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# Opportunities for the Coregulation of Food Safety: Insights from the United Kingdom

By Andrew Fearne and Marian Garcia Martinez

## Introduction

The increase in the recorded incidence of foodborne illness and the recent history of high-profile outbreaks of illness that have been linked to food have created both political and economic demands for more effective controls. Consequently, government regulation of food safety has increased substantially in the last decade, including the introduction of ex ante direct regulations as well as ex post indirect controls. Alongside public intervention, private mechanisms of food safety control have also developed substantially and now play an important role in the supply of higher quality, safer food.

In reality, the distinction between public and private regulations and standards is less discrete than often assumed; in practice, there is a continuum between the two (Gunningham, Grabosky, & Sinclair, 1998). In most markets public and private safety regulations coexist, and there can be considerable interrelationships and dependencies between them. On the one hand, private regulations and standards can evolve as a mechanism to facilitate compliance with regulatory requirements. On the other, regulations can reference private standards as part of their requirements. Moreover, the interaction between self-regulation and public regulation could provide a superior outcome, as industry and firms are often more knowledgeable regarding product quality, and public regulation can generate reputation-based incentives to monitor quality, in the form of public exposure (Nuñez, 2001).

This paper explores opportunities for coregulation of food safety as an alternative to traditional direct government intervention. It aims to contribute to the current debate on the role that government and industry should play in providing for an optimal food safety system while ensuring that all actors in the chain, from producers to consumers, benefit from the efficiency gains that are possible when the responsibility for protecting consumers from

foodborne illnesses is shared between the public and private sectors.

The potential benefits of coregulation of food safety are self-evident—coercion breeds minimal compliance, resulting in suboptimal improvements to public health, and often comes with a significant bill for enforcement and monitoring—but coregulation remains a relatively a new concept in most parts of the world. The lack of trust among actors in the food chain and the perceived risk associated with allowing market forces to play a role in the regulatory process are, in our opinion, key limiting factors for closer coordination of private and public resources in the regulation of food safety. However, the view of food safety responsibilities (and liabilities) from farm to table brings about a new paradigm in stakeholder relationships characterized by complex interaction between public and private modes of regulation (Fearne et al., 2004a). This shift of responsibilities towards the private sector has created a more complex and demanding “policy space” involving public and private sector incentives and controls (Garcia Martinez & Poole, 2004), hence the need to explore the opportunities for greater public-private coordination in the effective and efficient regulation of food safety.

In the United Kingdom, food safety regulation and standards are articulated through a central coordination standard-setting system headed by the Food Standards Agency (FSA) with implementation and enforcement delivered by its own agents (the Meat Hygiene Service) or others (Environmental Health Practitioners [EHPs] employed by the local authorities). Although the majority of food law is derived from the European Union (EU), there remains scope for the FSA to propose new direct regulations or alternative approaches aimed at improving public health and protecting consumers in policy areas not regulated by EU law. Moreover, current EU regulatory

developments towards more flexible risk-based approaches to food safety, with greater responsibility lying more explicitly with the private sector, are opening new opportunities for government and industry to work together to deliver a socially optimum level of food safety.

### **Coordinated Approach to Food Safety**

For any given policy issue, the options for public intervention range from doing nothing to direct prescriptive regulation (Better Regulation Task Force, 2003). In between, there is a wide range of options available, ranging from information and education campaigns where people change their behavior of their own accord, to incentive-based structures, private regulation, and coregulation.

Though probably unpopular among consumer lobby groups, there may be circumstances where it could be better for the government not to intervene. A careful analysis of the benefits and costs of alternative regulatory options could advise policy makers that no intervention is the best course of action, in particular when the costs of preventing a highly improvable food safety failure outweigh the estimated benefits. Moreover, there could be issues of equality on the incidence of costs and/or benefits placed upon, or derived by, a particular section of society as a direct result of public intervention, which could advise governments not to exercise their powers. In addition, the difficulty or impossibility of enforcing new legislation could also prevent governments from intervening.

At the other extreme, command-and-control intervention would be required when the market fails to deliver the level of safety necessary to

meet public health requirements. Within this hierarchy of public intervention, there are a number of possibilities to coordinate public and private resources in the regulation of food safety. The question is what form should this coregulation take, and under what circumstances might private regulations and standards be the most efficient and effective mechanisms to manage food safety, either in combination with or as an alternative to public intervention?

*Coregulation* is an approach in which a mixture of instruments is brought to bear on a specific problem, typically involving both primary legislation and self-regulation or at least some form of direct participation of bodies representing stakeholders in the regulatory process (Eijlander, 2005). Coregulation aims to combine the advantages of the predictability and binding nature of legislation on the one hand and the more flexible self-regulatory approach on the other. Coregulation thus involves self-regulation and regulation working together, mutually reinforcing each other.

Hence, an essential aspect of a cooperative approach to governance is the cooperation between the public and private sectors in the process of creating new rules. This cooperation in the field of regulation may, however, result in various forms, such as agreements, conventions, and even regular legislation (Eijlander, 2005). In the last case, this government regulation is the result of a process of negotiating between the public and the private parties involved. However, the key to the coregulation debate is the distinction between private and public motives for the use of coregulation and the possible relationship between private and social benefits and costs emerging under a coregulatory framework. In the field

of food safety economics, the public-interest and private-interest approaches in the regulation theory are well documented (Fearne et al., 2004a). The public food safety policies focus on the regulation of markets to increase social welfare (improvements in public health), whereas the private-interest approach is concerned with the study of the position of interest groups in the process of regulation. An element in the latter approach is the concern that the relationships between the regulators and the regulated may become too close and thus lead to capture, that is, the pursuit of the regulated businesses' interests rather than those of the public at large.

Within this context, the analysis of coregulation of food safety presented in this paper will focus on four stages in the regulatory process where greater coordination of public and private efforts may be justified: (a) setting the standards; (b) process implementation; (c) enforcement; and (d) monitoring.

### **Setting Standards**

#### ***Early-Stage Coordination: Impact on the Quality of Regulation***

In recent years, governments have turned to the use of risk assessment methodologies to provide fairly standardized evaluations of specific risks. On the risk management side, careful analysis of the benefits and costs of alternative regulatory interventions can play a similar role in disciplining decision making and providing solid support for the regulatory options chosen (Caswell, 1998, 2004). Precise forecasts of economic benefits and costs can rarely be made, but systematic analysis can differentiate between policy options that are promising and those that are not.

Regulatory impact assessment (RIA) for all new legislation is a common feature in developed countries, including the United Kingdom, where existing legislation is also subject to periodic assessment every three years (post-implementation reviews). RIAs have the potential benefit of allowing for comparative analysis of different policy options, which may inform the policy decision-making process. However, the widespread perception within the UK food industry is that RIAs are generally undertaken too late in the decision-making process to have any significant influence on the legislation, and there is inadequate consultation with industry over the scale and incidence of likely compliance costs (Fearne et al., 2004b). This is of particular concern, as previous research has revealed little evidence to enable conclusions to be drawn about the effectiveness of RIAs to produce better food safety legislation (Fearne et al., 2004a).

Greater and earlier engagement of stakeholders would lead to better regulation by taking account of industry/sector-specific requirements and characteristics while facilitating implementation and enforcement. The possibility of using the industry as a sounding board is particularly important in the process of evaluating compliance costs and potential impacts on the competitiveness of UK food businesses of emerging legislation at an early stage in the regulatory decision-making process. Closer cooperation is particularly relevant when legislation is developed at EU levels in order to ensure that emerging regulations can be properly and simply implemented and enforced. However, early work on RIAs before the relevant legislation is fixed brings its own problems. If the legislation has not been decided, or

the guidelines to regulators written, then how can the interpretation of those guidelines be understood in terms of its effect on businesses? If the legislation and its interpretation cannot be described, how can stakeholders estimate the cost implications?

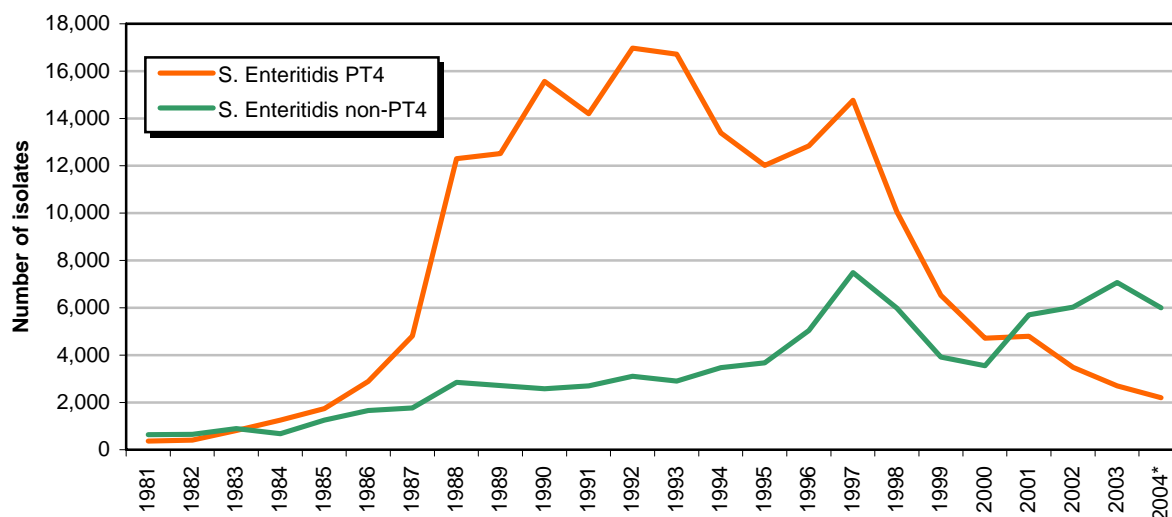
### **Development of Baseline Standards**

Governments can produce and/or stimulate the generation of codes of practice (COPs), which industry can comply with voluntarily. These codes are a form of information and set standards of good practice. For example, in the UK, a plethora of private farm assurance schemes (primarily driven by UK supermarkets seeking to comply with the due diligence requirements of the 1990 Food Safety Act and subsequent public and private demands for traceability back to the farm) that incorporate official COPs have evolved over the past decade. All schemes require their members to be aware of and to implement COPs. Some scheme assessors have specific questions aimed at checking that members understand and are applying them (Food Standards Agency, 2002).

However, should the industry move beyond the legal and official guidance by setting stringent standards? This debate is at the heart of the development of farm assurance schemes in the UK. Baseline schemes have an implicit inclusive approach by aiming at majority participation and an increase in standards across all producers while avoiding “gold plating”—increasing standards (and thus compliance costs) without justification from a public health perspective. In the UK, baseline schemes cover over 85% of production in the milk, eggs, chicken, pork, and combinable crop sector and over 65% for beef and lamb and horticultural produce

(Food Standards Agency, 2002). However, the value of schemes that do little more than repeating the basic legal position by focusing primarily on greater uptake is questionable. Yet, if by doing so, the scheme raises standards across the whole sector, consumers and the society in general would benefit. This argument touches on the issue of the development (or lack thereof) of food safety baseline standards among UK farm assurance schemes aimed at improving public health compared to the “success” of proprietary quality-assurance schemes developed by UK food retailers.

Two examples in the UK—the Lion quality scheme and the ZAP Salmonella Monitoring Programme—illustrate how the progressive development of assurance schemes towards stringent standards are seen as beneficial in providing socially optimum levels of food safety. Between 1981 and 1991, the number of cases of salmonellosis in humans in the UK rose by approximately 170% and remained high throughout most of the 1990s. In March 1991, the Advisory Committee on the Microbiological Safety of Food (ACMSF) agreed to set up a working group to consider the extent to which eggs were responsible for this problem. Their report, published in 1993, concluded that much of the rise in human salmonellosis was due to *Salmonella enteritidis*, mostly phage type 4 (PT4), which can invade the reproductive tract of chickens (ACMSF, 1993). In an attempt to restore consumer confidence, the British Egg Industry Council (BEIC) developed in 1993 the Lion Code of Practice to reduce *Salmonella* in eggs throughout the food chain. It was substantially amended in 1998 to provide for a major *Salmonella* vaccination pro-



**Figure 1.** Salmonella Enteritidis infections, England and Wales, 1981–2004.

\*Provisional data.

Note. Data from UK Health Protection Agency, 2005 ([http://www.hpa.org.uk/infections/topics\\_az/salmonella/data\\_human\\_se.htm](http://www.hpa.org.uk/infections/topics_az/salmonella/data_human_se.htm)).

gram. Because of the life cycle of a laying hen, this means that since the end of 1999, the Lion scheme considers it has effectively eliminated *Salmonella* from Lion eggs. The scheme sets standards for the production of eggs to significantly higher levels than required by UK and EU law in areas including food safety, product quality, labelling, and animal welfare. All major retailers specify Lion eggs and display the Lion logo. It is UK-wide in coverage. It calculates that it covers over 85% of UK egg production (i.e., 95% of free range, organic, and barn egg production and 75% of cage egg production). Vaccination is reinforced by extensive cleaning and monitoring. Hatcheries, pullet rearing, and laying hen flocks are regularly tested. Feed is UFAS assured. Strict on-farm rodent and biosecurity controls are enforced; other controls ensure that the “best before” date on the egg and pack does not exceed 21 days from the date of packing and that the egg is kept at a temperature below 20°C. The scheme has a detailed passport system for birds, eggs, and feed. It

requires on-shell date marking to prevent eggs removed from packs from losing their age mark.

The results of the scheme are encouraging. Official data shows there has been a substantial decrease in human illness caused by *Salmonella enteritidis* since 1997 (Figure 1). A study carried out by the FSA in 2003 (Food Standards Agency, 2004c) shows that only one in every 290 boxes of six eggs on retail sale in 2003 had any *Salmonella* contamination, compared with one in 100 boxes in a survey carried out in 1995/96. This equates to an almost three-fold reduction in the level of *Salmonella* contamination since 1995/96. The FSA recognises that this is likely to reflect the measures introduced by the UK egg industry to control *Salmonella*.

The Assured British Pig (ABP) scheme has moved in similar direction with the introduction in June 2002 of the Zoonoses Action Plan (ZAP) Salmonella Monitoring Programme. ZAP was introduced following a report published in 2000, which indicated that a proportion of

pigs arriving at abattoirs carried *Salmonella* and presented a significant risk of meat contamination. The ZAP program is voluntary but operates in all British assured abattoirs collecting samples from all assured pigs, which represent 90% of British pig meat production. Meat samples are collected from slaughter pigs by abattoir staff and despatched to the laboratory once weekly at the abattoirs' expense. Three samples are collected from each batch of farm assured pigs that arrive at the abattoir. Farms with excessive levels of positive results will usually have their assured status suspended, and meat from their pigs would no longer be eligible for the Quality Standard or Special Selected Scotch Marks. Pigs from these holdings could still be slaughtered as nonassured pigs in abattoirs that process these animals, but the number and market share of these is in sharp decline. The results to date are impressive (Table 1); the target is to reduce the level of positive results by 25% by the end of 2005.

The above examples illustrate how the progressive development of

**Table 1.** Positive results from ZAP salmonella program, July 2003 through June 2004 (%).

	Jul–Sep 2003	Oct–Dec 2003	Jan–Mar 2004	Apr–Jun 2004
<b>Total</b>	25.0	24.8	24.0	20.7
<b>England</b>	28.2	28.1	27.8	24.5
<b>Scotland</b>	14.0	14.3	11.7	10.1
<b>N. Ireland assured</b>	14.1	13.7	11.3	10.2
<b>Total samples reported</b>	31,851	33,095	36,542	34,212

Note. Data from Zoonoses Action Plan Salmonella Programme Annual Report, 2004 (<http://www.bpex.org/technical/zap/zapannualreport04.pdf>). Milton Keynes, UK: British Pig Executive.

assurance schemes towards stringent standards are seen as beneficial in providing socially optimum levels of food safety. However, this development seems to be uneven across UK farm assurance schemes (Food Standards Agency, 2002). It has been easier for schemes to raise standards more rapidly where industries are more integrated or where a smaller number of suppliers or processors account for a large percentage of the market, as in the case of eggs, poultry, and pigs. In the beef and lamb sector, conversely, progress has been hampered due to the complexity and length of the red meat chain. There is a tension between the scheme owners' desire to keep the majority of producers loyal to the scheme and their recognition that consumers expect standards to improve throughout the chain.

## Process Implementation

Following the application of new EU Food Hygiene Regulations beginning January 1, 2006, the responsibility for the production of safe food will lie more explicitly with the food business operator, a requirement that is contained in current legislation and is underpinned in General Food Law. All food business operators will be required to put in place appropriate controls that demonstrate they are managing food safety within their business. This legislative framework

represents a move from a prescriptive *command-and-control* approach towards an *enforced self-regulatory* approach (Braithwaite, 1982) with the regulator imposing a requirement on businesses to determine and implement their own internal rules and procedures in order to fulfill the regulator's policy objectives. The more risk-based and flexible procedures are better matched to the needs of individual businesses and to enforcement. They will provide better opportunities for businesses to demonstrate that they have effective risk management systems, and therefore their products present lower risk to consumers.

The three main EU regulations that make up the package will be directly applicable and therefore constitute the law in each member state of the EU. This means that national legislation is not required (or indeed allowed) to give effect to the EU regulations, beyond providing for their enforcement in the UK. However, there are a number of areas in the EU regulations that either require or allow member states to adopt certain provisions as appropriate in their national law, and these regulations address these aspects too.

The FSA has produced draft guidance on the requirements of the food hygiene legislation applying in the UK. The aim is to help food businesses to understand what provisions apply to them and to guide

them through the legislation. Where necessary, the guidance points food businesses to other guidance and sources of advice that will help them to understand how to comply with the relevant legal requirements.

However, the move from a prescriptive approach towards an enforced self-regulatory approach raises a number of concerns regarding the delivery of a socially optimum level of food safety. Though by law, individual food sectors can develop and implement their own guidance, is this level of self-regulation acceptable by all stakeholders, particularly consumers and other watchdog groups? To what extent can individual food sectors involved in developing this guidance ensure compliance by their members? Some form of inspection system will still be necessary.

## Enforcement

Effective regulation depends on effective and consistent enforcement to ensure compliance. Therefore, it is important to determine the type of inspection policies most appropriate for motivating food businesses to achieve target levels. Different inspection regimes influence behavior in different ways. If the aim is to win the hearts and minds of food business operators and their employees to encourage well-embedded and lasting changes to practices, enforcement officers may concentrate on promoting good practice through advice and education rather than enforcement action. Conversely, the speed of action needed may drive the decision regarding the best approach in some cases. For example, where food products on sale are known to pose an acute and serious health risk, enforcement officers discovering them may seek to have the foods vol-

untarily surrendered by the food business operators or seize them with a view to their subsequent destruction (Food Standards Agency, 2004b).

Good advice is important, particularly in the case of small and medium enterprises (SMEs) to help them to comply with existing and emerging legislation. A recent study by Yapp and Fairman (2004) on enforcement approaches for food safety in SMEs shows that local authority education activity has significant effects upon inspection ratings scores and compliance levels of SMEs. The survey results show that 62% of proprietors in food SMEs demonstrated a lack of knowledge throughout the compliance decision process and that interventions that increase specific food safety knowledge within businesses were the most effective at improving conditions. Generic written information was frequently misinterpreted and misunderstood, thus limiting its effectiveness in improving food safety compliance within SMEs. Formal enforcement was a vital component of the compliance process. It acted as a last-resort action for the enforcer and maintained the general fear of enforcement presence in SMEs.

As well as good advice and support, and an effective inspection regime, the right incentives need to be in place to encourage compliance (Hampton, 2004). Regulatory incentives may be positive, resulting in the voluntary adoption of appropriate food safety controls, or negative, either purposive (in the form of policy-mediated sanctions for noncompliance, such as fines) or consequential (in the form of declining market share and exclusion from the market). In general, incentives to enhance food safety have been largely negative, often focused on warnings

backed up by the threat of financial penalties in the magistrates' courts, whereas a more positive approach, aimed at helping farms and businesses comply with food safety legislation, has been largely overlooked.

Regulators can use incentives to encourage compliance. Good performance can be rewarded, most obviously through lighter inspections when risk profiling has taken place (see below). The role of reputational mechanisms as drivers for investments in food safety, whereby consumers "discipline" firms by switching to rival firms when quality is below certain tolerance levels, has been found as having a positive effect for instance on hygiene levels in restaurants (Jin & Leslie, 2003).

Finally, effective penalties are an essential last resort in the regulatory system. They deter businesses from breaching regulations and provide assurance to law-abiding businesses that those who do try to gain competitive advantage by breaking the law are properly punished (Hampton, 2004). Moreover, an effective penalty regime could help to build consumer confidence in food and food regulation (Cragg Ross Dawson, 2005).

### Monitoring

Compliance with food safety regulations and standards requires ongoing monitoring and evaluation of business performance to ensure continued conformity. There is increasing recognition that inspections could be inefficient (in terms of use of limited resources), particularly in the case of low-risk or high-performing businesses, and that many objectives of inspection can be achieved through means other than inspection, particularly through giving advice (Hampton, 2004). Hence, many regulators

are starting to use risk profiling to try to concentrate limited resources where they are of most use. However, visiting high risk businesses more frequently must not be at the expense of the quality and consistency of inspection (Griffith, 2005).

In the United Kingdom, the FSA determines how regulation should be enforced through a statutory code of practice that directs and advises local authority EHPs. Until very recently, the food safety code of practice required all businesses to be inspected at least every five years. The new code of practice for local authorities, issued by the FSA in October 2004, allows alternative (non-inspection-based) enforcement strategies to be used with the lowest-risk premises (Food Standards Agency, 2004a). Moreover, following the application of the new EU Food Hygiene Regulations beginning January 2006, food business operators would be required to implement procedures based on Hazard Analysis and Critical Control Point (HACCP) principles. The universal adoption of HACCP will move the focus of food safety inspections from prescriptive rules to an auditing of HACCP procedures.

There are opportunities for government agencies to rely more on private mechanism of food safety control (i.e., ISO 9000, HACCP) to assist their enforcement and monitoring process in terms of inspection frequency ratings. The implementation of the new EU Food Hygiene Regulations in January 2006 will offer an opportunity for the FSA to move away from physical inspections of food businesses that have good systems and a demonstrably good record through formal recognition of the level of consumer protection that is delivered through independently audited industry standards and assur-

ance schemes. This level of cooperation between the public and private sectors would allow local authorities to concentrate limited resources on food enforcement in businesses with high and poorly controlled risk.

However, the opportunity to use private industry schemes to assist the enforcement process could, in turn, bring equity problems that need to be considered. For instance, farm assurance schemes are voluntary, and thereby nonmembership should not be considered by the FSA as a failure by businesses to comply with legislation (the scope and level of private and public standards could differ significantly). There is a danger that the issue of “voluntariness,” which is at the heart of private standards, could be undermined by government interference.

Moreover, the role of the enforcer would change as inspections of good performers could eventually become a “checking a box” exercise. However, this would mean little if the quality and time for inspections are inadequate and if the process is target-driven rather than outcome-driven (Griffith, 2005). Achieving consistency and ensuring minimum standards of food safety, at a time when inspections move towards a more audit-based approach with possibly less-trained EHPs, may become more difficult. This would eventually raise concerns as to the ability of the system to be a strong deterrent for free riders and the kind of private standards the FSA should recognize.

## Conclusions

The potential benefits of coregulation of food safety are self-evident—coercion breeds minimal compliance, resulting in suboptimal improvements to public health, and invariably comes with a significant heavy

monitoring cost. Coordination of activities, public and private, at different stages in the regulatory process (from standard setting to enforcement and monitoring) *should* result in safer food at lower (regulatory) cost as a result of a more effective allocation of scarce resources. The fact that we see relatively little coregulation in practice is, we believe, a reflection of the lack of trust in the food chain and the perceived risk associated with allowing market forces to play a role in the regulatory process.

However, change is afoot in the UK and throughout the EU, where the principles of coregulation are being embraced as a mechanism for moving faster, with greater effect, and/or at lower cost in certain circumstances, where risk assessment and industry structure provide the right prognosis.

It is perhaps a little early to claim there are lessons to be learned for the United States from these recent developments in the UK, but the implications of a more widespread adoption of coregulatory principles and practices for countries outside of the EU are significant, not least from the perspective of international trade. Food safety is widely regarded as a regulatory burden that inhibits the ability of commercial stakeholders (particularly the smaller ones) to compete, yet the clamor for more regulation increases with every new food scare. Coregulation provides a mechanism for moving quicker, in a more targeted (risk-based) way, at lower cost to both the taxpayer and private enterprise. Yet the tension between public and private incentives, the lack of trust, and the challenge of imperfect information represent significant hurdles to be overcome. Thus, any insights that trigger discussion of how this

approach might develop in other countries and how these tensions might be reduced should be encouraged, however different the institutional and political approach to regulation might be.

The work in which we are currently engaged aims to identify which combination of public and private regulation is appropriate for different regulatory objectives at different stages in the regulatory process. The challenge now is to find case studies of best practice, which we will be doing in conjunction with our research partners in the United States, Canada, and Australia. The hope is that these case studies will give pointers to the incentive structures and regulatory contexts in which coregulation is most likely to succeed. It will then rest with the government agencies and industry organizations to decide what, if anything, needs to be changed to the regulatory processes and incentive structures to facilitate the more widespread consideration of coregulation as a more efficient and effective way of improving the safety of our food supplies.

## For More Information

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