

# The Good, the Bad, and the Ambivalent: Equivalence Standards Program in Agricultural Trade

## Abstract

Globalization has engendered increased complexity in modern society. This complexity permeates almost every aspect of our life. In the context of food systems, globalized food supply chains have created greater challenges for assuring food safety, with myriad actors, who are economically, socially, and culturally diverse, involved in the production and distribution processes. To manage such complexity, food safety standards – equivalence safety standards in particular – have been established in order to assure the public interest. This paper examines the Equivalence Determinant Program in the U.S. broiler industry and explores its role in facilitating trade and assuring safety in the globalized U.S. broiler trade.

## Author

Lu Hao

Graduate Student

Communication, Culture, and Technology, Georgetown University

Email: lh638@georgetown.edu

Phone: 202.805.8811

## Introduction

The organization of modern society is inherently complex. It entails exceptionally intricate sets of relations and processes, constituting a multilayered system where myriad actors interact in a nonlinear fashion. The advent of the technology boom of the twentieth century has brought significant changes to various fields, rendering the world unprecedentedly connected via economic expansion, cultural exchanges, and political coalitions. These constitute major aspects of today's globalization, which is driven by five factors, namely technology, cost, the market, the environment, and competition (Czinkota & Ronkainen, 2011).

The practice of international trade is oriented toward optimizing these factors by reducing costs, expanding markets, utilizing the environment, and consolidating competitive advantages. Much of this optimization process is conducted via outsourcing and offshoring, engendering a globalized value chain. Simultaneously, coordination and regulation of such a complex system have become extremely challenging given the huge number of players with disparate interests as well as cultural and social diversity. It is this challenge that begs a solution to cope with such complexity: namely, standardization.

The proliferation of standards organizations (at both the national and international levels) during the past two decades mirrors the increasing importance of standardization and its indispensable role in facilitating globalization. Standards, as the interface that governs interactions (Garcia, 2013), embody powers that can be utilized to generate and maintain social order. They prescribe rules or protocols to be followed by individuals and organizations. The power of standards is legitimized by their science-based objectivity<sup>1</sup>. Standards bring certainty and predictability by eliminating alternatives and specifying interactions.

Paradoxically, the scientific attributes of standards often veil the political maneuvers of standards systems. Inefficient standards may prevail due to a variety of factors other

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<sup>1</sup> The HACCP (Hazard Analysis of Critical Control Point) system, required by the USDA as a mandatory standard for meat/poultry processing in the US, greatly improves product safety via scientifically based methods to identify, monitor and control each point of potential contamination during production (Hulebak & Schlosser, 2002).

than the quality of standards per se. The QWERTY keyboard may be the best example illustrating the ways in which inefficient standards won out via network externalities and lock-in effects (David, 1985). Ineffective standards schemes may also engender new conflicts and uncertainties, which translate into economic loss and impediments for social development.

One issue stemming from this paradox is the rising challenge of managing the elongated and fragmented value chains of modern industries. In the realm of the globalized agri-food production system, safety standards are established not only to assure the public interest, but, as importantly, to facilitate trade. To this end, equivalence standards programs are developed around the world (mostly among developed nations) to address food safety risks<sup>2</sup> and to promote international agricultural trade. Here, “equivalence” refers to equivalent safety outcomes, not the safety standards per se. In other words, equivalence standards programs provide an approach to seeking common ground (e.g., food safety) between trading partners while disregarding the differences in their safety regulatory regimes.

Despite the crucial role of equivalence standards programs in global agribusiness today, the effectiveness of standardization schemes is being contested, especially with respect to safety assurance. This paper examines the implications of equivalence standards programs with regard to food safety and trade. It contextualizes the analysis in the U.S. broiler trade. In particular, it looks at the Equivalence Determination Program developed by the U.S. Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) for broiler imports and discusses its role (be it direct or indirect) in food safety assurance and trade promotion.

## **Equivalence Determination Program in the U.S. Broiler Trade**

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<sup>2</sup> Food safety risks: According to Buzby and Unnevehr (2003), food safety risks are well-known and perceived hazards from agents that may impede human health. Major sources of safety hazards include pathogens, residues from pesticides, food additives, environmental toxins, etc. “Among food safety hazards, human health risks are highest from foodborne pathogens such as *Campylobacter* and *Salmonella*, each of which causes well over a million illnesses annually in the United States” (Mead et al., cited in Buzby & Unnevehr, 2003).

### *Growth in the U.S. broiler trade*

The U.S. broiler industry has achieved enormous success during the past decades, which is characterized by drastic output growth and expansion in the global market. By the early 2000s, Americans' annual consumption of chicken reached 81 pounds per capita, surpassing that of beef and pork, and chicken has become Americans' favorite meat (Horowitz, 2006). Meanwhile, the growing export volume has been an important contributing factor to the growth of the U.S. broiler industry. Export growth between 1990 and 2000 constituted nearly 30 percent of the growth in chicken production (USDA-ERS data). By 2012, broiler meat accounted for 45 percent (3.3 million metric tons) of total U.S. meat exports. The United States has become the world's second-largest broiler meat exporter following Brazil (Davis et al., 2013).

International trade operates according to the principle of reciprocity. Continued export expansion requires increased broiler imports. As a result, U.S. broiler imports have grown remarkably between 1995 and 2013<sup>3</sup> (Figure 1). Although the U.S. maintains a small amount of broiler imports (less than 1 percent of domestic production), it is worth pointing out that the volume of imported broiler products jumped from 2,000 million tons in 1996 to 52,000 million tons in 2013, generating a 2,500-percent increase (USDA-ERS data).

Expansion to global markets has tremendously complicated the U.S. broiler trade since the "movement of animal diseases, conflicting standards for processing, and policies related to domestic production and trade" all affect broiler meat trade (Davis et al., 2013). In 2013, the USDA allowed processed chicken imports from China<sup>4</sup>. This announcement has engendered public consternation for potential safety hazards of imported broiler products. These concerns, if not addressed properly, may ultimately translate into impediments for trade. Therefore, it is critical to examine the

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<sup>3</sup> The top 3 countries for U.S. broiler meat imports are Canada, Chile, and Mexico.

<sup>4</sup> In August 2013, the USDA approved processed chicken imports from China, with the condition that the broilers must be raised and slaughtered in the U.S. These broiler imports are allowed in the U.S. market labeled as "processed in China." The USDA decision has aroused huge public consternation in American society (Elliot, 2013).

standardization initiatives, namely the Equivalence Determination Program, put forward to cope with such complexity with regard to safety assurance and trade promotion, to which we now turn.

### *The Equivalence Determination Program for U.S. broiler imports*<sup>5</sup>

The Equivalence Determination Program specifies the standards for determining whether the safety system in a foreign establishment, although different from that in the U.S., can achieve the same food safety objectives or outcomes. The equivalence program consists of two major steps: (i) documentation review; and (ii) on-site and remote audits. The program starts whenever a country files an application for equivalence determination. The FSIS responds to the request with a questionnaire of 500 questions that are directly derived and related to the Code of Federal Regulation (CFR)<sup>6</sup>. Along with the questionnaire, the foreign applicant is required to provide all pertinent documentation materials to supplement the validity of the information provided in the questionnaire.

Once the FSIS has reviewed and approved the finished questionnaire (a “desired outcome”), the equivalence program turns to an audit mode, where FSIS inspectors conduct an on-site audit to verify the safety system of the foreign establishment. Once the foreign establishment passes the on-site audit, the FSIS will classify it as being equivalent. However, before the final rule allows for imports into the U.S., several policy procedures are required, including internal discussion and public comment. Once all the questions and doubts are properly addressed, the foreign country (or the establishment) is cleared to export broilers to the U.S. The FSIS continues its inspection via remote audits on a yearly basis to ensure the consistent safety performance of the foreign

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<sup>5</sup> Safety regulation for broiler imports starts long before the broilers reach the U.S. border, and it is primarily governed by the USDA-FSIS. For any broiler import to be sold in the U.S. market, it must pass a multi-tiered safety verification and inspection network. For the purposes of this paper, we elaborate primarily on the equivalence determination requirement.

<sup>6</sup> Here, the standards used for judging the effectiveness of safety regulation in a foreign establishment is the same as those for domestic inspection.

establishments as well as on-site audits once every one to three years depending on specific contexts.

## The good, the bad, and the ambivalent

For broiler imports in the U.S., “equivalence” is the key concept for determining the effectiveness of the safety system of the foreign establishments that export broilers to the U.S. The emphasis on safety outcomes (the performance standards) rather than safety approaches (the process standards) creates the flexibility to enable broiler trade between countries with vastly different institutional systems for food safety regulation. However, this practice may also engender new complications and unintended consequences. Since different approaches are allowed to achieve the desired outcomes, industries are economically motivated to develop the most cost-efficient approach to address the safety issues in order to meet the export requirement. Compounding this problem is the reliance on documentation reviews and the foreign country’s self-discipline to ensure compliance. In the worst-case scenario, the cost-effective approach may introduce new contaminants that may not be identified in the existing safety system until they cause severe consequences<sup>7</sup>.

In the case of China, where the efficacy of government regulation has long been contested and industrial self-regulation is far from mature, the food industry has been operating with a high safety risk profile. This is evident in the frequent food safety scandals in China. Furthermore, because of industry and government’s close economic and political ties, the integrity of the nation’s food safety system (including standard setting, implementing, and monitoring) is compromised. For this reason, the worst scenario might take place in the export sector. In fact, this scenario has already been witnessed in China’s milk industry. Melamine, an industrial chemical rich in nitrogen, was “added to watered-down milk to fool quality inspectors with artificially high protein levels” (Fairclough, 2008). In 2008, the melamine contaminated infant formula resulted

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<sup>7</sup> This is evident in the case of Chinese-made chicken jerky treats, which resulted in sickening hundreds of dogs. However, U.S. government agencies are still unable to locate the cause as of now (Manning, 2013).

in nearly 300,000 children suffering from kidney failure and six infant deaths. Worse still, these melamine-adulterated dairy products were later detected in animal feed exported to the U.S. (FDA, 2007).

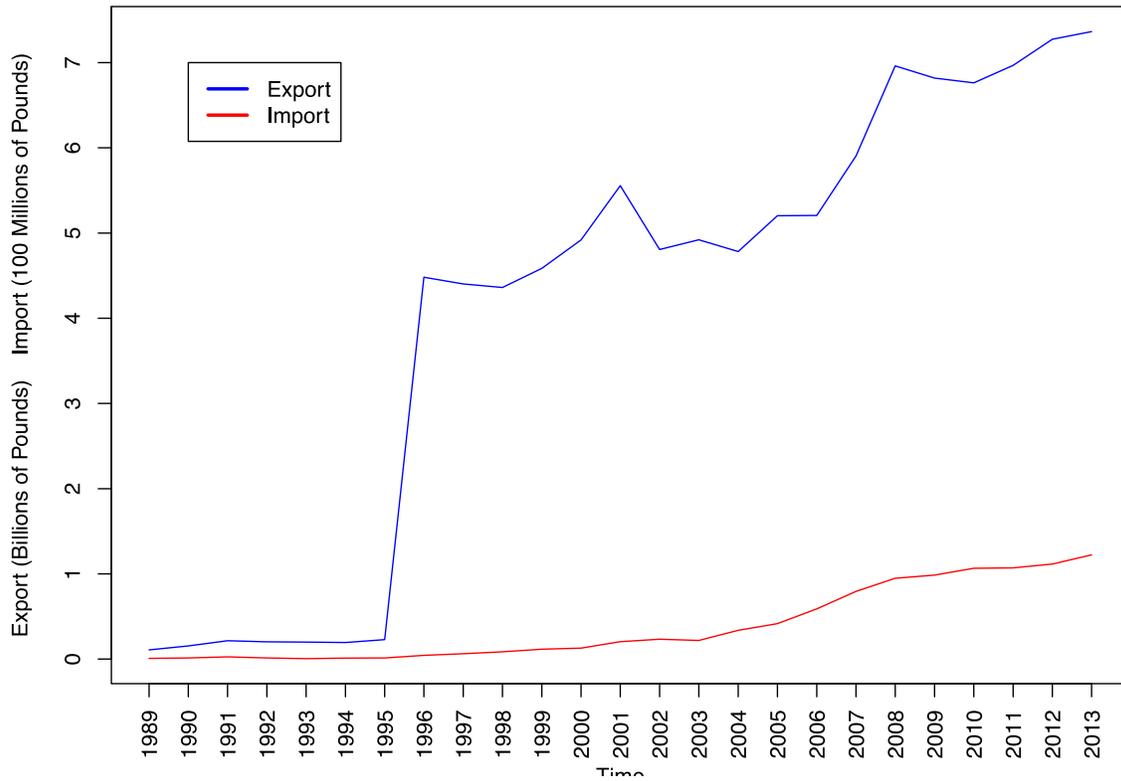
Based on the analysis, this paper argues that intensified globalization has further complicated the U.S. broiler trade with respect to food safety assurance of broiler imports. This challenge stems from the fundamental differences between the institutional contexts where the production and safety regulation are embedded. China, for example, as a fragmented authoritarian state, holds bureaucratic power and profits within large enterprises. Local governments prioritize economic development with a focus on quantity rather than quality. In addition, absent from a transparent legal system and press freedom, the institutional context in China fosters private-public conspiracy that undermines safety goals. Under these circumstances, the documentary-based and periodical safety inspection from the USDA-FSIS is far from sufficient to detect malpractice in advance, engendering potential safety hazards.

## **Conclusion**

Food safety constitutes a critical determinant for global agricultural trade today. This paper has examined the Equivalence Determination Program, a safety standardization initiative, in the U.S. broiler industry and its role in facilitating trade and assuring the safety of broiler imports. It argues that the major challenge for safety assurance of broiler imports stems from the institutional differences between the U.S. and the exporting country. The equivalence program, by allowing different safety approaches to achieve desired outcomes, facilitates trade between nations of disparate regulatory regimes but also introduces unintended consequences in the form of undetectable safety hazards for the importing country.

### Appendix

Figure 1. U.S. Broiler Meat Exports and Imports between 1989 and 2013



Source: "Chickens, turkeys, and eggs: Annual and cumulative year-to-date U.S. trade - All years and countries," USDA Economic Research Service Data.

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