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Book reviews

Food safety and international competitiveness—the case of beef
John Spriggs, Grant Isaac, CABI Publishing, Wallingford, UK, 2001, 196 pp., Hardcover, US$ 75, ISBN: 0851995187

By examining international and domestic food safety regulations, this book elegantly opens the economic dialogue on an 'optimal' food safety system for world markets. The four countries selected (Australia, The United States (US), Canada, and The United Kingdom (UK)) are major beef exporters, major importers, or have experienced food safety problems related to beef. The book's strength is examining the evolving institutional arrangements for food safety, by international associations and in the four countries. Outbreaks of foodborne illness, domestically and abroad, are identified as the major driver for change in national and international regulations and markets. As the world moves towards international markets, even for fresh beef, the responsibility for food safety is shifting among private and public agents. International arrangements, such as the Codex and the World Trade Organisation (WTO), are gaining more oversight over food safety. For example, the WTO's Agreement on Sanitary and Phyto-Sanitary Standards requires scientific proof of risks, transparency in the regulations, and basing national standards on Codex food safety standards.

Because of the information problems associated with detecting hazards, food safety is a credence good. Firms have an incentive to free ride and under-spend on food safety. The United Kingdom's cover-up of BSE illustrates imperfect actions by government agents charged with assuring food safety. The authors focus on two ways to stop free riding: legal regulation and market regulation. (Another option, improving food safety information to buyers in the marketplace, is not discussed.)

The authors advocate that the food safety objective for each country should be: "maximisation of the food industry's long-run international competitiveness, subject to achieving some generally agreed, scientifically-based minimum standards on food safety (p. 6)." To achieve this, each country needs an institutional arrangement "... that efficiently and effectively assesses, manages, and communicates the risk of food safety problems (p. 145)." Spriggs and Isaac are to be commended for thoughtfully integrating risk assessment, risk management, and risk communication into the analysis of food safety regulatory policy and private decision-making. The importance of dealing with actual, and not perceived risks, is emphasised. Setting priorities among the competing hazards (pathogens, pesticides, hormones, etc.), however, is not discussed. Both the precautionary principle and risk assessments using 'safety factors' (for example, the US Environmental Protection Agency's estimates for pesticide and dioxin risks) are designed to overestimate risks. This makes comparisons across all foodborne hazards difficult for a private company or for government regulators allocating scarce resources. To compare foodborne risks across pathogens, pesticides, hormones, and other hazards, it is important to calculate 'best estimates' of risk for each hazard. To incorporate scientific uncertainty, confidence intervals can be calculated around this 'best estimate'.

The general statement that food safety standards, should be generally agreed upon and scientifically based (p. 6), is acceptable to most everyone, but the devil in the details. As the sensitivity of tests for pathogens, pesticides, etc. improves, regulators and companies face the question of the optimal level of safety, the meaning of 'zero' risk, and the definition of 'negligible' risk. Some examples where different

levels of risk may be appropriate are: is the company one of Michael Porter's first movers in a niche market providing the highest level of food safety? Are the regulations targeted at the food supply of the healthy public or the more vulnerable in nursing homes or day care centres for young children? Is the company producing a raw or a cooked product that will be re-cooked to a high enough temperature by the consumer or restaurant? Do micro-waved products inform consumers that the product is raw and needs to be fully cooked? Is the company producing a ready-to-eat cooked meat that will not necessarily be reheated by the consumer, for example, hot dogs?

Spriggs and Isaac commend the UK and Australia for recent food safety innovations:

- The UK wins the prize for increasing the economic incentives for food safety throughout the food production and distribution chain. The 'due diligence' clause in the UK's 1990 Food Safety Act has empowered supermarkets to require suppliers of their private brand foods to exert more control over pathogens, since the supermarkets are now legally liable. The marketplace has responded, and new businesses have been created to certify the food safety efforts of food suppliers.
- Australia earns the authors' gold star for its exemplary system of co-regulation. "This involves the replacement of government inspectors in meat plants with company inspectors who are overseen by third-party, independent auditors (p. 111)."

In both cases, the critical question is who oversees the auditors to assure no conflict of interest develops. Who should pay the auditors is another issue. MacDonald et al. (1999) review the economic literature on payment of user-fees for food safety and comment that user-fees are problematic, since the public health benefits primarily flow to the general public (p. 17).

The United States Department of Agriculture's HACCP regulations and *Salmonella* performance standards are criticised. Spriggs and Isaac prefer a specific HACCP system identifying critical control points for *all* firms. The problem, though, is that companies are then denied the opportunity to innovate and determine if they have a comparative advantage in preventing contamination versus removing/killing contaminants on meat products, and in choosing the mix of equipment and management systems that best achieve microbial control (and meet the *Salmonella* performance standard).

Left for future research is analysis of how improved food safety information could minimise market failure. For example, the UK posts Hygiene Assessment Scores for all UK meat plants for use by the food industry and consumers (p. 178), but the impact on market performance is not assessed. Three types of food safety information systems that could be analysed are as follows:

(1) Government or industry web-site posting data on each food company: its policy toward controlling pathogens, monitoring/testing data on the level of various pathogens found in the firm's testing programs (for inputs, plant environment, and products), and the company's actions taken after each test result indicating contamination.
(2) A consumer label that identifies foods produced under a superior pathogen control program, such as a 'gold star for safety' (this could be an industry program like the Underwriters Laboratory rating for electrical products sold in the US).
(3) Improvements in government surveillance systems to estimate more accurately the current level of foodborne disease in a country overall and from specific pathogens and foods.

Not mentioned, and also left for future research, is the impact of food safety institutions on the economic incentives for public and private research and development efforts to improve control of foodborne hazards.

Reference

MacDonald, J., Kuchler, F., Buzby, J., Lee, F., Aldrich, L., 1999. User-Fee Financing of USDA Meat and Poultry Inspection. Agricultural Economics Report No. 775, Food and Rural Economics Division, Economic Reserve Service, US Department of Agriculture.

Tanya Roberts
Economic Research Service, USDA, 1800 M Street NW, Washington, DC 20036, USA
Tel.: +1-202-694-5464
E-mail address: tanyar@ers.usda.gov (T. Roberts)

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