

FOOD SAFETY AND ITS GLOBAL CONSEQUENCES

USDA Economists Group
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Dr. Richard Gilmore
CEO/President of GIC
Chairman of Global
Food Safety Forum

LINKING THE COSTS OF FOOD SAFETY THREATS WITH
NON-COMPLIANCE ISSUES DOMESTICALLY AND ABROAD



CURRENT SITUATION

Costs of Threats

Drop in current sales of industry

Poor future sales

Drop in demand for substitutes within the same product line

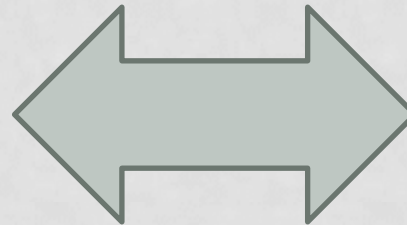
Brand jeopardizing

Non-Compliance issues in the US and Global Supply Chain

Pathogen outbreaks

Sick population

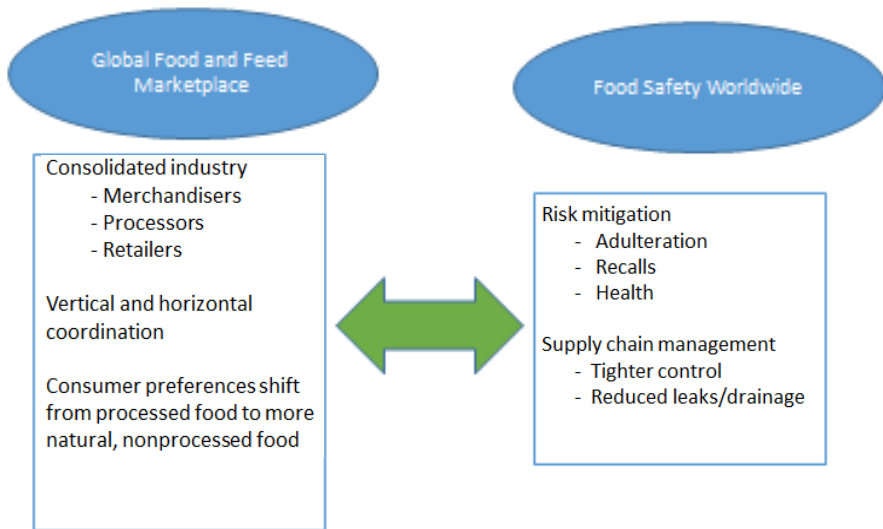
Consumption paranoia for products





COMMERCIAL CONSOLIDATION AND IMPLICATIONS OF FOOD SAFETY

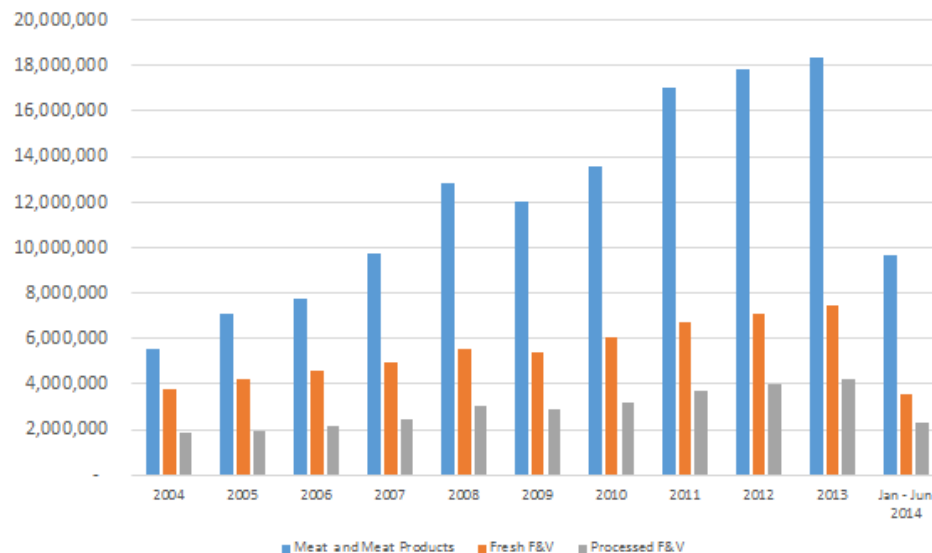
Commercial Consolidation



Changes in regulations affect the food choices consumers make:

- I. supply or prices of food products
- II. safety and nutritional composition
- III. information consumers receive about food

World Exports Trend



Effects of Government Policies and Regulations

TPP- has introduced the importance of food safety to trade liberalization
 Measures collaboration/ information sharing/ training



FOOD SAFETY THREATS: STRATEGIC CASES

- ❑ **Chinese Infant Formula:** Foreign brands preferred over domestic ones because they are thought to be safe and of higher quality
 - Since the 2008 melamine-contaminated milk outbreak, Chinese consumers now prefer foreign milk brands, causing everything from product shortages in New Zealand and the Netherlands to milk smuggling from Hong Kong.
 - Foreign baby milk formulas account for 40% of market sales.

- ❑ **Ground Turkey**, from Cargill Meat Solutions Corp in US, 2011:
 - Largest meat recall in history with 36m pounds of ground turkey recalled.
 - Equal to 6% of annual consumption for possible Salmonella contamination.
 - Led to layoff of 130 employees and one of the “weakest quarters” ever for their meat division.

- **Cantaloupe**, from Jensen Farms in US, 2011: Listeria contamination resulted in over 30 deaths, hundreds of illnesses. Dollar volume of sales dropped by 55.7% within 4 weeks. Company declared bankruptcy.

- **Chicken Products**, from YUM! Brands China in 2012: Accusation of poultry being fed toxic chemicals led to significant brand damage and China first quarter loss of 41%.

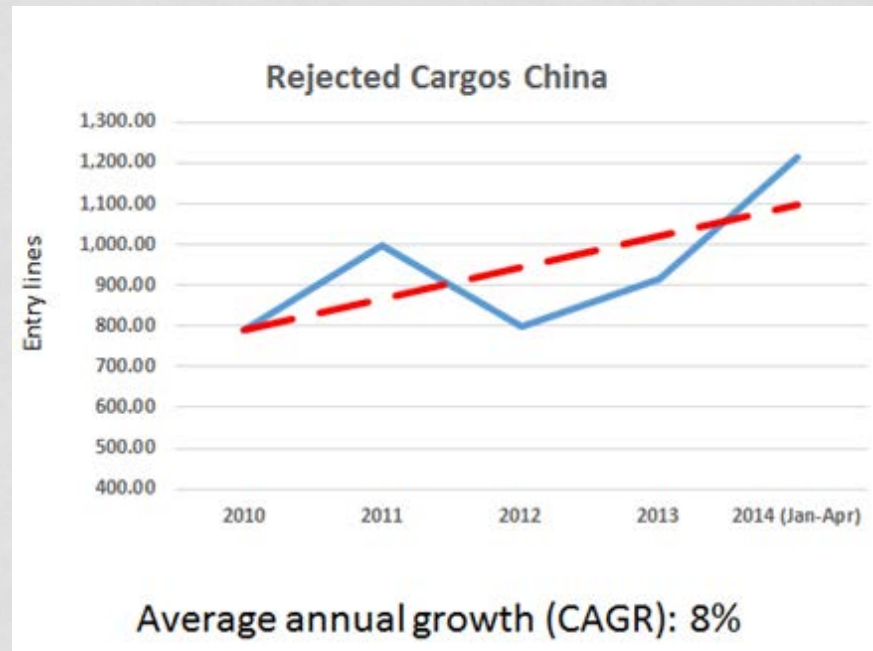
COMMERCIAL THREATS AND REAL LOSSES

- Regulatory gaps for mitigating risk, protecting consumer health, and raising consumer confidence
- Inability to handle emergency contamination issues consistently and reliably
- Potential for fraud/gaming the system

Costs of EMA food fraud

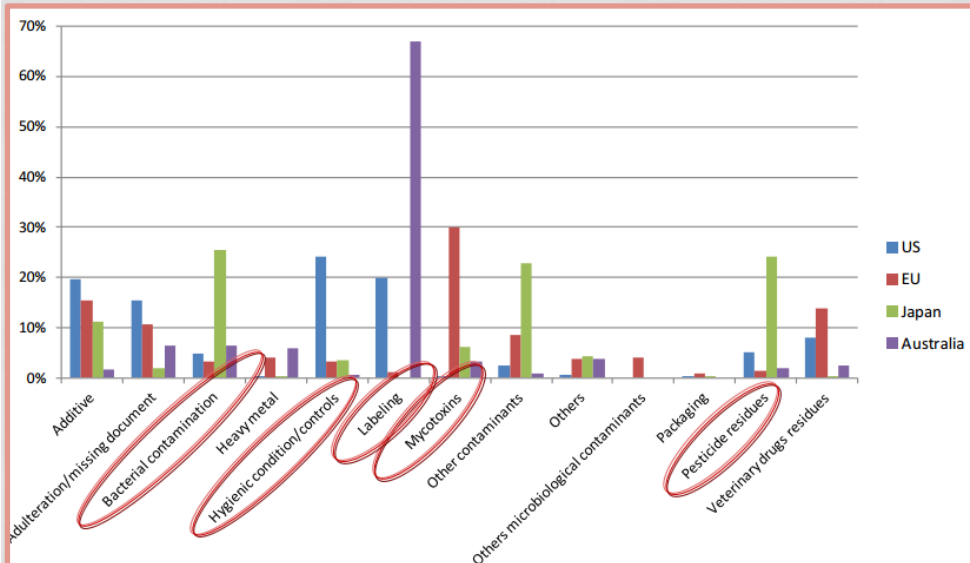
The Grocery Manufacturers Association (GMA) estimates global food fraud cost between **\$10 billion and \$15 billion per year** and a loss of sales between **2% and 15%** of annual revenues

Leading reported types of fraudulent foods 31% fish and seafood, 11% oils and fats, 8% alcoholic beverages, 7% meat

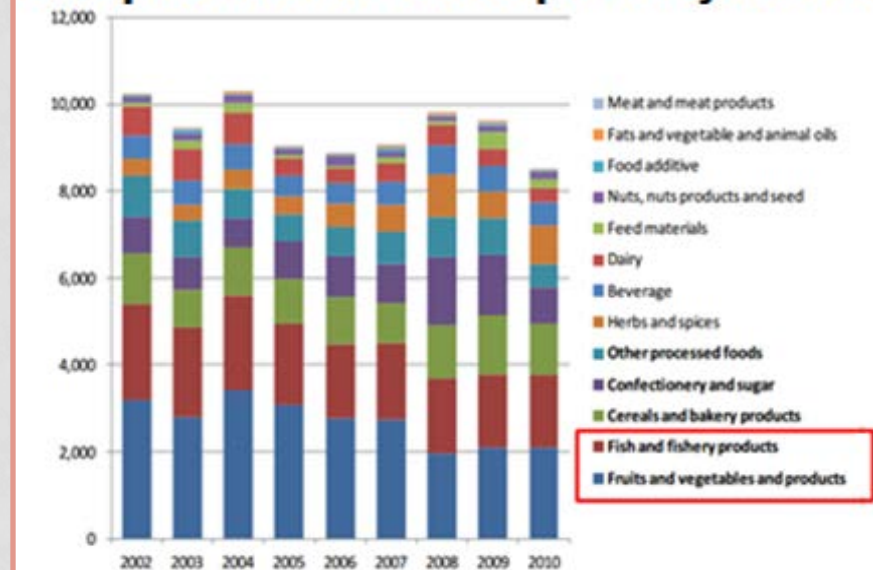




CONSEQUENCES OF NON-COMPLIANCE



Composition of US import rejections





THE MAGNITUDE OF NON-COMPLIANCE

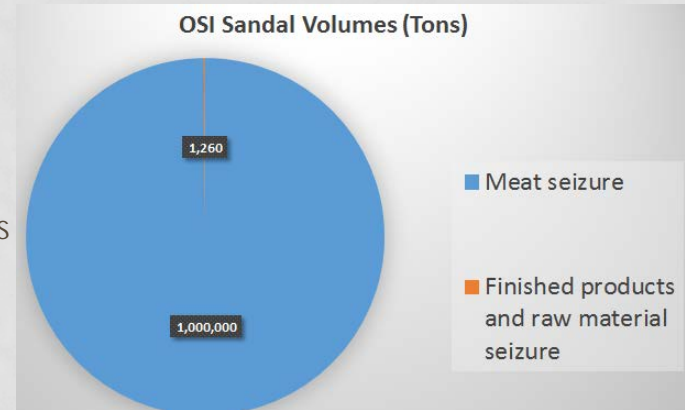
Financial Losses

2014 Incident: Shanghai Husi Food Co

Used unclean and expired meat products

- Husi total recall **160 tons** raw material & **1,100 tons** finished products
- McDonald's shares **lost 1.5 %** to **\$97.55**
- McDonald's recall **1,000 tons** meat
- Yum shares drop **4.2 %**

Foodborne Illness:



Melamine: Contaminated powdered infant formula in China

18 SEPTEMBER 2008

- Over **6,240** cases of kidney stones in infants, including three deaths
- **22** dairy manufacturers found to have melamine in their products
- **1/5** of China's infant formula producers used tainted powder
- **2,176** tons of milk powder were seized
- **9,000** tons of product were recalled

Bovine Spongiform Encephalopathy (BSE)

Diseased cattle in Britain and the US

- In 1996, **4.5m** cattle were destroyed after the British government acknowledged that BSE can spread to humans.
- Japan and EU banned imports of meat-bone animal feed and beef products from Britain.
- By 2004, **143 people** in Britain were found to be infected.



REGULATION & STANDARDS: A PATHWAY TO COMPLIANCE?

Regulatory Strategies

Goals: Preparedness, Prevention

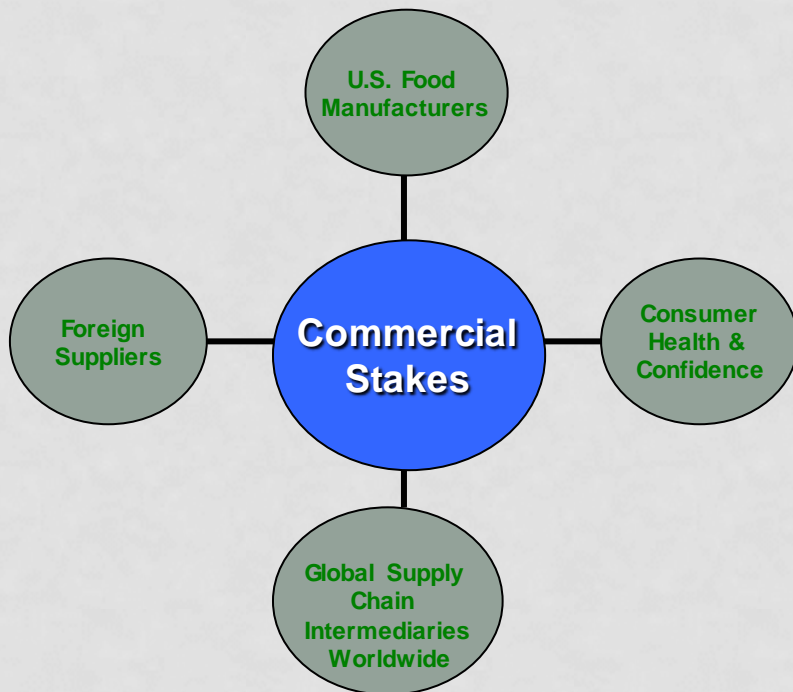
Detection, Enforcement:

- FSMA
- EFSA
- Food Safety Commission

Science Based Systems: Detection Technologies

Pathogen testing: Whole Genome Sequencing(WGS), RT-PCR(Real Time PCR), Biosensors

Tracing technologies: RFID (Radio Frequency Identification), IRIS system (Repository & Intelligence Server)



PRIVATE –PUBLIC

GFSF
GFSI
FIA

IAFP (International Association for Food Protection)

INTERNATIONAL

HACCP
ISO (UN)
CODEX ALIMENTARIUS



DIFFERENT PATHWAYS

China CFDA

- Replaced overlapping agencies
- Streamlined food and drug regulation process
- Established food safety controls with improved accountability
- New law raises the bar on compliance and includes food safety liability insurance for risk mitigation

Food Safety and Modernization Act

- Foreign Supplier Verification Programs
- Third-party independent auditor system (vs. EFSA acceptance of local auditor systems)
- Focused mitigation strategies to protect food against international contamination

Even as the Chinese government transitions out of the old regulatory system, the architecture has to deal with and resolve lingering issues:

- Lack of uniform instructions
- Highly segmented regulatory system provincial vs. central government
- Increased number of food safety risks
- Unclear responsibilities left over from 2003 SFDA



THE CHALLENGE OF TRACING FOOD FROM FARM TO FORK WITHIN A CHANGING STRUCTURE OF GLOBAL FOOD CONSUMPTION

❑ The Global Food Supply Chain:

- Integration: operations, markets, harmonized standards, tracing technologies, and compliance
- Scale: more food recalls due broader impact of non-compliance as reflected in a better ability to detect food safety issues, and increased production to meet global demand
- Threats: to US brand of quality, safety, and product integrity

❑ Challenges

- Developing appropriate risk mitigation strategies and instruments
- Harmonizing standards: greater acceptance of HACCP, ISO, and Codex Alimentarius
- Rapid response mechanisms
- Reducing incentives/ raising the costs for Economically Motivated Adulteration (EMA)
- Public-private collaboration

CONSUMER PROFILE

With more information about food quality and safety, consumers expect foods to be safe from microbial contamination and other health hazards.

THANK YOU



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SEMINAR
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