46	26.49
Foreign exchange reserves	Mil. US\$	72,441	82,405	82,306	83,573	92,454	90,310
GDP	Bil. \$NT	4,307	4,811	5,338	5,875	6,377	6,892
Real GNP	Bil. \$NT (1990)	4,412	4,745	5,041	5,344	5,669	6,001
Real per capita GNP*	1990 US\$/person	8,113	8,628	9,081	9,544	10,023	10,520
Real GDP growth (local currency)	Percent	4.9	6.3	5.2	5.1	5.0	5.0
Change in CPI	"	4.1	3.6	4.5	2.9	4.1	3.7
Current account balance	Mil. US\$	10,769	12,015	8,154	6,714	6,154	4,824
Merchandise exports, f.o.b.	"	66,823	75,535	80,723	84,329	92,242	110,690
Merchandise imports, f.o.b.	"	51,895	59,781	67,956	72,742	80,258	97,150
Balance	"	14,928	15,754	12,767	11,587	11,984	13,540
Agricultural exports, f.o.b.	"	3,661	4,153	4,101	4,194	4,843	5,619
Agricultural imports, c.i.f.	"	6,088	6,899	7,473	7,768	8,847	9,704
Balance	"	(2,427)	(2,746)	(3,372)	(3,574)	(4,004)	(4,085)
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	11,491	13,182	15,250	16,168	17,109	19,290
Total U.S. imports from	"	22,666	23,023	24,595	25,102	26,706	28,972
U.S. agricultural exports to	"	1,664	1,902	1,903	2,046	2,149	2,601
U.S. agricultural imports from	"	182	176	128	112	118	142
THAILAND							
Population, midyear estimates	Million	55.84	56.57	57.29	58.01	58.71	59.40
Exchange rate	Baht/US\$	25.59	25.52	25.40	25.32	25.15	24.92
Foreign exchange reserves	Mil. US\$	13,247	17,287	20,012	24,078	28,884	35,463
GDP	Bil. baht	2,191	2,520	2,833	3,176	3,605	4,099
Real GDP	Bil. baht (1990)	2,191	2,375	2,560	2,772	3,015	3,276
Real per capita GDP*	1990 US\$/person	1,534	1,641	1,746	1,867	2,007	2,155
Real GDP growth (local currency)	Percent	10.4	7.0	6.4	6.9	7.5	7.4
Change in CPI	"	5.9	5.7	4.1	3.4	5.2	5.7
Current account balance	Mil. US\$	(7,281)	(7,571)	(6,303)	(6,364)	(8,085)	(13,554)
Merchandise exports, f.o.b.	"	22,811	28,232	32,100	36,398	44,478	55,447
Merchandise imports, f.o.b.	"	29,561	34,222	36,261	40,695	48,204	63,415
Balance	"	(6,750)	(5,990)	(4,161)	(4,297)	(3,726)	(7,968)
Agricultural exports, f.o.b.	"	5,388	5,881	6,671	5,991	7,121	9,022
Agricultural imports, c.i.f.	"	1,601	1,879	2,140	2,093	2,387	2,876
Balance	"	3,787	4,002	4,531	3,898	4,734	6,146
Trade with U.S.:							
Total U.S. exports to	Mil. US\$	2,995	3,753	3,989	3,766	4,865	6,665
Total U.S. imports from	"	5,289	6,122	7,529	8,542	10,306	11,348
U.S. agricultural exports to	"	272	288	312	305	385	592
U.S. agricultural imports from	"	470	519	658	727	715	903

* Calculated as real GDP or GNP in local currency at 1990 prices, converted to U.S. dollars at 1990 exchange rate, divided by population.

Sources

Taiwan agricultural exports and imports: Council of Agriculture, Agricultural Trade Statistics of Republic of China 1994, April 1995.

Thailand agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others (Taiwan): The Central Bank of China, Financial Statistics, Taiwan District, November 1995.

All others (Thailand): International Monetary Funds, International Financial Statistics, May 1997.

Appendix table 2: Macroeconomic data

Country and item	Units	1990	1991	1992	1993	1994	1995
UNITED STATES							
Population, midyear estimates	Million	249.91	252.64	255.42	258.14	260.66	263.03
Foreign exchange reserves	Bil. US\$	52.19	45.93	40.01	41.53	41.22	49.10
GDP	Bil. US\$	5,917	5,917	6,244	6,553	6,936	7,254
Real GDP	Bil. US\$ (1990)	5,917	5,859	6,019	6,153	6,370	6,499
Real per capita GDP*	1990 US\$/person	23,675	23,192	23,564	23,836	24,437	24,708
Real GDP growth	Percent	6.9	(2.0)	1.6	1.2	2.5	1.1
Change in CPI	"	5.4	4.2	3.0	3.0	2.6	2.8
Current account balance	Bil. US\$	(94.26)	(9.26)	(61.36)	(99.72)	(147.77)	(148.23)
Merchandise exports, f.o.b.	"	389.31	416.91	440.35	458.73	504.55	577.82
Merchandise imports, f.o.b.	"	498.34	490.98	536.45	590.10	669.15	749.81
Balance	"	(109.03)	(74.07)	(96.10)	(131.37)	(164.60)	(171.99)
Agricultural exports, f.o.b.	Mil. US\$	45,211	44,633	48,247	47,795	52,332	62,259
Agricultural imports, c.i.f.	"	27,088	26,672	28,467	28,799	30,901	33,839
Balance	"	18,123	17,961	19,780	18,996	21,431	28,420

* Calculated as real GDP at 1990 prices divided by population.

Sources

Agricultural exports and imports: Food and Agriculture Organization, FAOSTAT database.

Total U.S. exports and imports: U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural exports and imports: USDA, Foreign Agricultural Trade of the United States database.

All others: International Monetary Fund, International Financial Statistics, May 1997.

Appendix table 3: Imports of principal agricultural commodities and U.S. shares (Calendar year)

Country and commodity	Total volume			U.S. volume			U.S. share		
	1993	1994	1995	1993	1994	1995	1993	1994	1995
	----- 1,000 tons -----						----- Percent -----		
CANADA									
Beef & veal	189	201	178	76	88	96	40	44	54
Poultry	50	46	46	50	46	46	100	100	100
Corn	815	807	1,024	815	807	1,024	100	100	100
Soybeans	236	24	79	230	24	78	97	100	98
Tomatoes	152	149	155	138	131	126	90	88	82
Apples	97	103	102	81	84	80	83	82	79
Grapes	154	144	147	111	103	103	72	71	70
Oranges, tangerines, etc.	301	279	275	217	203	191	72	73	69
CHILE									
Corn	323	459	509	220	335	450	68	73	89
Wheat	481	672	633	207	33	296	43	5	47
Soybean oil	99	94	92	0	0	0	0	0	0
Beef & veal	35	41	50	0	0	0	0	0	0
Rice	37	47	51	17	9	10	46	19	21
Dry milk	10	7	8	1	0	1	11	2	12
Cotton	22	24	24	0	0	0	0	0	0
CHINA									
Corn	0.29	0.62	5,181	0.08	0.46	4,975	27	74	96
Raw cotton	13	502	741	1.51	296	482	12	59	65
Wheat	6,423	7,299	11,586	2,589	2,242	3,841	40	31	33
Poultry meat	100	136	261	69	101	213	69	74	82
Whole cattle hides*	4,727	130	241	471	43	71	10	33	29
HONG KONG									
Soybeans	36	35	36	2	1	1	6	2	2
Raw cotton	164	209	189	17	85	81	10	41	43
Beef	31	41	42	4	4	5	14	11	11
Poultry meat	357	490	688	223	340	466	62	69	68
Hides and skins*	99	135	152	1,295	2,020	2,294	--	--	--
Tobacco leaves	21	20	23	5	5	5	24	24	21
Citrus fruit	249	265	267	134	140	136	54	53	51
Apples	80	86	101	50	68	68	63	79	68

* 1993 volume of hides and skins in thousand pieces for China; U.S. volume of hides and skins in thousand pieces for Hong Kong.
 -- = not available.

Sources

Canada: For total volume (except corn and poultry)-Food and Agriculture Organization, FAOSTAT database;
 for corn and poultry, USDA, FATUS data and attache information on trade share used to derive total trade.
 For U.S. volume--USDA, FATUS database.
 Chile and Hong Kong: For total volume--Food and Agriculture Organization, FAOSTAT database.
 For U.S. volume--USDA, FATUS database.
 China: PRC Custom Statistics, annual issues.

Appendix table 3: Imports of principal agricultural commodities and U.S. shares (Calendar year)

Country and commodity	Total volume			U.S. volume			U.S. share		
	1993	1994	1995	1993	1994	1995	1993	1994	1995
----- 1,000 tons ----- Percent -----									
JAPAN									
Corn	16,862	15,930	16,584	14,551	11,887	16,222	86	75	98
Sorghum	3,079	2,777	2,256	1,900	1,701	2,010	62	61	89
Barley	1,618	1,665	1,732	101	0	604	6	0	35
Soybeans	5,031	4,731	4,813	4,036	3,540	4,065	80	75	84
Raw cotton	478	404	348	182	208	219	38	51	63
Wheat	5,813	6,352	5,965	3,228	3,706	3,280	56	58	55
Beef & veal (boneless)	509	587	648	217	250	298	43	43	46
Pork (boneless)	458	493	581	63	73	110	14	15	19
Chicken meat	400	454	544	116	123	126	29	27	23
Whole cattle hides	189	138	150	126	95	109	67	69	73
Tobacco	119	135	115	61	68	51	51	50	44
Citrus fruit	493	573	560	468	537	507	95	94	91
Rice (milled)	62	2,362	27	8	493	4	13	21	15
MEXICO									
Corn	289	3,054	2,859	289	3,054	2,859	100	100	100
Sorghum	3,614	3,402	2,150	3,614	3,402	2,150	100	100	100
Wheat	1,741	1,414	1,223	967	625	791	56	44	65
Soybeans	2,171	2,497	2,232	1,758	2,073	2,018	81	83	90
Beef & veal	97	119	41	38	70	29	39	59	70
Poultry	171	195	190	153	169	149	90	87	78
Nonfat dry milk	190	118	106	49	21	13	26	17	13
SOUTH KOREA									
Corn	6,207	5,748	9,035	741	1,489	8,837	12	26	98
Soybeans	1,088	1,228	1,468	972	1,017	1,414	89	83	96
Raw cotton	366	371	369	222	221	210	61	60	57
Wheat	4,938	6,057	2,342	1,402	1,535	1,511	28	25	65
Beef (boneless)	97	119	142	40	57	71	41	48	50
Turkey meat	17	21	25	12	15	19	71	71	76
Whole cattle hides	389	356	341	253	265	274	65	74	80
Tobacco	9	10	12	2	3	6	22	30	50
TAIWAN									
Corn	5,466	5,601	6,521	5,245	5,211	6,481	96	93	99
Soybeans	2,436	2,392	2,582	2,435	1,860	2,581	100	78	100
Fish meal for feed	481	453	416	50	54	38	10	12	9
Raw cotton	302	285	290	65	80	81	22	28	28
Hides and leather	227	253	251	86	112	119	38	44	47
Wheat	908	982	1,012	848	872	914	93	89	90
Beef	48	52	55	5	7	10	10	13	18
Dairy products	145	145	153	17	12	23	12	8	15
Apples	107	122	119	95	113	101	89	93	85

Sources

Japan: Meats: USDA, Foreign Agricultural Service (FAS), attaché reports.

Other series: Ministry of Finance, Japan Exports and Imports, December issues.

Mexico: For total volume (except corn and sorghum)--Food and Agriculture Organization, FAOSTAT database;

for corn and sorghum, USDA, FATUS data and attaché information on trade share used to derive total trade.

For U.S. volume--USDA, FATUS database.

South Korea: Beef: USDA, FAS, attaché reports.

Other series: Korean Customs Service, Statistical Yearbook of Foreign Trade, various issues.

Appendix table 4: U.S. agricultural exports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
AUSTRALIA								
Animals & animal products	25.7	30.2	26.7	27.9	--	--	--	--
Grains & feeds	14.2	21.8	67.0	25.9	19.4	37.4	428.7	57.7
Fruits & preparations, ex. juice	16.7	16.5	15.2	19.2	14.1	14.9	15.4	19.9
Nuts & preparations	18.3	20.3	17.5	17.7	5.1	5.7	5.5	5.3
Vegetables & preparations	52.8	49.8	43.8	45.7	--	--	--	--
Oilseeds & products	50.9	58.6	81.9	83.2	179.0	211.1	352.5	240.0
Soybeans	16.4	10.4	17.4	18.8	72.4	44.6	78.7	66.8
Vegetable oil & waxes	3.2	2.9	3.7	7.7	2.2	1.9	2.6	6.1
Oilcake and meal	18.4	35.4	51.3	42.7	83.4	160.5	266.4	157.2
Tobacco, unmanufactured	18.0	16.8	15.3	17.7	2.7	2.6	2.3	3.1
Total U.S. agricultural exports	315.4	356.4	405.2	307.7	--	--	--	--
BRUNEI								
Total U.S. agricultural exports	2.1	3.8	1.6	1.0	--	--	--	--
CANADA								
Animals & animal products	922.8	986.9	1,043.6	1,077.5	--	--	--	--
Grains & feeds	843.6	874.3	977.9	1,078.3	2,265.4	1,745.4	2,260.3	2,066.8
Fruits & preparations, ex. juice	721.9	700.4	695.0	721.7	946.7	943.6	909.3	944.6
Nuts & preparations	131.5	129.4	137.8	155.1	76.6	66.9	88.6	97.3
Vegetables & preparations	1,226.7	1,163.6	1,473.6	1,235.3	--	--	--	--
Oilseeds & products	358.2	327.7	346.1	415.3	1,069.2	904.6	1,121.1	1,097.2
Soybeans	62.4	6.7	16.7	18.0	249.0	25.7	72.6	65.6
Vegetable oil & waxes	98.5	111.7	121.6	149.7	117.6	119.6	136.5	188.0
Oilcake and meal	148.6	160.5	159.7	185.0	619.9	676.7	829.0	733.2
Tobacco, unmanufactured	4.5	1.8	2.3	3.2	3.7	0.4	0.5	1.0
Cotton, excluding linters	53.5	61.5	86.3	101.5	33.2	38.7	55.4	65.1
Total U.S. agricultural exports	5,219.6	5,261.3	5,838.4	5,988.1	--	--	--	--
CHILE								
Animals & animal products	11.2	10.4	14.2	14.7	--	--	--	--
Grains & feeds	62.4	41.1	89.1	73.7	529.4	320.9	645.3	443.0
Fruits & preparations, ex. juice	0.2	0.1	0.7	1.1	0.1	0.1	0.6	1.0
Nuts & preparations	0.8	0.7	0.7	1.0	0.3	0.3	0.4	0.5
Vegetables & preparations	4.6	5.4	7.1	8.8	--	--	--	--
Oilseeds & products	9.4	4.6	7.1	10.0	23.6	3.9	5.3	6.6
Vegetable oil & waxes	1.1	1.1	2.9	2.9	1.3	1.3	3.6	3.2
Oilcake and meal	4.5	0.2	0.0	0.1	20.7	1.0	0.0	0.2
Tobacco, unmanufactured	1.5	2.8	0.1	0.8	0.0	0.1	0.0	0.1
Cotton, excluding linters	0.9	4.6	0.6	0.5	0.7	3.2	0.3	0.2
Total U.S. agricultural exports	115.1	86.4	140.1	130.1	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 4: U.S. agricultural exports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
CHINA								
Animals & animal products	43.8	79.0	189.8	200.1	--	--	--	--
Live baby chicks (1,000)	8.0	8.0	7.4	6.1	3,822.8	2,337.1	2,675.0	1,153.7
Cattle hides, whole (1,000)	8.2	31.4	77.7	91.0	163.1	581.8	1,332.1	1,771.3
Grains & feeds	239.4	205.7	983.8	635.9	2,189.4	2,361.8	7,937.6	3,811.6
Wheat & products	238.3	203.6	510.9	441.2	2,187.4	2,356.9	3,823.3	2,328.3
Feeds & fodder, ex. oilcake	1.0	1.7	8.0	5.4	1.8	4.1	44.3	17.7
Fruits, nuts, & vegetables	10.4	7.8	7.2	11.8	--	--	--	--
Oilseeds & products	17.0	74.8	393.1	245.6	63.7	168.5	603.7	729.6
Soybeans	13.9	17.7	0.0	134.8	61.4	69.8	0.0	490.0
Cotton, excluding linters	0.2	496.6	805.8	713.8	0.2	303.5	471.4	401.3
Total U.S. agricultural exports	322.0	877.3	2,413.1	1,827.6	--	--	--	--
HONG KONG								
Animals & animal products	277.9	367.4	584.2	676.7	--	--	--	--
Beef & veal	22.6	18.7	20.2	40.6	5.4	4.4	4.2	9.4
Poultry meat	160.9	231.0	389.6	414.0	207.5	301.7	463.4	494.5
Cattle hides, whole (1,000)	13.9	22.5	28.2	31.6	274.8	435.4	541.3	711.5
Grains & feeds	41.9	49.6	48.1	47.1	150.4	152.6	162.5	129.3
Wheat & products	17.1	20.4	13.5	9.7	105.3	111.6	78.3	45.3
Feeds & fodder, ex. oilcake	13.9	12.3	18.0	18.0	33.2	23.0	61.7	63.8
Fruits & preparations, ex. juice	158.3	175.6	186.3	204.3	246.5	262.1	271.3	259.3
Fruit juices (1,000 HL)	9.2	10.0	11.4	11.9	251.0	258.8	279.0	261.4
Nuts & preparations	41.5	35.4	43.9	53.6	11.8	9.9	15.8	16.9
Vegetables & preparations	110.5	132.2	139.2	162.0	--	--	--	--
Oilseeds & products	19.5	32.6	76.4	63.0	25.4	30.2	76.0	56.7
Vegetable oil & waxes	15.5	24.0	58.9	45.5	19.7	25.2	66.8	46.0
Tobacco, unmanufactured	35.2	28.8	28.6	27.3	6.2	4.6	4.1	3.5
Cotton, excluding linters	16.2	101.0	112.1	84.3	14.9	74.4	70.7	47.0
Total U.S. agricultural exports	880.0	1,102.5	1,425.9	1,529.0	--	--	--	--
INDONESIA								
Animals & animal products	16.5	33.3	48.2	64.6	--	--	--	--
Grains & feeds	32.9	42.3	167.3	207.6	134.4	162.0	1,131.9	1,001.3
Wheat & products	7.1	4.3	43.6	118.0	49.4	30.2	265.9	594.6
Feeds & fodder, ex. oilcake	20.9	30.4	20.7	25.9	65.2	86.6	71.8	72.8
Rice	2.1	1.1	14.5	15.5	9.1	3.0	48.5	44.7
Fruits & preparations, ex. juice	16.0	23.9	37.7	46.3	18.4	34.8	55.0	59.0
Vegetables & preparations	5.1	8.6	17.7	17.1	--	--	--	--
Oilseeds & products	114.2	73.9	68.7	215.5	482.9	282.6	267.2	750.3
Soybeans	112.1	68.0	63.4	189.3	481.6	263.8	264.1	660.9
Tobacco, unmanufactured	7.8	5.2	11.2	21.7	1.1	0.7	1.5	2.9
Cotton, excluding linters	123.9	207.6	345.2	309.9	93.3	148.0	200.1	165.4
Total U.S. agricultural exports	327.4	407.6	706.8	908.3	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 4: U.S. agricultural exports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
JAPAN								
Animals & animal products	2,558.4	2,521.8	3,300.3	3,618.2	--	--	--	--
Beef & veal	1,240.4	1,278.6	1,617.2	1,654.0	230.3	265.9	312.3	356.5
Pork	331.0	347.7	552.4	748.9	77.4	82.9	123.6	177.3
Poultry meat	142.2	156.4	176.6	175.4	123.5	122.0	132.4	130.4
Cattle hides, whole (1,000)	242.8	220.6	260.5	182.5	4,340.5	3,702.1	3,975.5	3,051.8
Other animal products	601.9	518.5	693.5	857.5	--	--	--	--
Grains & feeds	2,721.3	3,101.8	3,210.4	4,130.5	22,090.8	20,375.1	24,196.2	22,820.1
Wheat & products	517.7	629.7	518.4	676.6	3,269.4	3,416.2	3,033.5	3,048.4
Feeds & fodder, ex. oilcake	501.8	541.1	557.6	581.8	2,448.4	2,595.8	2,583.1	2,607.4
Fruits & preparations, ex. juice	509.5	612.1	691.7	595.3	602.7	661.5	680.2	598.8
Fruit juices (1,000 HL)	91.5	105.2	121.7	138.4	1,454.3	1,382.9	1,112.3	1,558.4
Nuts & preparations	132.9	170.4	145.7	176.5	42.4	39.4	47.2	64.3
Vegetables & preparations	446.0	598.6	758.7	739.4	--	--	--	--
Oilseeds & products	1,082.9	1,079.5	1,142.0	1,291.1	4,377.3	3,818.0	4,477.7	4,117.3
Soybeans	919.8	910.6	940.9	1,088.3	3,983.7	3,527.3	4,061.5	3,730.3
Vegetable oil & waxes	62.8	90.6	94.5	88.8	73.1	99.5	89.1	92.3
Oilcake and meal	54.8	23.9	45.2	54.2	249.2	102.0	226.0	212.2
Tobacco, unmanufactured	319.5	360.9	277.4	221.6	52.7	60.3	43.9	33.7
Cotton, excluding linters	250.0	253.9	394.1	379.2	177.1	175.2	225.6	203.3
Total U.S. agricultural exports	8,461.5	9,207.8	10,454.1	11,830.7	--	--	--	--
MALAYSIA								
Animals & animal products	9.5	12.7	13.3	18.8	--	--	--	--
Grains & feeds	34.4	36.5	120.9	274.7	141.8	131.7	766.8	1,653.8
Wheat & products	17.8	13.9	24.2	21.3	101.7	75.0	131.2	93.4
Feeds & fodder, ex. oilcake	12.9	18.1	18.6	30.3	35.0	50.9	55.0	97.7
Fruits & preparations, ex. juice	23.7	27.6	32.3	37.1	31.3	40.3	44.9	47.3
Vegetables & preparations	19.4	25.2	30.6	34.3	--	--	--	--
Oilseeds & products	70.1	38.1	116.0	166.5	297.5	131.3	464.9	566.5
Soybeans	65.5	33.2	93.0	154.0	291.6	126.8	412.6	544.8
Tobacco, unmanufactured	25.1	21.5	32.0	45.0	5.6	3.7	4.6	6.6
Cotton, excluding linters	5.4	6.5	9.6	11.4	3.9	4.3	5.9	6.3
Total U.S. agricultural exports	213.2	200.5	376.7	627.9	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 4: U.S. agricultural exports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
MEXICO								
Animals & animal products	1,205.8	1,240.9	975.0	1,005.3	--	--	--	--
Grains & feeds	905.5	1,037.9	1,079.6	1,980.9	6,404.1	6,691.9	7,453.9	10,775.0
Wheat & products	120.3	102.9	124.2	333.5	789.6	742.5	716.1	1,537.6
Feeds & fodder, ex. oilcake	129.6	145.4	122.6	120.1	536.9	505.3	407.8	456.7
Fruits & preparations, ex. juice	100.0	176.6	103.5	90.8	178.8	290.5	171.0	151.3
Nuts & preparations	34.3	43.2	36.0	46.1	23.8	29.9	28.9	36.9
Vegetables & preparations	184.3	237.3	185.1	210.4	--	--	--	--
Oilseeds & products	687.2	821.8	766.4	976.1	2,651.8	2,918.8	2,745.1	3,048.4
Soybeans	411.0	529.1	414.0	638.3	1,747.2	2,047.8	1,782.6	2,222.9
Cotton, excluding linters	166.0	206.7	180.1	255.2	132.1	142.4	103.6	145.6
Total U.S. agricultural exports	3,660.0	4,133.0	3,700.7	5,017.6	--	--	--	--
NEW ZEALAND								
Animals & animal products	10.5	7.6	7.3	14.2	--	--	--	--
Grains & feeds	8.9	7.7	14.8	10.8	43.7	23.5	70.4	38.6
Wheat & products	2.5	0.9	0.0	0.0	14.8	4.7	0.0	0.0
Feed grains	2.7	0.9	7.5	4.5	23.5	7.0	61.8	30.1
Fruits & preparations, ex. juice	10.7	12.7	15.9	16.8	12.3	11.8	15.6	15.5
Nuts & preparations	3.1	2.5	3.1	3.4	2.0	0.7	1.6	1.6
Vegetables & preparations	5.3	6.9	5.5	7.5	--	--	--	--
Oilseeds & products	11.2	15.7	19.6	26.9	32.9	47.9	54.7	73.9
Vegetable oil & waxes	2.1	2.8	6.9	4.5	1.7	3.3	9.3	6.3
Oilcake and meal	6.8	9.6	9.0	18.2	29.5	43.0	43.3	64.9
Tobacco, unmanufactured	2.5	2.4	3.1	2.6	0.4	0.4	0.5	0.4
Total U.S. agricultural exports	76.1	76.2	93.1	95.0	--	--	--	--
PAPUA NEW GUINEA								
Total U.S. agricultural exports	1.3	1.3	6.2	5.3	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 4: U.S. agricultural exports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
PHILIPPINES								
Animals & animal products	21.4	21.8	31.8	46.7	--	--	--	--
Grains & feeds	252.5	300.0	300.7	473.1	1,648.1	2,177.0	1,949.3	2,188.9
Wheat & products	231.5	280.0	266.5	362.1	1,595.2	2,131.4	1,792.1	1,700.7
Feeds & fodder, ex. oilcake	7.0	7.4	10.8	13.3	20.4	20.1	32.5	33.5
Fruits & preparations, ex. juice	21.7	22.6	29.8	41.8	23.6	30.6	36.5	47.0
Nuts & preparations	1.2	2.6	2.5	4.7	0.3	0.7	0.7	1.1
Vegetables & preparations	42.8	38.9	45.9	53.6	--	--	--	--
Oilseeds & products	99.1	77.1	149.8	169.6	422.2	319.5	691.6	590.1
Soybeans	13.1	12.0	29.2	44.7	55.1	46.1	124.6	149.6
Vegetable oil & waxes	2.8	1.6	3.8	4.0	2.2	1.3	2.5	2.8
Oilcake and meal	80.5	59.2	105.2	114.3	363.3	269.3	533.8	433.6
Tobacco, unmanufactured	13.7	15.1	19.5	17.2	1.9	2.0	2.6	2.4
Cotton, excluding linters	26.2	48.5	62.1	51.7	23.5	38.4	36.0	29.9
Total U.S. agricultural exports	512.2	553.8	675.0	904.7	--	--	--	--
SINGAPORE								
Animals & animal products	52.9	56.1	58.0	67.5	--	--	--	--
Beef & veal	9.2	6.8	9.1	6.1	1.3	1.1	1.2	1.0
Poultry meat	28.6	36.8	36.3	40.9	28.2	30.8	26.4	28.3
Grains & feeds	24.2	29.1	25.9	37.9	59.0	90.4	76.1	121.3
Wheat & products	4.2	5.9	4.4	12.3	24.8	34.8	25.7	57.2
Rice, paddy	1.3	2.3	1.6	2.0	2.8	4.1	3.0	3.8
Feeds & fodder, ex. oilcake	9.6	9.7	9.0	10.4	26.6	33.2	39.7	51.0
Fruits & preparations, ex. juice	39.1	44.0	48.6	45.4	45.9	52.4	56.4	48.0
Nuts & preparations	12.7	13.8	10.5	11.1	3.1	3.1	3.5	3.3
Vegetables & preparations	31.6	37.0	54.0	47.8	--	--	--	--
Oilseeds & products	15.6	12.8	27.4	19.1	22.9	12.1	33.2	19.9
Vegetable oil & waxes	14.5	12.1	26.2	17.1	20.4	10.9	32.0	18.2
Tobacco, unmanufactured	16.2	25.1	24.7	26.4	2.8	4.7	3.7	3.5
Cotton, excluding linters	1.2	1.4	1.9	1.1	0.8	0.9	1.1	0.6
Total U.S. agricultural exports	219.7	249.5	281.5	296.6	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 4: U.S. agricultural exports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
SOUTH KOREA								
Animals & animal products	818.0	895.7	1,197.4	1,073.5	--	--	--	--
Beef & veal	167.3	199.3	291.2	284.2	43.4	51.8	81.5	80.3
Pork	1.5	5.0	27.6	17.1	0.6	1.9	12.2	6.4
Poultry meat	19.9	23.8	33.1	27.1	12.5	15.4	25.4	22.2
Tallow, inedible	13.7	10.9	20.6	14.1	39.9	32.5	45.4	32.5
Cattle hides, whole (1,000)	507.5	509.4	640.5	453.5	9,170.3	8,860.6	10,628.9	8,245.8
Other animal products	108.1	147.3	184.4	277.5	--	--	--	--
Grains & feeds	353.5	333.0	1,331.0	1,560.3	2,538.0	2,219.7	10,521.7	9,283.2
Wheat & products	220.9	230.9	244.0	324.9	1,447.7	1,542.6	1,446.7	1,577.5
Feed grains	105.7	68.8	1,039.2	1,172.2	1,021.2	631.3	8,935.6	7,535.5
Feeds & fodder, ex. oilcake	15.4	15.3	28.2	33.4	58.3	33.0	112.0	121.0
Fruits & preparations, ex. juice	18.6	24.7	41.4	38.8	17.8	23.4	49.7	45.6
Fruit juices (1,000 HL)	22.1	31.3	34.6	30.1	448.2	402.0	470.8	433.3
Nuts & preparations	24.6	30.0	21.6	24.7	6.7	7.2	6.5	8.0
Vegetables & preparations	72.9	75.6	106.0	129.5	--	--	--	--
Oilseeds & products	275.2	275.0	378.6	440.1	1,323.4	959.6	1,465.0	1,443.3
Soybeans	263.0	228.2	306.4	380.8	1,132.3	888.2	1,352.3	1,355.0
Vegetable oil & waxes	18.8	31.2	52.6	36.6	31.6	45.2	80.0	54.0
Oilcake and meal	34.6	1.5	2.0	2.7	153.0	9.1	11.5	20.1
Tobacco, unmanufactured	15.7	19.1	34.3	47.5	2.3	2.7	4.8	6.0
Cotton, excluding linters	304.8	296.3	350.8	271.3	221.9	209.8	196.8	158.9
Total U.S. agricultural exports	2,040.9	2,054.6	3,576.1	3,729.2	--	--	--	--
TAIWAN								
Animals & animal products	185.7	241.0	344.3	337.1	--	--	--	--
Beef & veal	20.3	27.2	36.5	49.1	3.6	5.4	7.0	9.7
Tallow, inedible	3.6	2.3	12.3	2.5	8.7	5.7	27.1	4.6
Cattle hides, whole (1,000)	111.5	147.3	201.4	167.0	1,955.5	2,445.9	2,992.3	2,941.8
Other animal products	54.0	66.5	106.4	121.0	--	--	--	--
Grains & feeds	767.4	835.6	974.9	1,252.2	6,414.0	6,023.2	7,352.9	6,833.1
Wheat & products	134.4	169.3	150.3	208.1	835.6	888.9	821.6	877.1
Feed grains	580.7	596.1	733.0	957.9	5,451.0	4,955.8	6,261.3	5,693.2
Feeds & fodder, ex. oilcake	45.8	61.2	73.3	70.0	120.1	168.2	226.6	239.8
Fruits & preparations, ex. juice	149.5	187.6	173.8	190.8	194.1	224.4	209.0	230.2
Fruit juices (1,000 HL)	10.9	9.0	9.5	11.3	228.1	192.6	176.4	187.7
Nuts & preparations	27.3	21.8	25.7	21.6	6.7	5.0	6.9	7.1
Vegetables & preparations	123.0	135.9	149.6	97.3	--	--	--	--
Oilseeds & products	563.1	454.8	600.8	791.3	2,383.5	1,716.0	2,609.6	2,653.5
Soybeans	543.5	434.5	574.4	764.9	2,369.1	1,700.4	2,586.1	2,630.8
Vegetable oil & waxes	9.9	9.1	13.3	13.1	7.4	7.1	13.6	10.9
Tobacco, unmanufactured	56.2	47.9	40.6	31.4	10.6	8.2	7.0	5.1
Cotton, excluding linters	64.1	101.6	135.0	95.9	58.5	75.1	78.2	55.0
Total U.S. agricultural exports	1,999.1	2,103.2	2,552.9	2,926.1	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 4: U.S. agricultural exports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
THAILAND								
Animals & animal products	29.5	32.4	55.1	70.5	--	--	--	--
Cattle hides, whole (1,000)	11.9	19.7	29.8	33.3	253.6	414.3	571.1	698.1
Grains & feeds	72.9	85.3	126.8	149.3	315.0	379.4	628.0	625.4
Wheat & products	45.7	54.1	62.1	64.3	248.1	302.9	350.2	298.2
Feeds & fodder, ex. oilcake	25.3	29.4	38.7	48.1	63.9	74.4	119.0	132.9
Fruits & preparations, ex. juice	17.6	27.0	26.8	26.2	21.5	36.3	35.9	30.3
Nuts & preparations	0.9	1.0	1.4	1.6	0.2	0.2	0.4	0.4
Vegetables & preparations	24.8	26.3	12.0	19.6	--	--	--	--
Oilseeds & products	24.0	16.4	49.9	133.9	89.7	43.0	197.5	458.1
Soybeans	10.5	0.0	25.9	99.6	45.8	0.0	115.5	367.8
Tobacco, unmanufactured	54.1	66.0	67.0	58.1	7.6	8.9	8.6	8.2
Total U.S. agricultural exports	275.7	361.2	515.7	599.2	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 5: U.S. agricultural imports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
AUSTRALIA								
Animals & products	876.9	800.5	666.5	532.7	--	--	--	--
Beef & veal	679.8	607.2	433.9	292.6	305.7	280.9	240.6	185.3
Mutton, goat, & lamb	32.2	36.0	39.6	62.0	15.4	15.7	16.9	21.8
Grains & feeds	28.1	36.9	32.4	41.6	26.8	28.2	32.6	40.0
Fruits & preparations, ex. juice	10.1	15.9	10.2	22.1	6.3	13.1	6.6	13.4
Vegetables & preparations	5.6	7.7	3.1	4.0	--	--	--	--
Nuts & preparations	16.2	8.6	16.1	12.5	2.3	1.2	2.0	1.5
Total U.S. agricultural imports	1,067.7	985.8	869.9	854.8	--	--	--	--
CANADA								
Animals & products	2,044.2	1,925.9	2,047.5	2,501.4	--	--	--	--
Beef & veal	349.5	385.5	353.9	430.6	146.0	178.6	171.7	221.4
Pork	369.2	393.5	406.1	466.2	173.5	187.6	187.7	185.0
Grains & feeds	809.3	1,312.5	1,225.8	1,448.8	3,803.7	8,155.2	5,943.9	5,177.9
Feeds & fodders, ex. oilcake	167.6	216.2	239.0	329.6	749.7	1,001.8	978.0	1,161.8
Fruits & preparations, ex. juice	72.8	88.8	101.4	106.3	95.4	84.4	119.3	137.6
Nuts & preparations	21.1	20.9	23.3	25.0	15.4	14.9	16.4	17.0
Vegetables & preparations	286.2	328.6	391.7	532.7	--	--	--	--
Sugar & related products	182.6	195.2	185.5	223.5	--	--	--	--
Beverages, excl. fruit juices (HL)	177.5	218.7	197.4	227.0	3,166.6	4,140.2	3,772.1	4,152.9
Oilseeds & products	354.6	616.8	608.5	747.9	1,274.3	2,034.7	1,912.8	2,194.5
Total U.S. agricultural imports	4,422.3	5,210.4	5,358.9	6,462.7	--	--	--	--
CHILE								
Animals & products	1.2	1.7	2.4	2.9	--	--	--	--
Grains & feeds	1.2	3.4	4.5	5.0	1.0	5.3	6.0	7.8
Fruits & preparations, ex. juice	306.3	312.9	332.7	393.5	460.7	447.8	462.1	468.8
Vegetables & preparations	29.7	42.4	40.4	30.9	--	--	--	--
Nuts & preparations	1.1	0.3	0.7	1.6	0.6	0.1	0.3	0.6
Total U.S. agricultural imports	465.8	514.2	536.7	696.1	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 5: U.S. agricultural imports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
CHINA								
Tea	29.2	30.3	31.9	35.0	25.0	25.3	26.1	23.9
Spices	6.4	5.3	5.6	4.0	3.7	4.8	3.4	1.4
Feathers & down	37.4	43.8	57.6	51.2	10.7	11.4	12.6	11.3
Grains & feeds	12.6	19.3	22.6	28.9	11.5	23.4	21.3	24.4
Fruits & preparations, ex. juice	20.8	20.4	20.5	36.9	21.9	23.8	21.5	31.8
Nuts & preparations	20.1	14.8	16.1	19.1	5.6	5.3	5.2	5.3
Vegetables & preparations	97.5	115.6	132.1	126.8	--	--	--	--
Sugar & related products	28.1	27.6	16.6	32.8	--	--	--	--
Beverages, excl. fruit juices (HL)	7.4	5.6	6.7	6.8	92.2	68.8	81.2	77.9
Seeds, field & garden	11.6	12.9	16.2	19.8	4.7	6.6	5.9	7.4
Total U.S. agricultural imports	424.5	452.6	482.1	544.6	--	--	--	--
HONG KONG								
Poultry meat	0.6	0.2	0.5	0.5	0.1	0.0	0.1	0.1
Grains & feeds	13.4	10.9	10.8	11.6	8.2	5.4	5.7	5.4
Fruits, nuts, & vegtbls, ex. juice	63.8	76.9	60.7	54.9	--	--	--	--
Oilseeds & products	2.2	1.5	2.3	1.4	1.2	0.8	1.2	0.6
(Fish)	14.8	13.5	14.4	13.3	4.2	4.6	5.0	4.3
Total (excluding fish)	113.0	112.2	96.1	97.8	--	--	--	--
INDONESIA								
Animals & products	5.0	5.1	4.0	7.1	--	--	--	--
Grains & feeds	2.3	2.3	1.2	1.5	2.4	2.0	0.7	0.8
Vegetables & preparations	36.1	27.7	47.6	35.0	--	--	--	--
Fruits & preparations, ex. juice	10.7	10.5	12.8	37.0	20.4	23.2	23.8	51.2
Nuts & preparations	2.9	5.8	2.8	2.0	0.7	1.3	0.9	0.7
Tobacco, unmanufactured	15.3	10.6	10.3	13.5	11.1	7.1	5.5	6.2
Oilseeds & products	35.5	56.1	45.9	73.0	75.9	119.1	72.2	108.2
Coffee, cocoa, tea, & spices	134.5	182.2	186.4	315.0	141.3	142.0	86.8	189.4
Rubber & allied gums	512.7	528.3	950.0	902.6	612.2	607.5	624.1	630.9
Total U.S. agricultural imports	839.6	924.9	1,377.6	1,520.8	--	--	--	--
JAPAN								
Animals & products	19.5	24.5	32.2	27.6	--	--	--	--
Grains & feeds	39.3	49.4	54.8	40.4	9.5	9.6	9.6	9.4
Fruits & preparations (ex. juice)	15.2	14.2	14.8	14.3	16.6	10.5	20.6	27.8
Vegetables & preparations	67.4	72.2	78.2	69.6	--	--	--	--
Beverages, excl. fruit juices (HL)	29.4	25.9	23.4	24.5	219.1	179.0	132.5	137.8
Oilseeds & products	16.1	17.7	20.5	22.0	4.9	4.6	5.4	5.0
(Fish)	138.9	165.9	136.4	134.2	29.3	33.7	26.6	29.2
Total (excluding fish)	257.8	272.0	305.2	284.5	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 5: U.S. agricultural imports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
MALAYSIA								
Oilseed & products	120.8	152.9	190.0	182.1	255.9	323.1	269.2	251.4
Coffee, cocoa, tea & spices	60.3	32.8	50.5	41.5	43.6	17.1	20.0	16.7
Rubber & allied gums	128.3	126.6	206.2	182.0	138.5	133.2	132.6	122.6
(Fish)	23.3	22.3	22.4	18.6	5.6	4.8	4.6	4.5
Total (excluding fish)	323.2	328.6	468.8	429.9	--	--	--	--
MEXICO								
Animals & products	451.9	438.6	595.8	231.5	--	--	--	--
Grains & feeds	59.3	78.8	99.7	121.8	53.0	64.7	84.1	114.5
Fruits & preparations (ex. juice)	316.2	357.1	463.4	495.3	573.4	590.0	777.4	926.3
Nuts & preparations	83.5	32.3	70.2	54.3	21.8	15.5	27.4	28.3
Vegetables & preparations	1,058.1	1,073.2	1,295.1	1,456.5	--	--	--	--
Beverages, excl. fruit juices (HL)	183.7	191.9	230.8	335.6	2,234.2	2,350.8	2,835.8	4,235.5
Oilseeds & products	30.8	28.8	30.2	44.8	25.6	24.4	28.4	39.6
(Fish)	252.1	306.6	421.7	453.6	29.4	35.1	61.0	84.3
Total (excluding fish)	2,707.6	2,800.8	3,715.6	3,715.8	--	--	--	--
NEW ZEALAND								
Animal & products	677.9	656.6	646.2	608.6	--	--	--	--
Beef & veal	476.1	395.3	371.8	277.9	196.1	163.1	193.2	169.8
Mutton, goat, & lamb	25.0	23.6	37.1	50.2	7.7	7.3	10.0	11.0
Fruits & preparations, ex. juice	42.6	42.6	62.3	65.8	37.6	37.3	52.3	63.6
Vegetables & preparations	2.5	4.8	2.8	3.3	--	--	--	--
Grains & feeds	4.1	4.6	7.2	9.0	2.5	3.9	7.9	9.5
Total U.S. agricultural imports	771.8	746.0	764.0	736.7	--	--	--	--
PAPUA NEW GUINEA								
Total	25.3	24.7	26.9	29.4	--	--	--	--
PHILIPPINES								
Fruits & preparations, ex. juice	98.9	89.9	71.0	91.9	139.8	142.6	121.9	135.4
Oilseeds & products	210.8	172.9	295.2	264.6	487.9	370.0	484.0	374.0
(Fish)	84.7	97.0	106.0	110.0	31.3	31.8	37.0	41.6
Total (excluding fish)	483.1	448.3	541.0	556.2	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 5: U.S. agricultural imports (fiscal years)

Country and commodity	1993	1994	1995	1996	1993	1994	1995	1996
	----- Million dollars -----				----- 1,000 tons -----			
SINGAPORE								
Grains & feeds	5.0	5.7	5.6	5.4	2.1	2.3	2.3	2.1
Fruits, nuts & vegetables	6.6	7.9	6.3	7.2	--	--	--	--
Coffee, cocoa, tea, & spices	24.2	21.2	26.0	23.5	18.5	13.6	15.1	13.6
Rubber & allied gums	4.5	7.8	12.9	6.0	4.7	8.6	8.7	4.3
(Fish)	52.7	61.2	65.6	68.5	9.0	11.5	11.7	15.6
Total (excluding fish)	51.6	53.6	64.9	53.7	--	--	--	--
SOUTH KOREA								
Grains & feeds	20.9	23.8	25.0	27.5	10.7	11.9	12.3	13.6
Fruits & preparations	4.9	5.8	5.5	5.9	2.0	2.0	1.6	1.6
Nuts & preparations	0.9	0.6	1.2	1.1	0.3	0.2	0.3	0.3
Vegetables & preparations	16.5	17.4	17.1	16.9	--	--	--	--
Beverages, excl. fruit juices (HL)	3.9	5.2	5.2	6.0	32.2	44.0	42.0	52.6
Malt beverages	1.3	1.4	1.6	1.6	14.5	15.2	18.8	19.9
Total U.S. agricultural imports	64.1	67.7	72.4	78.0	--	--	--	--
TAIWAN								
Animals & products	12.3	17.5	35.4	41.5	--	--	--	--
Poultry and products	8.9	14.6	33.4	34.7	--	--	--	--
Grains & feeds	21.0	19.8	21.0	21.8	9.6	9.1	8.8	9.5
Fruits & preparations (ex. juice)	4.7	4.4	5.6	7.2	2.1	1.9	2.7	3.6
Vegetables & preparations	41.9	39.0	37.6	41.8	--	--	--	--
Mushrooms, canned	6.4	3.8	5.7	5.0	2.5	1.7	2.7	2.6
Sugar and related products	11.7	11.5	12.6	16.8	--	--	--	--
Oilseeds & products	2.2	3.2	3.7	4.1	1.0	1.2	1.6	1.5
Tea	3.8	4.4	4.5	5.9	0.5	0.6	0.6	0.7
Field and garden seeds	3.2	2.0	2.4	2.0	0.1	0.1	0.1	0.1
Total U.S. agricultural imports	113.3	114.0	136.6	157.7	--	--	--	--
THAILAND								
Animals & products	21.1	21.2	24.5	29.8	--	--	--	--
Grains & feeds	120.5	135.5	137.7	159.9	232.8	221.1	229.7	257.6
Fruits & preparations	148.7	125.8	113.2	126.0	210.2	196.5	174.7	144.9
Vegetables & preparations	71.9	66.4	70.9	65.2	--	--	--	--
Tobacco, unmanufactured	51.1	53.1	22.1	31.3	24.6	18.3	8.9	10.6
Oilseeds & products	1.2	2.3	1.2	1.3	0.7	2.6	0.7	0.7
Coffee, cocoa, tea, & spices	64.0	51.3	117.5	80.0	75.5	42.1	45.4	44.5
Rubber & allied gums	150.0	180.3	351.4	268.5	175.2	202.0	231.3	181.1
(Fish)	887.6	1,257.1	1,237.3	1,127.9	184.9	206.2	180.0	158.7
Total (excluding fish)	694.5	703.4	915.3	856.9	--	--	--	--

-- = not available. Source: USDA, Foreign Agricultural Trade of the United States database.

Appendix table 6: Agricultural production (1,000 tons)

Country and commodity	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
AUSTRALIA										
Wheat	16,778	12,369	13,935	14,214	15,066	10,557	16,184	16,479	8,903	16,975
Wool	890	916	959	1,102	1,066	874	869	828	731	697
Beef & veal	1,508	1,588	1,491	1,677	1,760	1,791	1,826	1,825	1,803	1,701
Milk	6,176	6,127	6,291	6,262	6,403	6,732	7,327	8,077	8,206	8,716
Coarse grains	6,990	7,164	6,736	7,009	6,766	8,112	8,359	10,155	5,583	9,612
Fruits	2,278	2,340	2,369	2,413	2,362	2,639	2,617	2,715	2,557	--
Vegetables	2,340	2,448	2,535	2,633	2,951	2,675	2,644	2,650	2,683	--
Poultry meat	369	403	406	419	425	455	467	495	498	503
Sugar (94nt)	3,371	3,440	3,679	3,797	3,545	3,100	4,256	4,370	5,080	4,979
Pork	275	288	308	317	312	336	328	344	351	329
Mutton & lamb	553	581	599	544	628	668	643	648	604	555
Cotton	222	284	286	305	433	502	373	329	335	429
BRUNEI										
Chicken meat	5	6	6	5	4	6	7	8	8	7
Hen eggs	3	3	3	3	3	3	3	4	3	3
Rice, paddy	2	2	2	2	2	1	1	1	1	1
Cassava	1	1	1	1	1	1	1	1	1	1
Fruits	5	5	5	5	5	5	5	5	5	5
Vegetables	8	8	8	8	8	8	8	8	8	8
CANADA										
Wheat	31,359	25,945	15,913	24,796	32,098	31,946	29,871	27,232	23,122	25,037
Canola	3,714	3,720	4,218	3,209	3,266	4,224	3,872	5,480	7,233	6,436
Barley	14,568	13,916	10,326	11,784	13,441	11,617	11,032	12,972	11,690	13,035
Soybeans	960	1,270	1,153	1,219	1,262	1,460	1,455	1,851	2,251	2,293
Corn	5,912	7,065	5,450	6,571	7,067	7,413	4,883	6,501	7,043	7,271
Beef & veal	1,035	977	973	980	924	867	898	860	903	928
Pork	1,097	1,131	1,188	1,184	1,133	1,129	1,209	1,192	1,234	1,281
Poultry	628	646	656	659	701	708	706	741	829	861
CHILE										
Sugar beets	2,638	2,650	2,487	2,810	2,326	2,150	3,588	3,411	3,547	3,744
Wheat	1,874	1,734	1,760	1,717	1,590	1,560	1,322	1,270	1,360	1,070
Grapes	900	963	999	1,037	1,171	1,186	1,141	1,300	1,449	1,527
Potatoes	791	727	928	882	829	844	1,023	926	900	870
Corn	610	661	938	762	840	910	900	937	932	1,000
Apples	515	580	630	660	700	780	830	840	810	850
Total oil	217	256	318	214	268	182	178	215	310	351
Oats	127	157	167	205	207	183	204	176	202	200
Rice, milled	95	104	105	90	98	86	78	85	86	88
Beef & veal	177	175	197	221	242	230	200	224	240	258
Dry beans	89	81	100	73	87	117	91	55	54	56

-- = not available.

Sources

Australia: ABARE, Commodity Statistical Bulletin, 1994; ABARE, Australian Commodities, Forecasts and Issues, March 1997.

Brunei: Food and Agriculture Organization, AGROSTAT database.

Canada: USDA, PS&D database.

Chile: For wheat, corn, oats, rice, and total oil--USDA, PS&D database.

For all other series--Food and Agriculture Organization, AGROSTAT database.

Appendix table 6: Agricultural production (1,000 tons)

Country and commodity	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
CHINA										
Wheat	90,040	85,902	85,430	90,810	98,230	95,950	101,587	106,390	99,297	102,207
Rice, paddy	172,224	174,262	169,107	180,130	189,331	183,810	186,220	177,700	175,933	185,226
Corn	70,856	79,241	77,351	78,928	96,819	98,770	95,383	102,704	99,275	111,986
Wool	185	209	222	237	239	240	238	240	255	277
Beef & veal	589	793	958	1,072	1,256	1,535	1,803	2,336	3,270	4,154
Milk, cow	2,899	3,301	3,660	3,813	4,157	4,644	5,031	4,987	5,288	5,764
Fruits	13,477	16,679	16,661	18,319	18,744	21,761	24,400	30,112	34,998	42,146
Poultry meat	1,879	2,194	2,744	2,820	3,229	3,950	4,542	5,736	7,552	9,347
Sugar (raw value)	5,250	5,060	4,610	5,010	5,820	6,401	8,290	7,710	5,920	5,586
Pork	17,960	18,349	20,176	21,228	22,811	24,523	26,353	28,544	32,048	36,484
Mutton & lamb	622	719	802	962	1,068	1,180	1,250	1,375	1,609	2,015
Cotton	3,549	4,225	4,149	3,788	4,508	5,675	4,508	3,739	4,341	4,768
Eggs	5,550	5,902	6,955	7,198	7,946	9,220	10,199	11,798	14,790	16,767
INDONESIA										
Coarse grains	5,000	4,800	5,200	5,000	5,000	5,400	5,650	5,400	6,100	6,000
Copra	1,270	1,250	1,245	1,320	1,310	1,325	1,190	1,465	1,285	1,380
Rice, milled	27,014	26,051	27,089	29,072	29,366	29,042	31,350	31,318	30,315	32,333
Sugar (raw value)	1,846	2,024	2,127	1,920	2,080	2,120	2,250	2,300	2,480	2,450
Tropical oil	2,170	2,285	2,586	3,325	3,750	3,850	4,365	5,225	5,520	5,920
Oilseed- and fish meal	616	754	858	967	1,017	975	1,067	1,168	1,108	1,268
Beef & veal	190	171	146	179	173	190	230	346	336	339
Pork	413	418	462	495	545	572	589	622	660	589
Chicken meat	341	379	403	437	473	550	620	688	803	857
Rubber, natural	1,113	1,130	1,173	1,209	1,275	1,284	1,372	1,475	1,499	1,535
JAPAN										
Wheat	876	864	1,021	985	952	759	759	638	565	444
Rice, milled	10,599	9,671	9,041	9,416	9,554	8,740	9,621	7,129	10,903	9,781
Beef & veal	559	565	570	548	549	574	592	593	601	601
Pork	1,551	1,581	1,578	1,594	1,555	1,483	1,432	1,440	1,390	1,322
Poultry meat	1,421	1,465	1,471	1,482	1,451	1,420	1,367	1,368	1,258	1,282
Citrus fruits	2,883	3,296	2,672	2,632	2,215	2,067	2,219	1,913	1,684	1,762
Vegetables	13,750	13,671	13,671	13,716	13,293	12,932	13,125	12,375	--	--
Milk	7,457	7,335	7,607	8,059	8,189	8,259	8,576	8,626	8,389	8,382
Eggs	2,231	2,376	2,400	2,423	2,419	2,498	2,571	2,598	2,569	2,551
Potatoes, white	3,980	3,880	3,689	3,512	3,478	3,550	3,427	3,325	3,328	3,104
Tobacco	117	104	84	74	81	70	79	67	80	70

-- = not available.

Sources

China: China Agricultural Yearbook, various issues; China Statistical Yearbook, various issues.

Indonesia: For coarse grains, copra, rice, sugar, tropical oils, and oilseed- and fish meal--USDA, PS&D database.

For all other series--Food and Agriculture Organization, AGROSTAT database.

Japan: For vegetables--Pocket Book of the Ministry of Agriculture, Forestry, and Fishery (MAFF).

For rice and poultry--USDA, PS&D database. For all other series--MAFF, Monthly Statistics.

Appendix table 6: Agricultural production (1,000 tons)

Country and commodity	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
MALAYSIA										
Rice, milled	1,150	1,092	1,148	1,147	1,302	1,150	1,190	1,300	1,325	1,330
Fruits	1,015	1,048	1,076	1,115	1,106	1,123	1,134	1,182	1,158	1,130
Vegetables	280	315	306	313	344	344	398	452	514	510
Cocoa beans	130	167	230	243	247	230	220	200	177	131
Sugar (raw value)	94	98	88	100	105	95	104	106	114	108
Tropical oils	5,206	5,533	6,385	7,310	6,847	7,040	8,074	8,103	8,820	9,371
Oilseed- and fish meal	989	1,077	1,129	1,392	1,370	1,361	1,526	1,577	1,747	1,849
Rubber, natural	1,539	1,579	1,662	1,415	1,292	1,257	1,173	1,074	1,101	1,089
MEXICO										
Corn	10,000	9,900	10,100	9,750	14,100	14,689	18,631	19,141	17,005	17,780
Sorghum	4,300	4,000	3,110	3,750	3,700	4,403	3,088	3,018	3,000	5,568
Wheat	4,500	3,700	3,200	4,000	3,900	3,227	3,127	3,596	4,151	3,460
Soybeans	660	750	300	984	567	718	572	497	523	190
Cotton	138	221	305	166	175	181	30	24	100	187
Sugar	3,928	3,970	3,806	3,678	3,100	3,900	3,500	4,330	3,780	4,556
Beef & veal	1,200	1,205	1,754	2,140	1,790	1,580	1,660	1,710	1,810	1,850
Pork	910	950	964	910	792	820	830	870	900	954
Poultry	590	910	901	918	985	1,228	1,396	1,422	1,483	1,554
Eggs (million)	18,563	18,847	18,659	19,696	19,793	20,387	21,050	21,471	25,896	25,760
Tomatoes	1,454	1,672	1,980	1,919	1,855	1,860	1,413	1,693	1,368	1,935
NEW ZEALAND										
Wheat	379	336	228	135	188	181	191	219	242	245
Wool	350	348	346	341	309	305	296	256	284	289
Beef & veal	468	563	562	550	478	539	545	580	544	636
Milk	7,987	7,073	7,551	7,240	7,500	7,870	8,186	8,365	9,368	9,386
Coarse grains	804	656	557	532	675	623	540	579	596	502
Apples	310	344	383	359	404	425	443	439	415	527
Poultry meat	48	48	53	59	58	61	70	74	89	95
Pork	48	48	45	45	43	44	48	50	50	52
Mutton & lamb	617	606	615	615	530	561	588	514	552	562
Eggs	50	42	43	47	48	48	50	51	42	49

Sources

Malaysia: For rice, sugar, tropical oils, and oilseed- and fish meal--USDA, PS&D database.

For all other series--Food and Agriculture Organization, AGROSTAT database.

Mexico: For tomatoes--Food and Agriculture Organization, AGROSTAT database. For all other series--USDA, PS&D database.

New Zealand: Situation and Outlook for New Zealand Agriculture; FAO, Production Yearbook.

Appendix table 6: Agricultural production (1,000 tons)

Country and commodity	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
PAPUA NEW GUINEA										
Pork and poultry	29	30	30	31	31	32	32	32	33	33
Fruits	912	968	1,024	1,056	1,084	1,088	1,118	1,139	1,144	1,154
Vegetables	333	340	344	350	357	363	370	376	381	381
Sugar (raw value)	10	15	30	50	35	45	50	37	32	35
PHILIPPINES										
Coarse grains	4,016	4,380	4,525	4,412	5,102	4,490	4,810	5,030	4,534	4,324
Copra	2,100	1,826	1,650	2,313	2,006	1,934	2,221	1,937	2,652	1,970
Poultry	220	215	235	263	279	287	310	329	349	--
Pork	478	490	540	615	665	690	710	690	715	754
Rice, milled	5,831	5,642	5,996	5,785	6,425	5,936	6,190	6,450	6,809	7,263
Sugar (raw value)	1,500	1,350	1,400	1,600	1,750	1,718	2,010	2,060	1,809	1,650
Tropical oil	1,333	1,159	1,041	1,420	1,303	1,233	1,455	1,295	1,703	1,268
Oilseed- and fish meal	780	657	591	799	709	613	721	673	965	750
SINGAPORE										
Eggs	295	285	185	235	365	304	310	340	--	--
Pork & poultry	139	135	139	133	132	139	140	147	144	145
SOUTH KOREA										
Wheat	5	4	2	1	1	1	1	1	2	10
Rice, milled	5,607	5,493	6,053	5,898	5,606	5,385	5,331	4,750	5,060	4,695
Barley	627	719	780	715	575	485	428	320	234	292
Corn	113	127	106	121	120	75	92	82	89	70
Beef & veal	208	206	175	124	131	136	137	176	200	214
Milk	1,154	1,413	1,632	1,762	1,752	1,741	1,816	1,858	1,917	1,998
Apples	538	556	640	676	629	542	695	615	617	716
Vegetables	7,829	6,562	7,715	8,300	8,307	7,976	8,393	9,255	8,037	8,963
Poultry meat	203	222	235	243	269	280	354	369	378	415
Pork	402	470	541	680	634	623	752	773	786	799
Eggs	332	362	397	381	393	422	424	447	442	454

-- = not available.

Sources

Papua New Guinea: For sugar--USDA, PS&D database.

For all other series--Food and Agriculture Organization, AGROSTAT database.

Philippines and Singapore: USDA, PS&D database.

South Korea: For wheat, rice, barley, milk, apples, vegetables, and eggs--USDA, Foreign Agricultural Service, Agricultural Situation Report, October 1996. For all other series--USDA, PS&D database.

Appendix table 6: Agricultural production (1,000 tons)

Country and commodity	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
TAIWAN										
Pork	868	938	911	917	1,009	1,126	1,126	1,135	1,204	1,233
Rice, paddy	2,497	2,402	2,331	2,355	2,284	2,312	2,070	2,233	2,061	2,072
Fruits	1,838	2,101	2,364	2,440	2,327	2,455	2,276	2,551	2,434	2,474
Vegetables	3,128	3,284	3,094	2,955	2,713	2,864	2,825	2,840	2,594	2,853
Poultry meat	351	400	421	462	476	480	531	585	604	669
Sugarcane	6,002	5,163	6,767	6,628	5,581	4,536	5,668	4,577	5,275	4,661
Eggs*	222	236	226	250	263	253	304	317	335	368
Corn	272	307	321	329	339	321	339	346	345	320
Milk	110	144	173	182	204	226	246	278	290	318
Peanuts, in shell	77	112	83	65	65	84	76	76	81	92
Forest mushrooms	NA	5	4	4	3	4	3	4	3	3
Tobacco	24	24	20	19	19	21	16	17	19	13
THAILAND										
Poultry	431	464	511	553	595	655	710	685	740	825
Coarse grains	4,589	2,946	4,430	4,330	4,070	3,750	3,550	3,080	4,000	3,900
Rice, milled	12,453	12,162	14,034	13,597	11,347	13,464	13,145	12,672	14,124	14,388
Fruits	5,637	5,579	5,844	6,254	6,076	6,146	6,486	6,970	6,851	6,634
Vegetables	2,411	2,459	2,526	2,482	2,506	2,554	2,597	2,620	2,673	2,712
Peanuts	169	162	164	161	162	160	162	165	165	170
Soybeans	356	338	517	672	530	435	480	480	450	368
Sugar (raw value)	2,586	2,639	2,704	4,055	3,502	3,954	5,062	3,975	5,448	5,700
Soybean oil	36	39	53	64	58	64	69	68	70	96
Tropical oil	159	188	230	236	259	280	300	328	368	445
Oilseed- and fish meal	550	703	803	762	721	792	768	757	717	877
Rubber, natural	811	891	862	1,048	1,097	1,152	1,520	1,603	1,767	2,083

* Conversion factor of 1,000 eggs = 0.059 metric tons applied to data reported for Taiwan.

Sources

Taiwan: Department of Agriculture and Forestry, Agricultural Yearbook 1996, June 1996.

Thailand: For fruits, vegetables, and rubber--Food and Agricultural Organization, AGROSTAT database.

For all other series--USDA, PS&D database.

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