Journal of Agribusiness 19,2 (Fall 2001):121–128

Quantifying Regulatory Barriers to Asian-U.S. Food Trade

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Data on U.S. Food and Drug Administration import detentions and alerts are used to quantify regulatory barriers experienced by Asian food products entering the United States. These data offer the only comprehensive means of assessing regulatory barriers without relying on expert opinion, although they fall short of placing a dollar value on the volume of trade affected. The data show that meeting food regulations is a significant barrier to Asian food products entering the United States, especially for products originating in developing and newly industrialized countries.

Key Words: Asia, food products, regulatory standards, trade

In recent years, several efforts have been made to quantify nontariff barriers to the international trade of agricultural and food products (e.g., Roberts and DeRemer, 1997). Interest in these types of nontariff barriers is high for several reasons. First, as traditional tariff barriers fall, there is concern that regulations will replace them as a means of controlling importers' access to markets. Second, trade in processed food products has been increasing, making a higher volume of sales vulnerable to such barriers. Third, regulations themselves are becoming more numerous and stricter as consumers demand safer and higher quality products. This interest has led researchers and policy makers to attempt to classify how these regulations affect trade and then to quantity their effect in order to judge their importance.

Kinsey (1993) classified nontariff barriers into two types: Type I that have a trade-distorting intent for imports, and Type II whose trade-restrictive impact is incidental or inadvertent to their primary purpose (e.g., assuring food safety). She classified many nontariff barriers that apply to food and agricultural products as Type II, including the categories of health and sanitary regulations, safety and industrial standards, and packaging and labeling regulations. In this analysis, we focus on the impact of these categories of regulations on Asian-U.S. food trade.

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In 1995, total Asian-U.S. food and agricultural trade was $30.7 billion, making up 36% of the overall value of U.S. agricultural trade [U.S. Department of Agriculture (USDA), *FATUS*, 1995]. For our analysis, we use a classification of Asian trading partners divided into three groups based on Wang and Caswell (1998). Japan alone makes up the first category. It has similar levels of regulatory stringency and income as the U.S. In 1995, Japan's food and agricultural trade with the U.S. totaled $11.3 billion. This trade was largely made up of U.S. shipments to Japan, which were valued at $11 billion. The second group of trading partners includes the newly industrialized countries (South Korea, Taiwan, Hong Kong, and Singapore). These countries have less stringent regulatory systems and lower incomes than the U.S. but are developing rapidly. The 1995 total food and agricultural trade of $8.5 billion between the U.S. and these countries is also largely one-way, with U.S. exports totaling $8.1 billion. The final group of trading partners is the developing countries (e.g., China, India). These countries have lower regulatory standards and incomes. Trade is more evenly two-way between the developing countries and the U.S., with developing countries exporting $4.5 billion in food and agricultural products to the U.S., and the U.S. exporting $6.4 billion to them.

Overall, trade with Japan accounted for 37% of the total Asian trade in food and agricultural products, with the newly industrialized countries (NICs) accounting for 28%, and developing countries 35%. As an export market for food and agricultural products, the U.S. is much more important to the developing countries than to Japan or the NICs.

Using FDA Data to Quantify Regulatory Barriers for Asian Products Entering the United States

Quantifying the impact of regulatory standards on trade is difficult. Most measures rely on expert opinion to detect the existence of and measure the importance of these barriers (Roberts and DeRemer, 1997). The only alternative source of information and data is government records of actions against imports. We make use of import records published by the U.S. Food and Drug Administration (FDA) to quantify regulatory barriers. The FDA's mission is to enforce the federal Food, Drug, and Cosmetic (FDC) Act and other laws designed to protect consumers' health and safety, and to protect them from fraudulent or mislabeled products. With the exception of most meat and poultry, all food products are subject to examination by the FDA when they are imported into the United States. Meat and poultry imports are regulated by the U.S. Department of Agriculture.

Under the FDC Act, all imported food products are required to meet the same standards as domestic goods. Imported foods must be pure, wholesome, and safe to eat; produced under sanitary conditions; and must contain informative and truthful labeling in English. Section 801 of the FDC Act directs the FDA to refuse admission of any imported article that appears to be in violation of the Act. The enforcement of these regulations may pose challenges for imported products as they attempt to meet the standards.

The FDA has a procedure to detain food products that violate U.S. food safety regulations as they enter the United States. This procedure involves an administrative act of detaining a product with or without physical examination. It is generally based on past history and/or other information (e.g., laboratory results) which indicate the product may be in violation of the regulations. There are two types of FDA detention actions:

- Detention: Based on examination of records or physical analysis performed by an FDA official showing that the article appears to be in violation of the acts enforced by FDA.
- Automatic Detention: Based on an Import Alert, which in turn is based on the violative history of an imported product; the shipment is automatically detained without physical sampling or analysis.

The data used here come from the FDA electronic Import Detention Reports (IDRs) for 1995. They include both detentions and automatic detentions. In 1995, the IDRs provided monthly information on products detained by all FDA district import offices except the Seattle district, whose detention report was obtained by mail. Each Import Detention Report represents one shipment of food product being detained and provides information on the sample number, country of origin, product, FDA district office involved, manufacturer, detention date, detention type, import alert document (if applicable), and the reason for detention. A major limitation of these reports is that they do not record the dollar value of detained shipments.

Our analysis focuses on food products detained under the two main categories used by the FDA: adulteration and misbranding. Adulteration encompasses problems with safety, sanitation, and packaging integrity, while misbranding includes the lack of labeling or untruthful labeling.

Detentions of Asian Food Products

In 1995, the FDA executed a total of 5,030 import detentions on Asian food products regulated under the FDC Act (table 1). These detentions covered 631 different foods. Among the three Asian country groups, Japan had the smallest share of total import detentions (4.2%), followed by the newly industrialized countries (19.9%). The developing countries had the most problems with importing, accounting for 75.9% of all food detention cases. China alone accounted for nearly 26% of total detentions for Asian food products.

The FDA listed a total of 39 separate reasons for these detentions, which we grouped into the two categories of adulteration and misbranding. Reasons related to adulteration accounted for 76.3% of the detentions, while the remaining 23.7% were related to misbranding (table 2).

Table 1. U.S. Import Detentions for Asian Food Products, 1995

Country Group	No. of Detentions [a]	Percent (%)	No. of Products Detained [b]	Percent (%)
Japan:	**214**	**4.2**	**53**	**8.4**
Newly Industrialized Countries:	**1,000**	**19.9**	**183**	**29.0**
▸ Hong Kong	509	10.1	69	10.9
▸ South Korea	136	2.7	46	7.3
▸ Singapore	81	1.6	26	4.1
▸ Taiwan	274	5.4	42	6.7
Developing Countries:	**3,816**	**75.9**	**395**	**62.6**
▸ China	1,296	25.8	83	13.1
▸ India	657	13.1	56	8.9
▸ Thailand	695	13.8	94	14.9
▸ Philippines	446	8.9	75	11.9
▸ Other Countries	722	14.4	87	13.8
TOTAL	**5,030**	**100.0**	**631**	**100.0**

Source: Computed by the authors from FDA Import Detention Reports, January–December 1995.

[a] Number of shipments detained.

[b] Number of different products involved in the detained shipments.

Table 2. Reasons for Detention of Asian Food Products, 1995

Category	Reason for Detention	Percent (%)
Adulteration	Filth not elsewhere classified (NEC)	30.3
	Unfiled low-acid canned food (LACF) processes	9.8
	Decomposed product	7.1
	Salmonella	4.5
	Other safety-related reasons [a]	18.4
	Other sanitation-related reasons [b]	6.2
	Subtotal:	**76.3**
Misbranding	Mandatory labeling omitted	16.4
	Other reasons	7.3
	Subtotal:	**23.7**
	TOTAL (39 reasons)	**100.0**

Source: FDA Import Detention Reports, January–December 1995.

[a] Includes unregistered low-acid canned food (LACF) manufacturers, unsafe color additives, substandard, and presence of *C. Botulinum*, cyclamates, *E. Coli*, *Listeria*, and mercury.

[b] Includes unfit for food, underprocessed, mold, and insanitary.

The top five reasons for detention, which collectively accounted for over two-

thirds of all detentions, were identified as follows:

1. Filth not elsewhere classified: A designation including insect, animal, bird, cat, and rodent filth (30.3% of all detentions).
2. Mandatory labeling omitted: Omission of either the whole nutritional label or parts of the required ingredient information (16.4% of all detentions).
3. Unfiled low-acid canned food (LACF) processes: Failure to meet FDA requirements that foreign firms register and file processing information before shipping any low-acid canned food or acidified low-acid canned food to the U.S. (9.8% of all detentions).
4. Decomposed product: Decomposition considered to be dangerous to human health (7.1% of all detentions).
5. *Salmonella*: Presence of *Salmonella* (4.5% of all detentions).

Two considerations are important in interpreting these data. First, under the FDA detention system, once a product is placed on automatic detention, normal entry may not resume until the shipper or importer proves that the product meets FDA standards. This means detention is not a final rejection, since there is the possibility some products could be released with proper documentation and re-examination. However, no data on such releases are obtainable. If the product is finally refused, the importer is required to either re-export or destroy the article under U.S. Customs or other approved supervision. Although records on the release/destruction ratio are not available, complicated and time-consuming information is needed for detained products to obtain a Release Notice from the FDA. Thus importers are unlikely to respond to a Notice of Detention with a request for a hearing, instead resorting to re-exportation or destruction of detained products.

A second important consideration regarding the import detention data is that they are count data and do not reflect the dollar value of Asian food products refused entry to the United States or the rate of detention relative to the volume of trade. The value of detained product relative to the value of imports is the most direct measure of the challenges encountered at border inspection. Unfortunately, this measure cannot be calculated due to the lack of value data for detained shipments. A very rough measure of relative detention rates can be made by comparing the number of detentions to the value of food (including seafood) imports in 1995 [USDA/Foreign Agricultural Service (FAS), 1995]. These rough estimates show that for each $1 million in imports, Japan had 0.64 detentions, the newly industrialized countries had 1.65 detentions, and the developing countries had 1.21 detentions (table 3). The detention rate for NICs is higher than that of the developing countries largely because Hong Kong, as a transit point for Chinese products, had a much higher detention rate (5.41) than the other NICs (0.96).

Table 3. Detention Rates versus Value of Imports of Asian Food Products, 1995

Country Group	No. of Detentions	U.S. Food Imports[a] ($ million)	Detentions per $1 Million Imports
Japan:	**214**	**334**	**0.64**
Newly Industrialized Countries:	**1,000**	**605**	**1.65**
▸ Hong Kong	509	94	5.41
▸ Taiwan, South Korea, and Singapore	491	511	0.96
Developing Countries:	**3,816**	**3,162**	**1.21**

[a] Includes seafood imports.

Import Alerts as a Measure of Regulatory Barriers for Asian Food Products

Asian products attempting to enter the U.S. are strongly affected by FDA Import Alerts. These alerts identify problem commodities and/or shippers that meet criteria for automatic detention. Once an imported product is on the list of import alerts, any further shipment to the U.S. will be automatically detained under the authority of the FDA without physical examination. Compared to regular import detention, import alerts are a more potent regulatory barrier because they impede any future imports of the product. Further, the action can cover an entire country or region of a country. The data used here are derived from FDA electronic Import Alert Reports for mid-1996. These reports provide information on products under such alerts that meet criteria for automatic detention, with information on country of origin and reason for alert.

As of mid-1996, the FDA had 53 import alerts in place for Asian food products (table 4). As a group, developing countries had a much larger number of alerts (36) than Japan (1) or the NICs (16). The NICs' overall number of alerts is strongly influenced by Hong Kong, which alone had 10 alerts outstanding. Food products under import alert from all three country groups are concentrated in seafood, vegetables, fruits and nuts, and grain products. Vegetable and fruit products represent one of the leading export commodities from NICs and developing countries to the United States. All of the import alerts were related to product adulteration. The major reasons for the FDA's issuance of import alerts for Asian food products were decomposition, filth, being histamine positive, and presence of *Salmonella*.

Summary of Regulatory Barriers Based on FDA Data

Import detentions identify barriers that are enforced at the port of entry, while import alerts identify regulatory barriers in place ex ante against imported products. Import

Table 4. U.S. Import Alerts for Asian Food Products, 1996

Country Group	No. of Alerts	Percent (%)	Products Under Import Alert
Japan:	**1**	**1.9**	Seafood
Newly Industrialized Countries:	**16**	**30.2**	Vegetables & related products,
▸ Hong Kong	10	18.9	seafood, fruits, nuts, and grain
▸ South Korea	2	3.8	products
▸ Singapore	0	0.0	
▸ Taiwan	4	7.5	
Developing Countries:	**36**	**67.9**	Seafood, vegetables & related
▸ China	9	17.0	products, spices, cocoa, fruits,
▸ India	10	18.8	nuts, coffee/tea, and grain
▸ Thailand	9	17.0	products
▸ Other Countries	8	15.1	
TOTAL	**53**	**100.0**	

Source: Summarized by the authors from FDA Import Alert Reports, June 1996.

detentions and alerts point to regulatory barriers that pose challenges to Asian food products entering the U.S. market. FDA data suggest Asian products entering the U.S. were frequently detained and were subject to numerous import alerts. The NICs and developing countries had similar rates of detention per $1 million in imports to the U.S. In mid-1996, the NICs had 16 import alerts outstanding, compared to 36 for the developing countries. While protecting American consumers from adulterated or misbranded products, FDA regulatory standards pose significant challenges for Asian countries wishing to sell in the U.S. market.

The Other Side of the Coin: Quantifying Regulatory Barriers Facing U.S. Food Exports to Asia

In 1995, U.S. food and agricultural exports to Asia were $25.5 billion, almost five times imports from Asia. Japan and the NICs accounted for 75% of U.S. exports to Asia. We were unable to employ the type of data used for the U.S. to quantify regulatory barriers in Asian countries. Some Asian countries (e.g., Hong Kong and Japan) simply do not have records on rejected food products, or do not make them publicly available. Other Asian government agencies (e.g., in Singapore) had such data but would not release any propriety records without the written approval of the companies involved. Finally, other countries (e.g., Taiwan) reported that U.S. food and agricultural products occasionally did not meet inspection criteria, but the number is very small. In the case of Taiwan, the U.S. Agricultural Affairs Office attributed this record to the fact that most products are inspected before leaving the United States, and the various inspection agencies attempt to ensure conformance is maintained with Taiwan's regulations.

Having comparable information on import detentions and alerts by Asian countries for U.S. products would be useful in identifying regulatory barriers to trade. However, such data are not currently available.

Conclusions

Limited data availability makes quantifying regulatory barriers for food products difficult without relying on expert opinion. Here, we used the only comprehensive data source available in the U.S., FDA detention and import alert records, to begin to quantify sources of regulatory barriers for Asian food products entering the U.S. market. Data were not available on the dollar value of products detained upon entry to the United States, nor were comparable data on regulatory barriers available for U.S. products entering Asian markets. The U.S. data show that meeting food regulations is a significant challenge to Asian food products entering the U.S., especially for products originating in developing and newly industrialized countries.

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