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Economic approaches for food safety analysis: a behavioral and systems perspective

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Outline

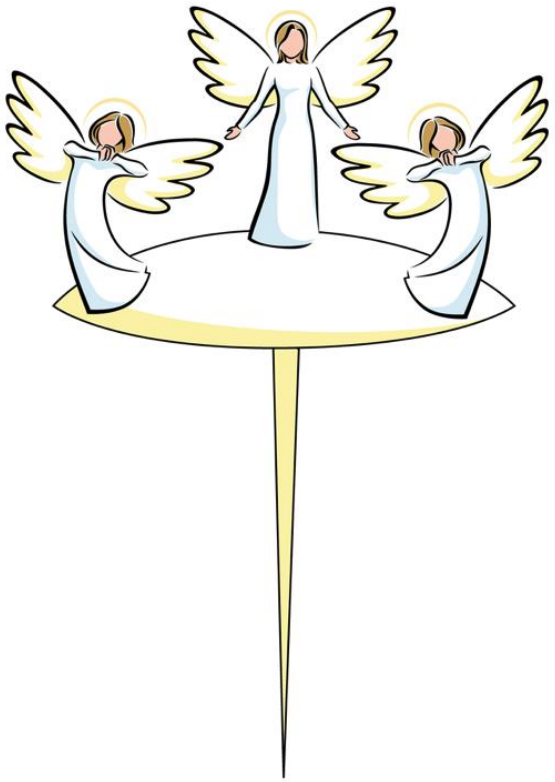
- Contributions of economics
- Economic issues in food safety
- Gaps and future directions

Contributions of economics

- The bottom line: it's all about trade-offs (unlimited wants vs. limited means)
- Fundamental question: how to allocate resources under scarcity? (government, industry, individual)
- Role of behaviour and incentives: given trade-offs, why do actors do what they do?

Contributions of economics

- Economics is more than just impacts or costs
- It is about making better, cost-effective decisions
- It is about taking people's incentives into account
- Key metric: marginal (additional) benefits vs marginal (additional) costs



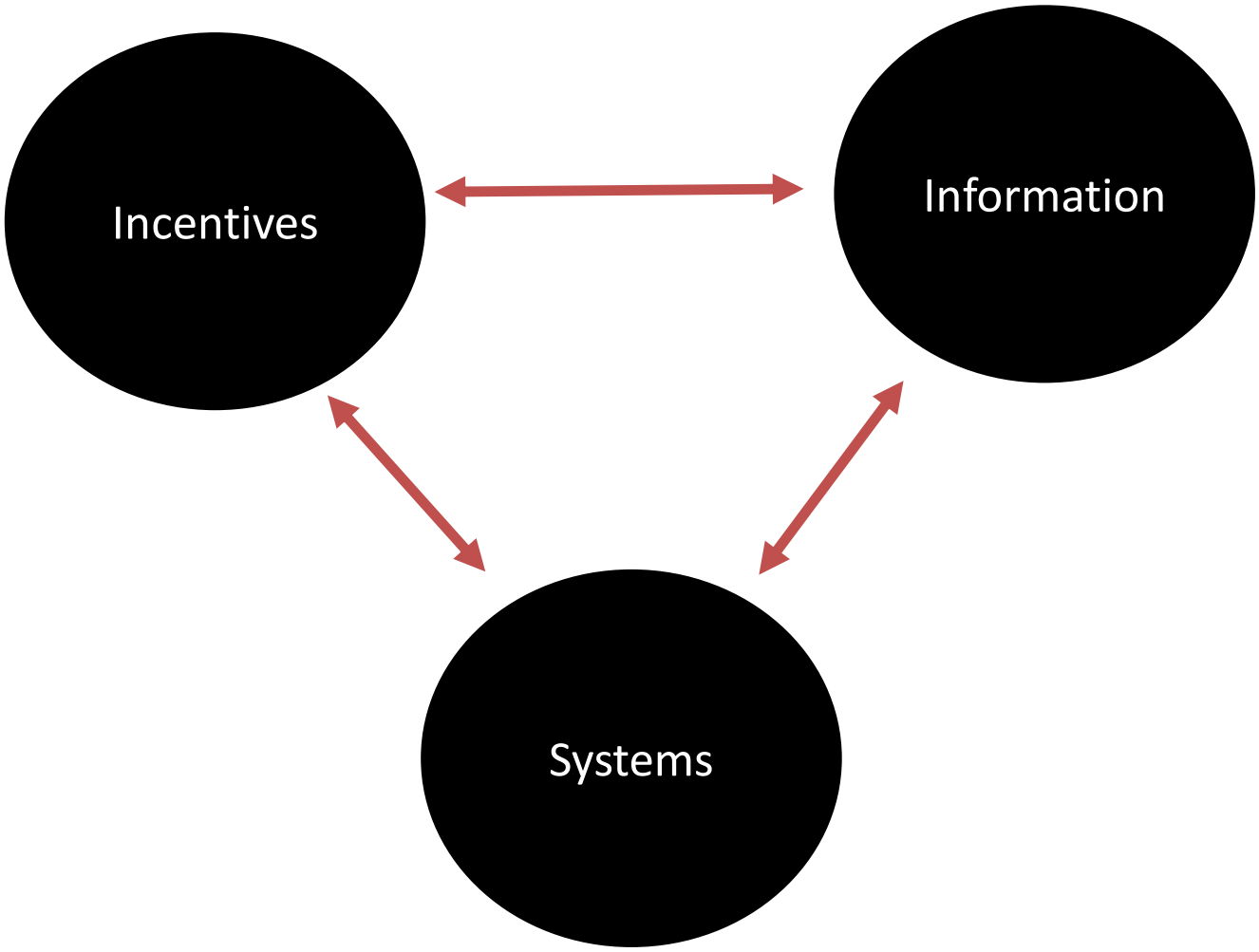
Economics and food safety

- Food safety poses unique regulatory and implementation challenges.

- Lots of focus on net benefits associated with *regulation* (marginal benefits of regulations vs marginal costs)

- But food safety *compliance* is largely an incentive and information issue – are technological or regulatory fixes "worth it"? What are incentives to do/not do?

Economics and food safety



Economics and food safety

Incentives for who?

- Producers – food safety regulations will increase compliance costs: how are these borne?
- Public regulations vs. private (market-based) incentives
- Evolution of markets in response to food safety regulations
  - Food safety standards as means to differentiate in market

Economics and food safety

	DRIVERS OF COMPLIANCE		
NET BENEFIT TO PRODUCER		**Contribution to profits**	**Regulatory requirement**
	High	Performance driven	Enforcement driven
	Low	Non-compliance	Conditional non-compliance

Source: Based on Henson and Caswell (1999)

Economics and food safety

Incentives for who?

- Consumers: own cost-benefit calculus (MC of paying more vs. MB of avoided illness)

- Different risk profiles and preferences → variance in willingness to pay for food safety
  - Can be large, especially in developing countries

Economics and food safety

Incentives for who?

- Markets: are the added benefits greater than the added cost to provide safe products (and differentiate)?
- Do such consumer segments exist to make this profitable?
- Heterogeneous preferences + cost differences → missing markets (Antle 1999)

Economics and food safety

Information

- Knowledge gaps – an important mediating factor
- Information may not be perfect (as assumed in economics)
- Asymmetries in information between/among chain members can lead to market failures and the under-provision of food safety.

Economics and food safety

Information

- Where information lacking throughout chain, enforcing food safety via public or private means difficult.
- Credence goods – those where quality cannot be discerned before or after purchase – especially problematic.
- Can be difficult for producers themselves to establish reputations for quality/safety; may not be able to provide even if wanted to due to lack of information (Antle 1999).

Economics and food safety

Systems

- Food safety issues can arise in multiple parts of the chain → actions taken by one affect all
- Issues of chain coordination and chain governance thus matter (markets vs. hierarchies)
- But this implies costs of food safety are not just regulatory costs but coordination costs also
  - Is coordination possible?
  - Who organizes?
  - What are incentives?
  - Who is responsible?

Economics and food safety

Systems

- Food safety compliance depends on industry organization
- Conversely, industrial organization can be shaped by food safety standards (possibilities for exclusion).
- Example: horticulture value chain chains in developing countries

Gaps and future directions

Where are we currently?

- Analytical economic methods focus heavily on issues of costs
- Accounting, economic engineering, econometric approaches primarily used.
- Nodal focus, not systems focus.

Gaps and future directions

Challenges

- Static focus to food safety – what about dynamic and response to regulation?
- Chains and industry structures evolve based on external shocks → feedbacks matter.
- This in turn creates new players, systems, and incentives – how to capture?
- How to capture information gaps along the chain?

Gaps and future directions

Ways forward

- Systems perspectives that take economics as one part of the puzzle (alongside technical, institutional, organizational, socio-cultural)
- Multidisciplinary, holistic – economists working in teams
- Capturing evolutionary, dynamic processes – what happens in the future?
- Platforms to assess tradeoffs and scenarios, with impacts captured at multiple levels (see tomorrow's talk!)