The DOWNside of trading UP

Hazard Analysis and Critical Control Points (HACCP) has changed how Brazil's fish markets prepare for export. Has HACCP improved food quality at home?

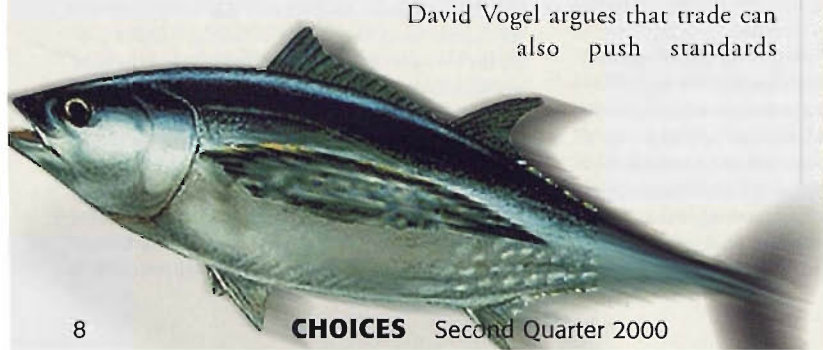
by Julie A. Caswell, Jason A. Donovan, and Elisabete Salay

Protests at the recent World Trade Organization's (WTO) ministerial meeting in Seattle demonstrate the intensity of debate over trade liberalization. Critics of trade liberalization denounce "trading down"— the pursuit of free trade at the expense of standards that protect the environment, consumer safety, and workers' rights. Proponents argue that "trading up" is more frequent and actually leads to rising standards in countries with low initial standards.

The potential for trading up rests most directly on the ability of trade to promote domestic economic growth, which in turn increases the demand for and the ability to pay for the costs of regulations that protect the environment, consumers, and workers. David Vogel argues that trade can also push standards upward through the political process. Governments with high standards, usually in the developed countries, recognize that domestic acceptance of freer trade requires showing that it is compatible with improvement in environmental, consumer, and worker protection. They therefore negotiate trade deals and other agreements aimed at simultaneously moving forward on both fronts.

Governments with lower initial standards, frequently the developing countries, also move toward adopting higher standards. Vogel argues that they do so for three reasons: (1) it is a necessary trade-off to gain increased access to foreign markets, (2) domestic producers already meeting higher standards in export markets lobby for higher domestic standards because of competitive advantages for themselves, and (3) pressure develops from consumer and other interest groups within the country to improve standards.

The alternative is trading down where developed countries lower their standards to compete with cheaper products produced under weaker standards in other parts of the world. Developing countries have little incentive to improve standards and may even weaken them further, leading to a regulatory race to the bottom for all.



Photos courtesy author Jason Donovan and the University of Massachusetts.
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Food Safety in International Trade

Recent conflicts related to the safety of internationally traded food have been dominated by the developed, high-income countries. Under the Sanitary and Phytosanitary (SPS) Agreement administered by the WTO, whether a food safety regulation is an unjustified barrier to trade is judged on the basis of the scientific evidence (primarily, the risk assessment) that supports the need for the regulation and on how well the scope of the regulation matches its goals. The trend among developed countries suggests little if any trading down in regulatory standards. On the contrary, high-income countries are steadily strengthening their standards.

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These increasingly strict standards have caused governments and companies to scramble to upgrade production practices in order to maintain access to developed country markets. The effort is increasing the quality of export products, but is there a general trading up in food safety standards in low standard countries? If yes, this tightening of standards will benefit consumers in those countries through access to safer foods. A trend toward trading up in developing countries will also serve to alleviate the fear that trade liberalization leads to trading down or a decrease in regulatory protection. Here we look at evidence from Brazil to begin to gauge the potential for trading up in the international food trade.

HACCP for Brazilian Fishery Products

Hazard Analysis and Critical Control Points (HACCP) is a systematic process approach used to assure food safety. In the 1990s, HACCP has been increasingly mandated, especially for flesh foods, by regulatory agencies in developed countries. The European Union (EU) and the US Food and Drug Administration first applied HACCP requirements in the fishery products industry. The impact of these requirements was immediately felt in developing countries for which fishery products are an important export. These countries account for more than half of the worldwide fishery trade, with sales being largely to developed countries.

Research on the cost of HACCP adoption shows that compliance involves significant investment. Quality control of fishery products is especially difficult because they are largely a wild catch that inhabit a wide range of habitats, their high pH level makes them more perishable than other food products, and they are often harvested at a considerable distance from processing facilities. In addition, HACCP implementation, especially in developing countries, often requires costly upgrades in plant sanitation and hygiene.

Brazil's fishery products processing industry has had to react to the new HACCP requirements in order to retain its important export markets. By 1995, Brazil's exports of fishery products to the United States, Japan, and the EU had reached US$134 million. Among those exports, frozen shrimp (to Japan, the EU, and the US) and lobster (to the US) were the most important, comprising 74 percent of the total value. By 1998, records for products detained by regulatory authorities when entering US ports show that Brazilian products had more difficulty in meeting the quality (including safety) standards for entry than did similar exports of fishery products from Chile, Colombia, and Argentina.

HACCP adoption in the Brazilian fishery products industry provides a view into the operation of the trading up dynamic. In 1993, the Brazilian government adopted legislation requiring processors to begin implementing HACCP for fishery products. HACCP was introduced as a layer of regulation over Brazil's existing process and performance standards. HACCP is currently enforced only for processors that export. While the government anticipates that HACCP will be enforced for all processors in the future, at present it only recommends implementation to processors who sell only in the domestic market. Government directives indicate that the widening international use of HACCP was instrumental in its decision to begin requiring HACCP in the food processing industries.

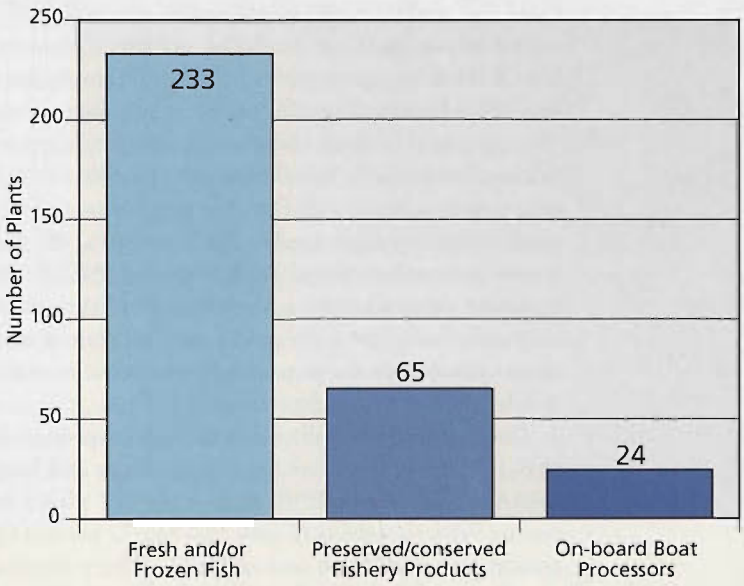

Figure 1: Brazilian Fishery Products Plants by Type

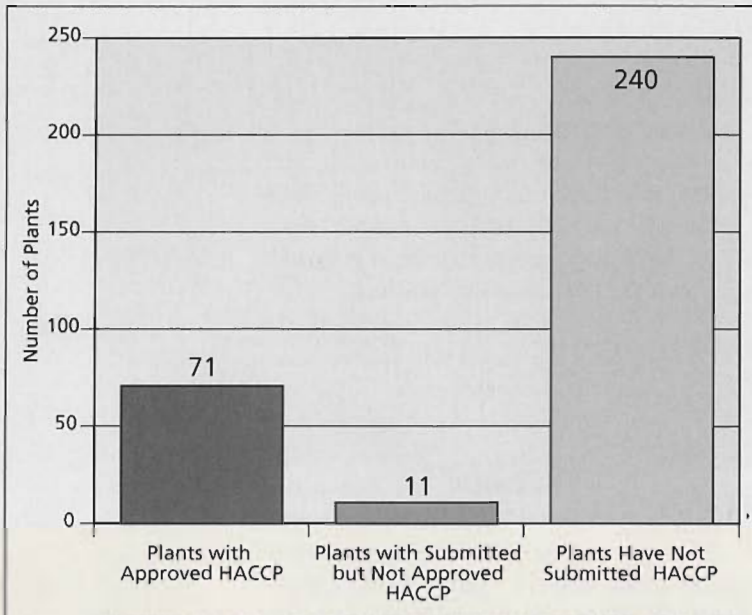

Figure 2: HACCP Adoption by Brazilian Plants

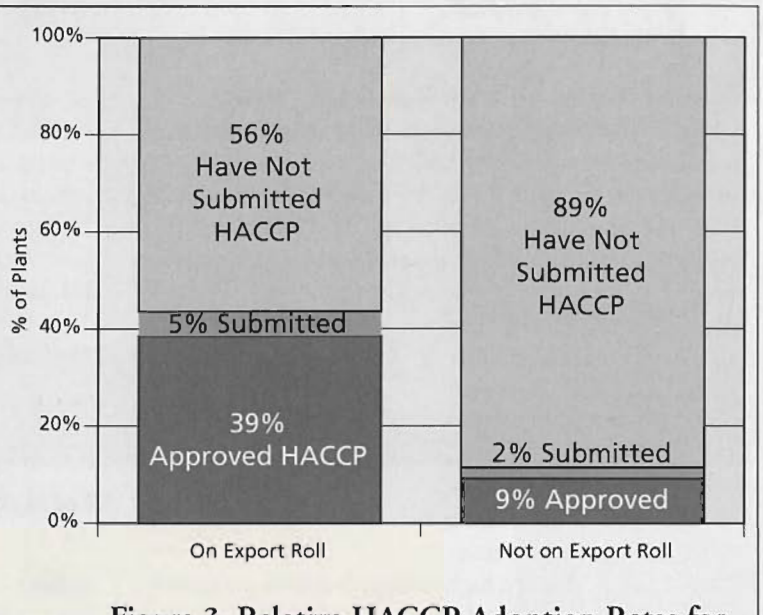

Figure 3: Relative HACCP Adoption Rates for Export-Approved and Non-Exporting Plants

For example, the directive that required all meat processing facilities in Brazil to begin adopting HACCP stressed the importance of maintaining access to US and EU export markets.

The government expects HACCP adoption for fishery products to improve Brazil's regulatory and inspection regime in two important ways. First, it will allow the government to introduce a new inspection routine in which the frequency of inspection depends on a processor's prior performance. This is expected to reduce the need for continuous inspection. Second, the government expects HACCP adoption to increase the efficiency of its inspection efforts. With HACCP implementation, the focus of inspection shifts to checking a company's control of potential hazards and its maintenance of HACCP records, thereby reducing inspection time from several days to a few hours.

HACCP Adoption In Brazil

A trading up effect would be evident if the use of HACCP has become more widely adopted among Brazilian fish processing firms for products sold domestically. There is reason to think that this effect may be important. Buchweitz and Salay found that some Brazilian firms are reluctant to comply with HACCP laws because of a lack of information, high implementation costs, and weak government enforcement. In these cases, HACCP adoption may depend less on government mandates and recommendations, and more on the need to retain access to export markets or the potential for domestic marketing of safer products at higher prices.

Data from the Brazilian Federal Fish Inspection Service (SEPES) of the Ministry of Agriculture and Supply (MAA) show that in 1999 there were 322 plants processing fishery products (Figure 1). Over 72 percent (233 plants) processed fresh and/or frozen fishery products. Another 20 percent (65 plants) produced processed and/or preserved fishery products, such as canned tuna and sardines. The final 7 percent (24 plants) were capable of processing their catch while at sea. By 1999, 22 percent of the total (71 plants) had adopted an approved HACCP plan, while another 3.4 percent (11 plants) had submitted a plan that had not yet been approved. Despite government requirements and encouragement, 75 percent of Brazilian plants (240) had not adopted an approved HACCP plan by 1999 (Figure 2).

Comparative adoption rates between plants show the influence of stricter standards in markets such as the EU and US (Figure 3). Of the 322 plants in 1999, 140 were listed on the Brazilian export roll. This roll requires that the plant be approved for domestic sale; submit to an additional government inspection designed to insure compliance with the sanitary and hygienic regulations of the importing country; and present the export product's labeling and packaging design for approval by MAA.

Among the plants on the export roll, 39 percent (54

plants) had implemented an approved HACCP plan, while 56 percent (79 plants) had not. Five percent (7 plants) had drafted a plan that had not yet been approved. Although Brazilian officials say that HACCP is required for export, the data suggest that this is not yet the case. The plants that are on the roll but have not adopted HACCP may not be currently exporting or they may export to countries that do not require HACCP.

Adoption rates among plants not on the export roll were much lower. Only 9 percent (17 plants) of domestic suppliers had adopted HACCP, while 2 percent (4 plants) had yet to receive approval for their submitted plan. The other domestic plants (89 percent, or 161 plants) had yet to implement or submit a HACCP plan. These relative rates show that the export market has been a major factor in adoption of HACCP by Brazilian processors.

The geographical distribution of HACCP adopters provides further evidence of the influence of the export market on HACCP implementation in Brazil. Plants in the northern and northeastern regions of Brazil, which are dependent on the export of frozen lobster and shrimp products to developed country markets, had the highest HACCP adoption rates of all regions (45 and 32 percent, respectively). At 24 percent, the adoption rate was also relatively high in the southeastern region, which includes the higher income states of Santa Catarina, Rio de Janeiro, and São Paulo. In the lower income southern and central-eastern regions, however, adoption rates were very low— less than 6 percent.

Interviews in a small sample of Brazilian fish processing plants underscore the influence of the export market on decisions to adopt HACCP. Plants that had adopted HACCP did so for products that were to be sold in both foreign and domestic markets. However, since the plants were heavily export oriented, this adoption had a relatively small effect on the safety of products sold within Brazil. The interviewed plants generally perceived the costs of HACCP adoption to outweigh the benefits for the domestic market. In the absence of a stronger government mandate, adoption for the domestic market is likely to remain slow.

Trading Up?

The Brazilian government passed its series of laws requiring processors to begin to adopt HACCP for fishery products in 1993. A primary motivation was to ensure compliance with developments in HACCP regulations in the EU and US. By 1999, only a little over 20 percent of Brazilian plants had implemented approved HACCP plans. The HACCP adoption rate for exporters is over four times higher than the rate for plants that only sell domestically. While Brazilian laws and policy set a goal of HACCP adoption throughout the industry, this adoption has not been achieved in practice for domestic production.

What conclusion should be drawn about the potential for a trading up effect associated with the international food trade? Experience with HACCP adoption in the Brazilian fishery products industry suggests that HACCP requirements in important markets such as the EU and US have had a major impact on processing practices in the export sector. To date there is little evidence of trading up effectively reaching the domestic sector and having an impact on domestic food safety within Brazil. However, public and private infrastructure is being put into place that may allow trading up to occur over time. In any case, the Brazilian experience with HACCP adoption, which is being repeated in other countries where export to developed countries is important, does not suggest downward pressure on food safety protection as a result of international trade. ■

Compliance Catch: Brazil had 322 plants processing fishery products in 1999. Some 71 of them had an approved HACCP plan.

For More Information

Buchweitz, M.R.D., and E. Salay. "Analysis of Implementation and Costs of HACCP System in Food Service Industries in the County of Campinas, Brazil." *The Economics of HACCP: Costs and Benefits.* L. Unnevehr, ed., pp. 335–346. St. Paul, MN: Eagan Press, 2000.

Cato, J.C. *Economic Issues Associated with Seafood Safety and Implementation of Seafood Hazard Analysis Critical Control Point (HACCP) Programs.* FAO Fisheries Technical Paper. No. 381. Rome, 1998.

Henson, S. and R. Loader. "Impact of Sanitary and Phytosanitary Standards on Developing Countries and the Role of the SPS Agreement." *Agribusiness* 15, no. 3 (1999): 355–69.

Vogel, D. *Trading Up: Consumer and Environmental Regulation in a Global Economy.* Cambridge, MA: Harvard University Press, 1995.