Understanding the Complexities of Private Standards in Global Agri-Food Chains

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1 Introduction

Over the last 10 to 20 years, private standards have emerged as an important mode of market governance in many industrialised countries (see for example Jaffee and Henson, 2004; OECD, 2004; World Bank, 2005; Henson, 2006; Humphrey, 2008). This is particularly true of the agri-food sector, although we do see private standards regimes in other sectors. In turn, the evolution of private standards has raised profound questions about the role of public and private institutions in governing food safety, food quality and the wider social and environmental impacts of the agri-food system. Embedded in this dialogue are concerns that private standards can act to exclude developing countries (and small farmers therein) from potentially lucrative international markets, about impacts on the structure and *modus operandi* of global agri-food markets, and the legitimacy of private modes of governance in areas that have historically been the preserve of public regulation (Henson and Caswell, 2001; Havinga, 2006, 2008). In turn, the growth of private standards, it is contended, is challenging the legitimacy of established international institutions, for example the World Trade Organisation (WTO).

Collectively, private standards are remarkably varied with respect to who they are developed by, who adopts them, the issues they address, etc. However, reflecting this diversity, there has been a lack of clarity about which standards count as 'private', the functions they perform and the potential impacts that they have. There is often also a failure to appreciate the distinctions and inter-relationships between public regulation and private standards. This lack of clarity, we would suggest, has served to 'cloud' debates about the impacts of private standards and the trajectory we might expect in their future evolution, and has tended to throw all private standards into the same (often negative) basket. The aim of this paper is to provide some clarity in the on-going discourse about private standards and push back some of the rhetoric we observe; which is, to some extent a relatively simple task, but also potentially challenging. Some of our key messages are as follows:

- The development of private standards, rather than being seen as distinct from public regulation, is very much a response to the ways in which regulatory controls over food safety have evolved, most notably in Europe.

- Private standards vary widely in the form they take and the institutions involved in their development. A key factor here is the functions that private standards perform, of which we distinguish two, namely risk management and product differentiation. In turn, the impacts of private standards vary across value chains according to the functions they perform.

- Private standards have evolved appreciably over time, and will continue to do so, for example in their institutional form, functions performed and attributes governed. It is important not to focus too much on the current standards 'landscape' but rather to see private standards as part of broader trends in value chain governance, in the context of changes in regulatory controls, consumer demand, etc.

We explore these issues in some detail below.

2 What are private standards?

In the literature on private standards (see for example OECD, 2004; World Bank, 2005; Swinnen, 2007; Henson and Reardon, 2005 and the other papers in this collection) surprisingly little attention is given to the defining attributes of these standards in agri-food markets, and how these attributes distinguish private standards from other forms of market governance. Indeed, the term 'private standards' is commonly employed in both academic and policy discourse as if its meaning was self-evident, but particular standards are variously included/excluded. No single definition can totally encapsulate the various forms that private standards take, both generally and specifically in the context of agri-food markets. While we certainly do not attempt to provide a new definition here, we aim to clarify various issues relating to private standards.

Predominantly, the literature employs the terms 'private standards' and 'voluntary standards' interchangeably. Indeed, private standards developed by coalitions of private sector actors are frequently referred to as 'private voluntary standards' (see, for example, OECD, 2004). Implicitly this equates the actions of public authorities with rules backed by legal sanctions (Black, 2002; Havinga, 2006), leaving the territory of voluntary standards to non-governmental entities.[1] In practice, this distinction does not hold. Governments may promulgate standards with which compliance is voluntary, or conversely, they may require compliance with private standards. Indeed, Havinga (2006; 2008) contends that there is a 'blurring' of traditional governance roles in the agri-food system, suggesting the emergence of a continuum between public and private modes of regulation.

To provide clarification on how we define private standards, Figure 1 distinguishes between mandatory and voluntary standards and between standards set by public and private entities. For us, private standards are represented by the far right column; they are standards that are *set* (created) by commercial or non-commercial private entities, including firms, industry organisations, non-governmental organisations, etc. In turn, the extent to which private standards are voluntary depends on the form and level of power wielded by the entities *adopting* those standards; that is the nature of the entities requiring the standard be implemented by another entity (Brunsson and Jacobsson, 2000). Private standards can be adopted by non-state (private) actors; even if they become *de facto* mandatory in a commercial sense through adoption by dominant market actors, there is no legal penalty from non-compliance. However, private standards may be adopted by state actors and invested with statutory power. . In this case, compliance is mandatory, and we refer to these legally-mandated private standards. This process is seen, for example, with the referencing of ISO 9000 in EU directives covering CE marking for telecommunications and electronic products.

Figure 1: Forms of standards

	Public	**Private**
Mandatory	Regulations	Legally-mandated private standards
Voluntary	Public voluntary standards	Voluntary private standards

With respect to the middle column, public standards, the most familiar form is the regulations promulgated by governments that are mandatory within the sphere of competence of the government. However, governments also promote standards that are voluntary. Brunsson and Jacobsson (2000) refer to these as "optional laws". In the food industry, the 'Label Rouge' developed by the French government would be an example.

[1] The distinction between single-company private standards and private standards developed by coalitions of private actors will be discussed below.

The position of a particular standard within the grid in Figure 1 may change over time. It is not uncommon for standards to migrate between cells. For example, the Safe Quality Food (SQF) series of standards was originally developed by the Government of Western Australia, which we would categorise as a public voluntary standard, but they were subsequently acquired by the Food Marketing Institute (an industry organisation representing the US food retail and wholesale sectors), implying reclassification as a private voluntary standard. Further, in the EU organic standards have been promulgated that overlay existing private organic standards. By achieving certification with an approved private organic standard, a producer would in effect be complying with both a voluntary public standard and a voluntary private standard.

The distinction between public and private standards is complicated by recognising the various functions involved in the systems of standards, beyond standard-setting and adoption (Figure 2). These are:

- The introduction and operationalisation of a standard through the formulation of rules and procedures - standard-setting.

- A decision by an entity to adopt the standard - adoption. This can be the same entity that develops the standard (particularly in the case of single-company standards), but does not have to be.

- The implementation of the rule through the application procedures by another entity – implementation.

- Systems of conformity assessment and enforcement to provide assurances that the rule has been implemented as intended (Humphrey, 2008) - conformity assessment and enforcement).

Public and private sector entities can variously perform these functions, most notably in the realm of public voluntary standards and legally-mandated private standards, suggesting a far from clear distinction between public and private standards in this 'middle ground'. Indeed, it is only voluntary private standards that are 'truly private'. Here the setting, adoption, implementation, conformity assessment and enforcement are all undertaken by private entities. At the other extreme, while traditional concepts of state regulation would appear to be 'un-private', in that all of the salient functions are performed by government (as represented in Figure 2) (Picciotto, 2002), new conceptualisations of regulation are ceding a role for the private sector, for example through private firms undertaken conformity assessment on their own compliance with public regulations (Havinga, 2006). Conversely, private standards may build on the public standards infrastructure through their use of accreditation bodies and public laboratories.

Bringing together the foregoing discussion, private standards, as we employ the term below, have two key attributes. First, they are voluntary in that there is no legal compulsion for compliance. Indeed, the entities involved in the setting of private standards have no power to compel implementation of these standards. Rather, the power to bring about compliance is wielded by private adopters (for example supermarket chains) that see value in other private entities (for example food processors and agricultural producers from whom they source) implementing these standards (Brunsson and Jacobsson, 2000). This is closely attuned to the concept of private regulation described by Havinga (2006; 2008). Second, all of the major functions associated with the system of standards are undertaken by private entities, such that there is no appreciable role for state actors. Thus, the standard is set by a commercial (for example a firm) or non-commercial (for example an NGO or industry organisation) private body and is adopted by a (usually commercial) private firm of organisation. Conformity is assessed by a private auditor and the standard is enforced by a private certification body. One of the only potential roles for the public sector in this system of private standards is to establish a credible system of accreditation within which private certification bodies operate (NRC, 1995).

Figure 2: Functions associated with systems of standards

Function	Regulations	Public Voluntary Standards	Legally-Mandated Private Standards	Voluntary Private Standards
Standard-setting	Legislature and/or public regulator	Legislature and/or public regulator	Commercial or non-commercial private body	Commercial or non-commercial private body
Adoption	Legislature and/or public regulator	Legislature and/or public regulator Private firms or organisations	Legislature and/or public regulator	Private firms or organisations
Implementation	Private firms	Private firms	Private firms	Private firms
Conformity assessment	Official inspectorate	Public/private auditor	Private auditor	Private auditor
Enforcement	Criminal or administrative courts	Public/private certification body	Criminal or administrative courts	Private certification body

In adopting this rather restrictive definition, we have employed a stricter definition of private standards, as we outline above, than in some of the previous literature (see for example Aragande *et al*., 2005; WTO, 2007a). Thus, we have excluded relevant ISO standards (for example ISO 22000) because of the International Organisation for Standardisation's (ISO) ambiguous status as a body whose members may be public or private organisations. As a result, we do exclude some important voluntary standards that are set by public agencies, for example Label Rouge in France. Some of the boundaries between public and private standards in the context of contemporary agri-food chains are artificial. There are parallels, which raise even more questions about our delineations, in the blurring of the distinction between 'mandatory' and 'voluntary' in the legal studies literature (Havinga, 2006).

The wide varieties of private standards that have emerged in agri-food chains globally confound attempts to define strict delineators, but here we distinguish between three forms of private agri-food standard:

> **Individual company standards:** These are *set* by individuals firms, predominantly large food retailers, and *adopted* across their supply chains. These are frequently communicated to consumers as sub-brands on their own/private label products. Examples of such brands include Tesco's Nature's Choice and Carrefour's Filières Qualité.
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> **Collective national standards:** These standards are *set* by collective organisations that operate within the boundaries of individual countries, including industry associations and NGOs. These organisations can represent the interests of commercial entities (for example food retailers, processors or producers) or be non-governmental organisations. These and other entities are then free to *adopt* them if they wish. It is important to note, however, that these standards can have international reach. This might occur, for example, through adoption by food retailers which require the implementation along their international supply chains.
>
> **Collective international standards**: These standards are *set* by international collective organisations, including industry associations and NGOs. As with national collective standards, these organisations can represent the interests of commercial entities (for example food retailers, processors or producers) or be non-governmental organisations. By their natures, such standards are designed to be *adopted* and *implemented* internationally.

Table 1: Examples of private standards in agri-food chains

Individual Firm Standards	Collective National Standards	Collective International Standards
• Nature's Choice (Tesco) • Filières Qualité (Carrefour) • Field-to-Fork (Marks & Spencer) • Filière Controlleé (Auchan)	• Assured Food Standards • British Retail Consortium Global Standard • Freedom Food • Ethical Trading Initiative (ETI) • Organic standards • Qualitat Sicherheit (QS)	• GlobalGAP • International Food Standard • Safe Quality Food (SQF) 1000/ 2000 • Marine Stewardship Council • Forest Stewardship Council

The examples provided in Table 1 illustrate how private agri-food standards govern a wide range of product and (predominantly) process attributes. While private standards initially emerged in the area of food safety (for example the British Retail Consortium (BRC) Global Standard and International Food Standards (IFS)), they now encompass environmental protection, ethical trading (for example ETI and FLO standard), animal welfare (for example Freedom Food), organic production methods (for example IFOAM standard), etc. At the same time, individual standards have increasingly extended across multiple process attributes (for example GlobalGAP), such that it is increasingly difficult to distinguish between (say) private food safety standards and private environmental protection standards.

This private standards 'landscape' is highly dynamic, with new forms of standard emerging, in turn inducing changes in the relative importance of particular forms of standard. For example, a number of large UK food retailers established their own private standards in the early 1990s and employed second of third party audits of their suppliers in order to assess compliance (Henson and Northen, 1998). Later, many of these retailers participated in the promulgation of a collective national standard through the BRC. In turn, the scope of collective private standards has tended to become international rather than national (as is seen with GlobalGAP and the International Food Standard [IFS]) or national firm or collective standards are being benchmarked through the Global Food Safety Initiative (GFSI). While these processes have driven broad trends of collective action and the internationalisation of private agri-food standards, at the same time individual firm standards have emerged in 'new' spaces of standardisation of product and process attributes.

3 Why have private standards proliferated and evolved?

In order to understand the proliferation and evolution of private agri-food standards and the emergence of multiple organisations setting standards and pushing for their adoption, it is necessary to situate these tendencies within wider processes of regulatory change and the restructuring of global agricultural and food markets. We contend that key factors here include:

- The reforms of food safety regulatory systems in response to real and/or perceived risks. These reforms include more stringent public standards, a greater emphasis on control of the processes by which food is brought to market and a greater emphasis on the responsibility of private sector food business operators in securing that food delivered to consumers is safe.

- Heightened interest among consumers and businesses in food production processes and their wider consequences, and resultant changes in conceptions of food safety and quality.

- The globalisation of food supply and increased role of coordination economies.

- The trend towards 'privatisation of market governance.

Although most industrialised countries have well-developed systems of food safety regulation, these have been subject to profound change in recent years. Heightened consumer concerns about the safety of food have served to put greater focus on food safety and other quality attributes (Kinsey, 2003). Despite significant advances in agricultural and food technology, high profile food 'scares' in a number of industrialised countries have fuelled consumer concerns and eroded confidence in food safety controls (Henson and Caswell, 1999; World Bank, 2005; Henson and Jaffee, 2008). As a result, consumer confidence has been undermined, with conspicuous instances of food safety failure being seen as 'signals' of system-wide problems.

One outcome of consumer concerns about food safety has been that private sector actors have looked to offset the general decline in consumer confidence by presenting additional guarantees about the safety of the food that they provide to consumers. The origin of produce-origin standards, such as the UK's 'Red Tractor' label, lies in the damage caused by previous food scares. Similarly, the recent proliferation of competing claims by German supermarkets about how they control for pesticide residues originates in the damage caused by revelations about excessive pesticides in fresh fruit and vegetables.

The proliferation of food scares relating to well-established food safety concerns (for example microbial pathogens and pesticide residues), together with the development of new sources of food anxiety whose precise risk factors have been difficult to quantify (such as heavy metals contamination, mycotoxins and Bovine Spongiform Encephalopathy) and 'new' hazards that have become of heightened importance on the political 'radar screen' (for example avian influenza) have resulted in an extension of the scope and rigour of regulatory systems across most of the industrialised world. As a result, firms have confronted new and heightened compliance challenges and looked for mechanisms through which the associated costs can be minimised. We will argue that new and stricter public regulation has been one of the main drivers of the growth of private standards aimed at food safety.

Food safety concerns have led to increased stringency in more 'traditional' product controls, such as tighter limits on pesticide residue levels and the presence of heavy metals. At the same time, both public regulations and private standards have witnessed a shift towards management-based approaches. Most notable are meta-systems such as HACCP and traceability (Caswell *et al*. 1998). This trend reflects scepticism over the efficacy and economic efficiency of technology and/or performance-based approaches and an increasing focus on risk-based approaches to food safety management. Thus Unnevehr (2000) suggests that:

> "There is growing adoption in the food industry of management practices that focus on prevention and control of food safety hazards. Many hazards are expensive to test for and may enter food products at several points in the production process. Therefore, documented production practices, that are verified to prevent and control hazards, are becoming accepted as the most cost-effective means of reducing food safety hazards. While testing and verification are essential for establishing good process controls, testing can never be practical as the only means of monitoring safety."

While firm have considerable latitude in designing how they go about enhancing their food safety controls, the compulsion for such controls to be implemented remain strong (Coglianese and Lazer, 2003). Firms are expected both to develop systems and keep records to show their efficacy, which may be assessed by public or private regulators through audit. At the same time, however, the scope for flexibility forces firms to confront the risks and costs they face and to invest in search costs towards implementing the most efficacious and cost-effective controls, with private standards acting as a mechanism though which these costs can be managed.

While the predominant focus of management-based food safety controls has largely been on the implementation of HACCP in food processing, the increasing importance of traceability and on the management of food safety from 'farm-to-fork' has served to draw attention to the integrity of the

entire supply chain (Humphrey, 2008). Thus, while food safety requirements have traditionally been 'passed down' the supply chain through the requirements of buyers, now explicit technology, performance and/or management-standards are being applied at various levels of the chain. Increasingly, therefore, the ability of firms at any one part of the chain to comply with the regulatory requirements they face is dependent on the actions of their horizontal partners, requiring greater levels of oversight and management of the associated transaction costs.

These trends have provided further impetus to the evolution of private standards such as EurepGAP/GlobalGAP that extend the scope of private governance to production (Henson, 2007). Once again, the development of private standards and the focus on controls over processes along the value chain are, in part, a response to public regulations. Thus, Regulation (EC) No 178/2002, which established the European Food Safety Authority, raised the issue of traceability and controls along the value chain, stating that (CEC, 2002):

> "In order to ensure the safety of food, it is necessary to consider all aspects of the food production chain as a continuum from and including primary production and production of animal feed up to and including sale or supply of food to the consumer because each element may have a potential impact on food safety"

Similarly, an EU summary of import conditions for seafood reiterates the case for process controls (European Commission n.d):

> "The food law of the European Union implements the principle of quality management and process-oriented controls throughout the food chain - from the fishing vessel or aquaculture farm to the consumer's table. Spot checks on the end product alone would not provide the same level of safety, quality and transparency to the consumer."

Furthermore, cutting across attempts to enhance the efficacy of regulatory systems in a number of industrialised countries, and most notably in Europe, governments have progressively shifted responsibility for food safety to the private sector, in turn establishing a 'legal position' for private standards. For example, the preamble to the European Union's General Food Law legislation states that (CEC, 2002):

> "A food business operator is best placed to devise a safe system for supplying food and ensuring that the food it supplies is safe; thus, it should have primary legal responsibility for ensuring food safety."

The implementation of this legal responsibility across the EU varies according to the differing standards of legal liability, which also has an impact on the drive to private standards. Whereas much of Europe accepts a warranty defence (i.e., if the supplier states that the food is safe, the buyer is not legally liable) against prosecution for the sale of unsafe food, in the UK food business operators are strictly liable for food safety (i.e., there is no excuse) and the one defence specified in law is that of 'due diligence'. The adoption of private standards such as GlobalGAP and the BRC Global Standard are precisely designed to provide such a due diligence defence.[2] The 1990 Food Safety Act in the UK was a major factor motivating the initial evolution of private food safety standards by a number of multiple food retailers (Henson and Northen, 1998) and the eventual promulgation of the BRC Global Standard (Henson, 2007).

Alongside changes in the scope and 'mechanics' of the regulatory system (as we describe above), we can expect further impetus to the evolution of private controls. This is well illustrated by the historic evolution of private food safety standards in Europe. The BRC Global standard was subsequently adopted 'word-for-word' by the Dutch food retailing sector through the CBL-NRC code (Havinga,

[2] The second paragraph of the BRC Global Standard Food website refers specifically to it role in providing a due diligence defence.

2006), that was coming under similar regulatory pressure to enhance food safety controls. In turn, a collective of German and French food retailers developed their own IFS Standard, effectively emulating the evolution of a collective private food safety standard in the UK. In this way we have seen the rapid diffusion of private food safety standards across European countries, initially 'sparked' by the establishment of a collective private standard in one Member State.

In addition to these regulatory and food industry factors, broader demographic and social trends have altered the expectations and demands of consumers with respect to the safety and quality of food (Buzby *et al.*, 2001; Jaffee and Henson, 2004). These attributes encompass the manner in which products are produced (for example organic versus conventional agricultural production methods) and the existence of substances in food that are perceived to be unsafe, including those purposefully used in food production (for example pesticides and hormones) and contaminants (for example PCBs and dioxins). Thus, food safety is no longer defined simply as 'fit for human consumption', but rather in terms of a wide array of safety attributes (Reardon *et al.*, 2001) that range from search, through experience, to credence attributes. A wide range of 'quality' attributes encompassing impacts on the environment, animal welfare, welfare of workers, and so on, have also been added to the consumers concerns. Such attributes are almost universally credence in nature. As a result, consumers are looking for greater and more reliable (or at least what is perceived to be more reliable) information and assurance about the nature of the foods they are eating (Jaffee and Henson, 2004; Kinsey, 2003). A wide range of standards, including organic, SA 8000, Ethical Trading Initiative, Fair Trade and Freedom Food, have emerged in this context.

All of these changes have taken place in the context of globalisation and its profound transformations in global agri-food markets (Reardon and Barrett, 2001; Fold and Pritchard, 2005; Busch, 2000; Busch and Bain, 2005). Increasingly, supply chains for agricultural and food products extend beyond national boundaries, facilitated in part by new food, communications and transportation technologies and a policy environment that encourages more liberal international trade (Henson and Reardon, 2005; OECD, 2004; Fulponi, 2005; Nadvi and Wältring, 2003). Global sourcing creates new sources of risk as food is subject to greater transformation and transportation and the fragmentation of supply chains across multiple enterprises, while large distances create challenges for coordination and control (Humphrey, 2008). At the same time, globalisation brings together diverse food production systems in terms of producer characteristics, regulatory frameworks, environmental conditions, technical expertise, etc. Where dominant players have made heavy investments in brand capital, the negative consequences of even a single food safety failure tend to breed high levels of risk adversity. Actions by dominant players to manage food safety can have profound implications for actors at the other end of the supply chain, despite the fact that they may be geographically, economically and/or politically distant. Although there are limits to the extra-territorial application of national laws, legislation in developed country food markets increasingly specifies conditions of production and processing in food exporting countries and the legal responsibility placed on to business operators is a further driver to the development of private standards and process controls that span national boundaries.

The emergence of private standards as a key mode of governance is not unique to the agri-food sector. We have seen the evolution of new rule-setting, conformity assessment and enforcement institutions, including standards-setting bodies, auditors and certification agencies, across many sectors (NRC, 1995; Hatanaka *et al.*, 2005), and more broadly the perpetuation of an audit 'industry' and 'culture' that has served to propagate the role that standards play as a mode of regulation (Power, 1997). Where the agri-food sector differs, however, is the evolution of private process standards. In most other sectors, private product standards play the more critical role, acting to codify information, manage interface complexities and reduce transactions costs. Examples include standardised colour descriptions for textiles and electrical standards designed to facilitate modular designs and product interfaces. While product standards do exist in the agri-food sector, these remain more the realm of public standards, while private standards have tended to concentrate on process attributes. We would argue that this reflects the frequency and intimacy with which consumers interact with food (Murdoch and Miele, 1999) and the importance of established 'norms of consumption' (Dixon, 1999; Goodman and Redcliffe, 1991), such that the safety and healthiness of food products and the wider socio and

ethical implications of agri-food systems take on great importance. While certain of the credence attributes increasingly associated with food, for example labour conditions, are observed in other sectors, for example clothing, we fail to see the plethora of process attributes in consumer choices, nor such heightened importance.

4 What do private standards do?

The key role of standards, whether public or private, mandatory or voluntary, is to facilitate the coordination of agri-food value chains across space and between producers/firms and, in so doing, to transmit credible information on the nature of products and the conditions under which they are produced, processed and transported (Humphrey and Schmitz, 2001; Humphrey, 2008; Henson, 2008). Reflecting the intersection of changes in consumer demand, regulatory systems and the structure and *modus operandi* of value chain, that we outline above, increasing emphasis is being placed on credence characteristics for which information costs are typically high. Because credence characteristics are not directly observable on the basis of the intrinsic attributes of the product itself, buyers must rely on the information they are provided by sellers. Standards provide a mechanism through which the costs of interpreting and verifying this information can be managed (Henson, 2008). Specifically, written standards provide a 'common language' between buyers and sellers for describing product and process attributes, while systems of conformity assessment reduce verification costs (NRC, 1995). In the case of private standards, verification is performed through a system of certification, which may in turn be governed by an allied system of accreditation to establish and maintain credibility.

Understanding why private standards have emerged as a predominant vehicle of governance in agri-food chains and why private standards vary in their institutional form, requires us to recognise the motives for efforts towards coordination. The global value chains literature recognises two distinct motives for explicit coordination in value chains; that is direct coordination of activities between enterprises. The two reasons are namely risk management and product differentiation. Humphrey and Schmitz (2001) argue that firms control risk through providing non-standard levels of assurances about factors such as reliability of delivery, product quality, product safety, production processes, etc. Specifying these non-standard assurances requires inter-firm coordination. At the same time, standards provide a mechanism for the transmission of information where buyers look to purchase non-standard products, normally as a means to competitive advantage through product differentiation.

The value chain approach also emphasises the constant search for ways to reduce the costs of coordination, and in particular the role of codification (Gereffi, Humphrey and Sturgeon, 2005). Standards codify arrangements for handling risk and product differentiation. For example, introducing global standards such as ISO 9000 has the effect of standardising quality systems across countries, so that buyers and suppliers have a common language to recognise and discuss quality issues. The costs of vertical coordination are reduced and transactions facilitated. At the same time, ISO 9000 and other standards shift the obligations and the costs of meeting the standard from the buyer to the seller. Without an established quality standard, the buyer would have to search out companies that meet its quality requirements and possibly pay a premium for requiring a non-standard level of quality. With the standard, it is the supplier that has to gain certification and bear the risk that the investment in certification may not produce a return. However, by taking this route, the buyer also sacrifices product differentiation. The suppliers will be certified to the quality standard that is available to competing firms.

The literature on agri-food value chains likewise emphasises risk management and product differentiation, although it is not normally recognised that private standards are variously directed at these functions. For example, Young and Hobbs (2002) emphasise product differentiation as a driver of value chain coordination:

> "Food safety concerns have led to the development of 'integral chain-care' tools such as social accountability, good agricultural practice (GAP), total quality management, and HACCP

(hazard analysis and critical control point). Implementation of such tools throughout a cross-border supply chain enables chain partners to ensure the quality and safety of their products and guarantees."

van Roekel *et al.* (2002),in contrast, associate value chain coordination with risk management:

> "Food safety concerns have led to the development of 'integral chain-care' tools such as social accountability, good agricultural practice (GAP), total quality management, and HACCP (hazard analysis and critical control point). Implementation of such tools throughout a cross-border supply chain enables chain partners to ensure the quality and safety of their products and guarantees."

The plethora of private standards in agri-food chains addresses both of these issues. Thus, we see two distinct categories of standard in agri-food chains, following broadly the categorisation of Aragrande *et al*. (2005):

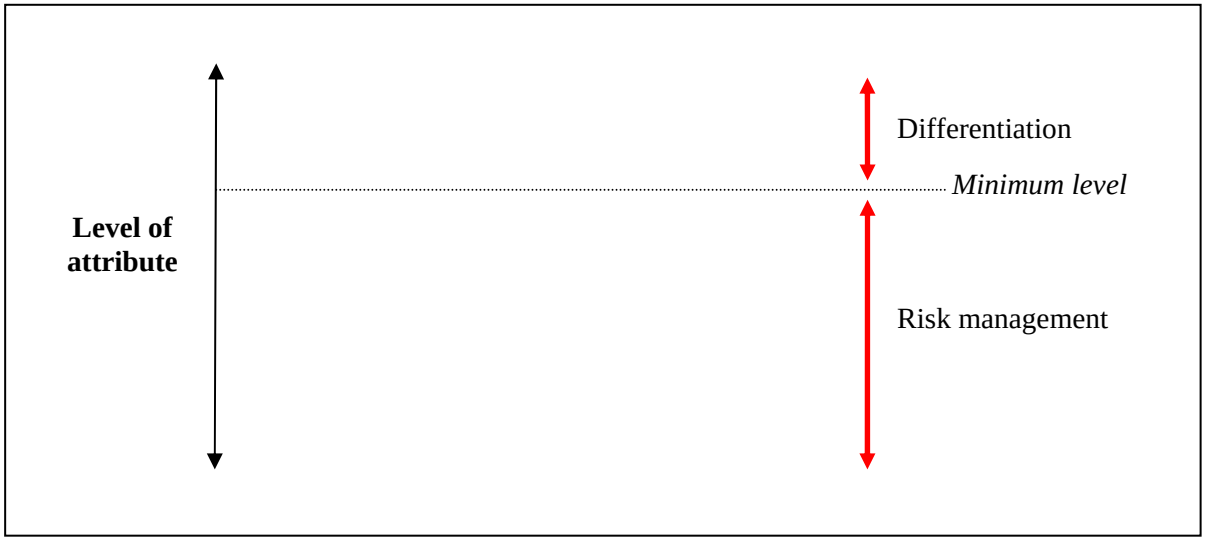
> **Risk management standards**: The predominant role of these standards is providing a level of assurance that a product is in compliance with defined minimum product and/or process requirements.
>
> **Product differentiation standards**: These standards are mainly aimed at differentiating the firm and/or its products in the 'eyes of the consumer'.

We will argue below, that distinct actors in agri-food chains may prioritise the objectives of risk management or product differentiation differently and use distinct forms of standards to achieve these objectives. It is broadly possible to categorise most private standards into one of these two categories, suggesting that they have distinct functions. At the same time, we recognise that some private standards do not neatly fit into these categories, but rather have dual functions.

Recognising that standards act as a mechanism for communication of information with respect to product and process attributes, we would argue that risk management and product differentiation standards operate variously along the continuum of a particular attribute relative to a defined minimum level (Figure 3). Thus, risk management standards are employed to ensure that a product is endowed with at least the minimum acceptable level of the attribute, as demanded by the market and/or required by regulations. This is perhaps seen most clearly with food safety attributes, where minimum requirements may be specified by regulations. Beyond this minimum level, standards act to differentiate the product according to this same attribute. Across attributes, the position of the minimum along the spectrum of possible levels will differ, and thus we would expect the relative role of risk management and product differentiation standards to diverge. This is represented in a 'stylised' manner in Figure 4. Thus, risk management standards tend to predominate for food safety, where the minimum level is high and there is little scope for differentiation. Conversely, the minimum level is low for worker rights and animal welfare, leaving substantial scope for differentiation and, commensurately, a major role for product differentiation standards.

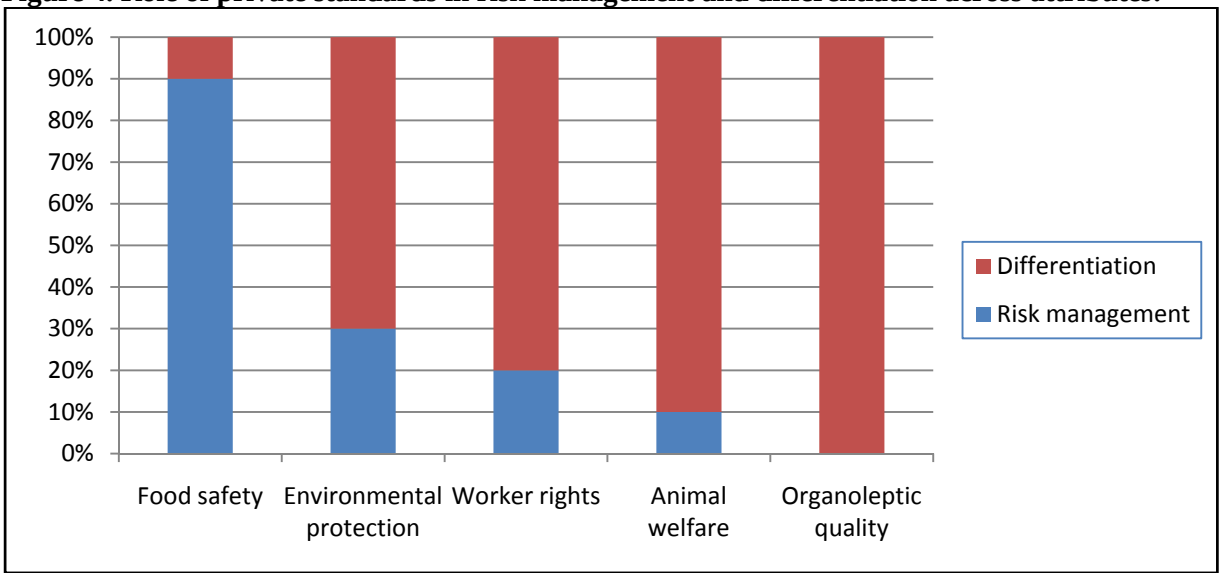
The spectrum of attributes governed by risk management and product differentiation standards is, of course, far from static. Across all of the attributes governed by private standards we would suggest that there is an upwards trend in the level of the minimum level as consumer expectations and/or regulatory requirements are enhanced. This suggests that the territory currently governed by product differentiation standards will cede ground to risk management standards, while product differentiation standards will shift their focus to attributes where there remains substantive scope for differentiation. Thus, private standards shift over time in 'attribute space', both in terms of the specific attributes they govern and the levels of those attributes. We can see this, for example, with GlobalGAP, initially a risk management standard, which is moving beyond food safety attributes to include environmental protection and worker rights.

Figure 3: Private standards for risk management and product differentiation



Risk management standards essentially function to ensure buyers have sufficient control over production processes in order to ensure that critical levels of product and process attributes are attained. They are not designed to highlight or enhance product or process characteristics, but on the contrary to guarantee compliance with univocal and predefined standards (Aragrande *et al*., 2005). Historically, risk management standards have focused predominantly on food safety attributes. However, threats to brand image can arise from a variety of sources, the scope of 'risk control' standards can expand. For example, the draft GLOBALGAP standard for shrimp refers not only to food safety, but also environmental impact, mangrove preservation and impact on local communities, including land rights. Overall however, such standards have tended to emerge as a mechanism to achieve and demonstrate compliance with regulatory requirements (as in the case of the 'due diligence' defence in the UK) and/or to manage regulatory compliance costs, or conversely to 'plug' gaps in regulatory controls (Henson and Reardon, 2005). In the latter case, private standards may be established to pre-empt regulation (Lutz *et al*., 2000); either acting to convince government that industry is able to 'self-regulate' or enabling firms to capture the benefits of 'sunk' food safety investments (Reardon *et al*., 2001). It is important to recognise, therefore, that rather than being distinct from regulation, private standards are closely attuned to the actions of government in the sphere of food safety.

Figure 4. Role of private standards in risk management and differentiation across attributes:



In addressing these issues, private risk management standards incorporate many of the same tendencies as seen for public food safety standards (Humphrey, 2008), and especially regulation. Process standards based on third-party certification of production, handling and processing are prominent. These standards tie into the increasing use of management-based meta-standards (Coglianese and Lazer, 2003), for example the HACCP approach, that increasingly pervade regulatory instruments globally. Private risk management standards also make extensive use of the public standards infrastructure, for example accreditation systems and public laboratories. As with public standards, there is also an increasing challenge of establishing equivalence in order to enjoy economies of scale and scope (Henson, 2007). This is not to suggest, however, that private risk management standards solely tend to 'shadow' the evolution of public standards, although we would suggest that this is the predominant trend. Rather, private and public standards variously lead innovations in approaches and inevitably induce changes in one another as more efficient and effective ways of doing things are discovered.

While there is a tight inter-connection between private risk management standards and food safety regulations, the motivation for establishing private standards in this realm is not simply compliance in the pursuit of social public health objectives (Aragrande *et al*., 2005). Rather, private risk management standards provide a powerful tool for the protection of brand capital, and wider erosion of consumer trust. This may reflect the use of 'name and shame' policies by government that serve to highlight instances of non-compliance (as in the UK, for example), as well as media reporting that serves to make weaknesses in food safety controls more visible to consumers (Kaspersen *et al*., 2003). Thus, the propensity of private firms to implement private risk management standards may differ according to the food safety concerns of their customer base, level of corporate risk adversity, level of development of own brand capital, etc.

In contrast to risk management standards, product differentiation standards are established entirely in the realm of product and process attributes that are unregulated. Their role is to enable firms to supply blends of product and process attributes, and to communicate these to consumers, that set them apart from their competitors. Thus, the evolution of product differentiation standards can be seen as a result, and also an integral part, of the trend towards quality-based competition in agri-food markets (Busch, 2000; Busch and Bain, 2004). In implementing private product differentiation standards, firms face a precarious balance act between managing transaction costs and setting themselves apart from their counterparts in a manner that is both difficult and costly to emulate. It is not surprising, therefore, that the forms taken by these standards and the attributes they seek to govern are subject to ongoing flux, with the efficacy of systems of standardisation as critical to competitiveness as attribute-based differentiation itself.

5 Characteristics of risk management and product differentiation standards

Reflecting the distinct functions of private risk management and product differentiation standards, they tend to exhibit distinct structural and operational characteristics. As above, while the plethora of private standards renders any attempts at defining strict groupings, we would contend that standards that have risk management or product differentiation as their chief function do share similar characteristics. Further, differences in the characteristics of risk management and product differentiation standards appear to exhibit 'sensible' relations with their functions. Table 2 summarises the key defining characteristics of private standards that we would categorise as either risk management or product differentiation in their function, with some examples as illustration.

We approach this issue through asking the question: 'who develops these different standards and why?"' We distinguish between three broad categories of standards creators and adopters: retailers, producers and specialist standards creators, including NGOs. The reason for taking this approach is that standards are part of company strategies, with risk management addressed to issues of regulatory compliance and brand protection, while product differentiation is one of the strategies used for

gaining market share. We will argue that these three different groups to standards in different ways to pursue these interests.[3]

Retailers are the main (if not unique) proponents of risk management standards. Food retailers, which tend to be the lead firms in European agri-food value chains, have a primary interest in establishing and maintaining consumer confidence in food safety and ensuring regulatory compliance. Included in this category are the BRC Global Standard, International Food Standard, GlobalGAP and SQF, among others. Predominantly, the *standard-setting process* and the *adoption* of these standards have been led by food retailers, which adopt them for their suppliers along the value chain in a 'top down' fashion. Mostly these standards are promulgated collectively, usually through existing industry organisations. Insofar as these standards are about establishing a minimum level of food safety and regulatory compliance, there is a strong motivation to reduce transactions costs by establishing collective standards. Collective private risk management standards provide a means for retailers to reduce the costs of governing food safety along their supply chains, while expanding the population of suppliers from which they can procure. More generally, they act as club goods, improving market functioning and promoting the competitive advantage of those firms that participate (Casella 1997; 2001). Insofar as the value chains in which food retailers participate increasingly extend beyond national boundaries, it makes sense for private standards to be established internationally. Given that risk management standards do not form the basis of intra-firm competition, these standards are by and large not communicated to consumers, but rather are integral to management systems through which brand value is created and maintained.

Table 2; Characteristics of risk management and product differentiation standards

Characteristics	Risk Management Standards		Product Differentiation Standards
Proposer institutions	Collective		Collective Individual firms
Proposer sectors	Food retail		Producers NGOs
Geographical coverage	Supranational		Predominantly national or sub-national
Visibility to consumers	Invisible: Standard is business-to-business		Visible: Standard is presented to consumers with a label of brand mark
Examples	• BRC Global Standard • International Food Standard • GlobalGAP • SQF 1000/2000 • Ethical Trading Initiative	• Nature's Choice • Assured Food Standards	• Freedom Food • Organic standards • Marine Stewardship Council • Qualitat Sicherheit • Red Seal • Swedish Seal

It should be observed, however, that once a standard is created and adopted, it then becomes an arena in which other groups can express their interests. This is seen clearly into tendencies within GLOBALGAP. On the one hand, the body created by UK and Dutch supermarkets in the 1990s to develop this project, EUREPGAP (now GLOBALGAP) has acquired a 'life of its own' as a standards-setting body whose business model depends on extending the scope of standards and their coverage through adoption and implementation. On the other hand, as the standard becomes more important, so other parts of the food business take an interest. In the case of GLOBALGAP, this has led to the changing governance structure of that reflects the legitimate interests and inputs of producers in influencing how the standard is defined and operated.

[3] The arguments in this section draw on the work of Aragrande *et al*. (2005) and subsequent developments of their argument by Humphrey (2008).

Product differentiation standards, by their very nature, are designed to distinguish between firms and/or products on the basis of product or process characteristics of interest to buyers. In most cases, therefore, such standards are directly communicated to consumers through a label or emblem, permitting direct communication to the consumer and enabling product differentiation to be maintained through the value chain.

One well-known example of a retailer-developed product differentiation standard is Tesco's Nature's Choice. The nature of the standard highlights the way in which standards are used for competitive advantage. It operates in part as a mechanism through which minimum food safety requirements are enforced. Indeed, the GlobalGAP and Nature's Choice standards are sufficiently close that third party audits of suppliers are often undertaken for the two standards simultaneously (Humphrey, 2008). Simultaneously, the standard is communicated directly to consumers, and thus clearly aims to differentiate. The basis of this differentiation is a range of process attributes, in which food safety is embedded but not directly alluded to (www.tescofarming.com/v2/tnc-whytnc.asp):

> "Tesco Natures Choice was first introduced in 1991 to control chemical usage and develop environmentally sustainable production standards for our growers. We were the first supermarket to introduce a formal code of practice and have since revised the scheme to become a world-wide stand alone scheme, which is independently audited."

It is for this reason that this particular standard has been placed straddling the two motivations for standards in Table 2.

Producer groups/organisations develop standards "from the load". The standards are used to distinguish agricultural and food commodities from particular regions or based on particular production systems. This can take a variety of forms. For example, the Kenya Flower Council standard is designed to assure buyers that Kenya flowers producers are meeting or exceeding current regulations and buyer expectations. In other cases, producer-developed or adopted standards are meant to differentiate the products of one producer as compared to another. Such differentiation can also be done as a pure branding exercise (Danish butter, New Zealand lamb) without reference to standards. The use of standards as the pinnacle for brand development is designed to enhance the credibility of claims about factors such as safety or animal welfare. This means that, as in the Case of Tesco's Nature's Choice, producer-developed standards frequently combine risk management and product differentiation elements. A good example is the UK Assured Food Standards. These standards were originally developed by a coalition of producer organisations. Products that comply with these standards are labelled with a Red Tractor symbol that has been promoted as a symbol of quality, defined along a range of product and process attributes, which vary by commodity (www.redtractor.org.uk/site/REDT/Templates/Home.aspx?pageid=1):

> "The Red Tractor is an independent mark of quality that guarantees the food we're buying comes from farms and food companies that meet high standards of food safety and hygiene, animal welfare and environmental protection."

The Assured Food Standards provide a more explicit example of product differentiation on the basis of food safety, which at first sight seems to confound our classification. However, in order to appreciate how and why these standards were implemented and have evolved it is critical to appreciate their historical context. The Red Tractor symbol has been a key element of strategies directed at restoring consumer confidence in the safety of a range of agricultural commodities following on from a spate of food safety scares including BSE, Salmonella in Eggs and chicken, Foot and Mouth Disease, etc. Thus, we can see the Assured Farm Standards as first differentiating producers that are 'safe' from 'unsafe', and then providing a platform for the rebuilding of value of agricultural commodities produced in the UK, not on the basis of their 'Britishness', but instead because they are subject to external oversight.

The predominant focus of producers, therefore, is on collective product differentiation standards, that can variously focus on food safety and/or other attributes. Given that most coalitions of producers do not extend across national boundaries, these standards tend to be national in scope. The aim of producers is to communicate to retailers and consumers that their food is safer and/or better quality than that from other producers, whether in another geographical region, using different production methods, etc. In order to facilitate communication, and preserve identity through the value chain, there is a need to invest in labels linked to defined standards. Indeed, such labels can be seen as an effort to establish brands further down the value chain, enhancing the market power and returns of participants (Duguid, 2003). If a group of producers is successful in developing a brand that consumers want, despite their leading role in the value chain, retailers will be forced to source from the brand owners, reducing their sourcing options and power (Humphrey, 2008). It is not unsurprising, therefore, that retailers have an interest in undermining the product differentiation standards of producers or, alternatively, gaining control over them. While producers and producer organisations may have an interest in using collective standards that are invisible to consumers, to the extent that they provide assurances to retailers about quality, safety and conformance to legal requirements, these will struggle to gain prominence in the face of retailer-driven standards that are presented to consumers through their own brands.

Finally, in addition to "standards from above" (retailers), and "standards from below" (producers), we a range of private standards from standards-setting organisations, including private companies and NGOs, is also evident. In the case of NGOs, such standards are vehicles through which particular social or ethical agendas are promoted through the vehicle of consumer demand. Governments tend to be active in supporting the promulgation of private product differentiation standards, for example on the basis of regional identity or distinct production systems, as with Label Rouge in France. Non-governmental organisations also have an interest in the use of collective product differentiation standards, using markets for agri-food products to promote practices at various levels of the value chain that are deemed to be socially or ethically desirable. Examples include organic production methods, fair trade, labour conditions, etc. While many of these standards are initially established nationally, given that the value chains these organisations intend to influence are global, there is a drive towards the establishment of standards internationally or at least for national standards to be benchmarked internationally. Critical to the success of this strategy is the ability to brand products that employ the desired practices, and to tie these brands to strict compliance with particular standards in order to prevent them from being undermined by ‘inferior’ competitors. At the same time, as consumers come to recognise and demand these brands, retailers have an interest in capturing them in order to secure a greater proportion of the value that is created and to maintain power over the value chain.

6 Trends in private standards:

In the previous sections it has been argued that the private standards landscape is being structured by both the changing nature of public regulation and the interests and competitive strategies of organisations ranging from retailers, to producers and NGOs. Other actors could be added to this list, including governments and business associations in developing countries. We can consider likely future trends in private standards on the basis of the competing interests of these many different actors.

First, with respect to retailers, one of the major standards challenges is to reduce the costs of risk management. It has been argued that private standards are a means of doing this, as they transfer the responsibility for risk management and value chain and outsource the standard-setting process. We expect this to continue. The commitment of major food retailers and processors to the Global Food Safety Initiative (GFSI) that benchmarks private food safety standards is one indication of rationalisation of the private standards landscape. We might also expect increased reliance on a range of widely-available standards as tools for supply chain management. These would include the ISO 14,000 environment standards, the ISO 9000 family of quality standards, and processing and farm standards. We might also see greater use of the ISO 22,000 standard for food safety management

systems. The active involvement of retailers in standard-setting is likely to decline. Arguably, they provided the initial inducement of private governance of food safety and can now 'stand back'.

At the same time, retailers will continue to focus on product differentiation - notwithstanding the return to cost-cutting and value for money in the current recessionary environment. It was argued above that product differentiation is a never-ending process, as the attributes that begin as differentiators become generalised and incorporated into baseline product characteristics. The critical question is whether the search for new attributes, and in particular credence characteristics, will involve codification and third-party certification. Promotion of new standards has been seen in the UK with supermarket adoption of Fairtrade products. As retailers seek new hooks for capturing consumer attention, issues such as sustainability, environmental protection and food miles may be emphasised. It is not clear, however, if such claims will be backed up by new standards, the extension of existing company standards to new areas, such as sustainability, or no codified standards at all. If new standards are developed, these are likely to emanate from specialist standards-setters rather than be created by the retailers themselves. Indeed, the legitimacy of standards in many of these areas is arguably dependent on their being set by broad-based coalitions of stakeholders, including producer organisations and NGOs.

Second, standards matter to exporting countries. There is a great deal of concern about the impact of private standards, predominantly on developing countries and, more broadly, the governance of value chains. The increasing prevalence of private standards and the ways in which that they are implemented clearly has direct consequences for food production systems in developing countries, as well as their broader trade competitiveness. There are claims that the proliferation of standards erects new barriers to trade that preclude developing countries from high-income markets (see for example Garcia Martinez and Poole, 2004), although there is also evidence that standardisation and certification reduces transaction costs and acts as a catalysts to processes of upgrading in value chains (Jaffee and Henson, 2004).

Given the importance of standards for developing countries, one would expect continued efforts to influence the creation and implementation of private standards. One expression of this concern has been the focus on private standards at the WTO. Questions are already being asked about the degree to which private standards can be governed through established institutions (see for example WTO, 2007b; Gascoine, 2007), and whether rules are needed to set a framework in which private entities establish, implement and adopt their own standards. Equally important is the involvement of developing country firms and producer associations in the governance of private standard-setting. This has been seen most clearly in the evolution of GLOBALGAP, which began life as an organisation created by European retailers, but which developed a membership and governance structure that included significant producer representation (from within Europe and beyond) in both its technical committees and on its main board. We also see agri-food standards being created by bodies whose governance structures are much more oriented to producer representation, such as the Forest Stewardship Council (FSC) (Dingworth, 2008) and the Marine Stewardship Council (MSC). We might also expect to see continued attempts to brand national products through schemes such as ChileGAP or the Kenya Flower Council certification scheme, although it is not clear how successful the schemes are likely to be.

It follows that product differentiation standards, usually linked to some form of label, will be increasing employed as the basis of market competitiveness. Here, we might see producers in developing countries look to collective private standards as a means to establish a brand identity and 'wrestle' away some of the power of leading firms in the value chains they supply. If so, private standards will be less of a 'Northern phenomenon' in the future. The ability to gain competences in the setting and implementation of private standards will then become a key resource for international competitiveness for developing countries. This will most probably be seen first in China, India, Brazil and the like. More broadly, product differentiation standards will be an increasingly evident 'battleground' within value chains, with attempts to maintain or change established power relations fuelling efforts to gain influence over standard-setting.

Thirdly, the dynamics of standards-setting may themselves change substantially. The main drivers of standards adoption are importing countries and firms in these countries, albeit within the constraints set by the WTO Agreement on the Application of Sanitary and Phytosanitary Measure**s**. So far, the OECD countries have been the main drivers of public regulations and private standards. If patterns of food trade begin to change, this dynamic could also change. For example, China's 'Green Food' initiative seeks to secure food safety and reduce pesticide inputs, but on the basis of product controls rather than process controls and certification (IFAD, 2005). This has been presented as an alternative route to organic production. It has no traction outside of China as an organic standard, so that Chinese exporters are unable to use it. As, however, China increases its food imports, and if the Green Food label becomes an important safety and quality indicator in the domestic market, so food exporters to China might consider adopting this standard. One might see similar trends in meat and dairy as consumption of these products increases in rapidly growing middle-income countries.

Finally, we have argued that private risk management standards, at least in the realm of food safety, have largely developed in response to regulatory changes, most notably in the UK and the EU more widely. We would argue that regulatory requirements will remain a driver of risk management standards. At the same time, however, there are signs that government is seeking to promote adoption of private standards, seeing them as an efficient and effective way in which to pursue public food safety objectives. Thus, the UK Food Standards Agency (FSA), for example, has instructed enforcement authorities to take account of membership of a 'recognised' farm assurance scheme in determining the frequency of inspection of production facilities (FSA, 2008). As such private standards are increasingly codified by regulatory authorities they will have an increasing interest in their governance. Thus, as far back as 2002, the UK Food Standards Agency (FSA) issued guidance to farm assurance schemes on 'best practice' and has since assessed the extent to which this guidance has been taken up (Kirk-Watson, 2008). Might we see governments go one step further and make these standards legally-mandated?

7 Conclusions:

The on-going evolution of public and private governance of agri-food chains has brought about a broad range of overlapping and inter-related standards and associated systems of conformity assessment and enforcement, originated from individual private firms, business organisations and regional, national and/or supra-national government (Humphrey, 2008). In contrast to much of the existing literature, we see close relations between the efforts of private entities to establish and adopt standards and the reform of regulations, predominantly for food safety, suggesting that we should not see private standards and regulations as distinct entities. Thus, in many agri-food value chains, regulations and private standards operate side-by-side, although with significant variation in their form and the degree of inter-relationship. With respect to private standards, on which we have focused above, we see four key dimensions of diversity: 1) private company standards versus collective private standards; 2) standards for risk management versus standards for product differentiation; 3) standards directly linked to brands/symbols that are communicated to consumers ('visible' standards) versus business-to-business standards ('invisible' standards); and 4) standards that are set nationally versus standards that are set internationally. The fact that private standards play very different roles across and along agri-food value chains belies general conclusions about their impacts.

In considering the impacts of private standards it should be remembered that their key role is to reduce information costs for buyers, especially in the context of concerns about the credence characteristics of products. The need for such information increases as firms seek to manage the risks they face, both from regulatory compliance and consumer expectations, and to differentiate products (Humphrey, 2008). Private standards provide an effective mechanism for dominant supply chain actors to achieve these objectives in a manner that keeps transaction costs under control. While private standards can enhance the overall efficiency of agri-food value chains, leading to reductions in aggregate information costs, they also function to redistribute these costs along supply chains,

predominantly from dominant buyers (notably retailers) to their suppliers (notably food processors and producers). This suggests that the impact of private standards and their allied systems of certification is somewhat ambiguous, while having profound effects on the nature and basis of competitiveness within value chains, both at one level and across levels. For example, while overall information costs may be reduced, through the setting of a collective standard in lieu of individual firm standards, the remaining cost could be redistributed within the chain, through third party certification. These costs may not include the 'obvious' and more visible investments in compliance and certification, but also changes in prices. Further, where all participants at a particular level are required to adopt a standard, the key issue is not just the level of these costs, but differences in costs across participants.

While we can envisage on-going penetration and evolution of private standards across growing array of product and process attributes, a key factor influencing these processes is the response by governments, nationally and internationally. The increasing predominance of private standards as systems of governance in global agri-food systems has profound implications for the role of established (predominantly public) institutions, such as the WTO. It is important to recognise, however, that we are seeing parallel (although interconnected) governance processes in the realm of public regulation and private standards, nationally and internationally. For example, it is possible to observe efforts towards standards harmonisation and equivalence (which is termed benchmarking in the realm of private standards) across both public and private standards. Recognising that private standards regimes are closely attuned to the regulatory activities of government, most notably in the contentious field of food safety, provides a rather different optic on whether private standards are a 'problem' that needs to be reigned in, or simply a new form of value chain governance that will evolve in the future as the governance of value chains has changed in the past.

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