Administrative burdens in the European food industry

With special attention to the dairy sector

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October 2008
Report 2008-066
Project number 20964
LEI Wageningen UR, The Hague

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Report 2008-066
ISBN/EAN 978-90-8615-267-4 ; Price € 15 (including 6% VAT)
83 pp., fig., tab., app.

This report investigates the relationship between administrative burdens and competitiveness in the European dairy industry. A firm perspective is used. The relationship between administrative burdens and competitiveness has been broken down into four aspects: innovation, deployment of food safety and quality systems, food labelling and supply chain transparency.

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LEI is ISO 9000 certified.

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Preface

Two years ago LEI and Wageningen University carried out a study for the European Commission DG Enterprise and Industry on the competitiveness of the European Food Industry. In November 2007 that study played an important role in a conference on this issue in Brussels, where European Commission Vice-President announced the installation of a High Level Group for the Food Industry. Recently a follow-up study has been commissioned to the same project team, to study a number of issues in more detail for the dairy industry as a representative sector in the food industry. One of the topics of this study was the problem of administrative burdens. This background report presents the results of that study. They will be integrated with other topics in a final report published by the European Commission.

Harry Bremmers of Wageningen University developed the methodology of this part of the research, with contributions of the co-authors. The e-questionnaire was made operational by John Doornbos. Several students from Wageningen University helped to contact the potential respondents. In cooperation with the Universities of Bonn, Bologna (both in the MoniQa network) and Sao Paulo we hope to improve the response to the survey for future scientific work. We thank the respondents in the dairy industry who used their valuable time to answer our survey. We thank DG Enterprise and Industry for their support in this study. We hope and expect that the results will be useful in the discussions of the High Level Group and that they are inspirational for future scientific work on this issue.

Prof. Dr R.B.M. Huirne
Director General LEI Wageningen UR

Summary

The goal of this contribution to the assessment of the competitiveness of the European dairy industry is to investigate the relationship between regulatory burdens and sector competitiveness, with special attention to the associations between such burdens and innovation and strategy, food safety & quality systems, food labelling requirements (origin labelling) and supply chain transparency. A firm perspective is used. We address the basic structure and tendencies in the food sector, the role of regulatory burdens and their effect on competitiveness. A theoretical foundation is provided by transaction cost economics and total quality management insights. Building on previous studies showing the negative impact of administrative burdens on competitiveness, this study focuses on expanding the available research framework and to adjust it to sector (i.e. dairy) specifics. We will connect to previous research (Wijnands et al., 2007) and the findings therein.

In this study, we pose the following sub-questions with respect to the association between administrative burdens and dairy industry competitiveness:

- what is the relationship between administrative burdens, innovation and competitiveness;
- what is the relationship between administrative burdens, food safety & quality deployment and competitiveness;
- what is the relationship between administrative burdens, food labelling requirements and competitiveness;
- what is the relationship between administrative burdens, supply chain transparency and competitiveness?

The effects of legislation on costs and competitiveness are mediated by impacts on innovativeness, company strategy, food safety system availability, as well as the available information & communication capabilities in the firms. Especially SMEs lack resources to be informed and adjust to changes in the legal environment. As the European dairy sector is under pressure, and in general is extremely innovative (but with extreme differences between individual companies), the reduction of administrative burdens is regarded as a key policy objective, to be able to survive in a global arena. We propose a broad conception of administrative burdens, comprising financial and non-financial responses to re-

gulatory changes, obligatory as well as voluntary measures in response to legal changes. To frame the impact of administrative burdens, especially with respect to food labelling, we discern the following variables: regulatory burdens (content and form), level of innovativeness, company strategy, level of food safety system implementation and available information and communication capabilities. Size, level of network embeddedness, industry and product characteristics were treated as control variables. We have connected to previous research (Wijnands et al., 2007) which, among others, generated the following generic results:

- administrative burdens are connected to prevention measures;
- administrative burdens impede on the innovativeness of food companies;
- administrative burdens are influenced by the content of law and by the predictability and clearness of regulations (positive relationship).

We formulate the following conclusions and key findings:

Food law, administrative burdens and competitiveness

- Although European companies depict areas where EU food law could be simplified and specific areas of regulations are seen as burdensome, they have a preference for the European system, which fosters food safety above litigation.

  A distinction should be made between the form and the content (substance) of food law. Especially product innovative companies are dissatisfied with the content of food law. Time-to-market of new output is long, costs are relatively high (compared to the US), and procedures are intransparent. Legal prescriptions are scattered and a comprehensive overview is often lacking (see Van der Meulen, 2008 for details).
- European dairy companies have a strong preference for the European legal system; they are inclined to accept relatively high administrative burdens (especially in comparison with the US) for the sake of food safety and quality. In other words: they will not choose for a policy that reduces administrative burdens at the expense of food safety and quality.
- The European food law with respect to the dairy industry is evaluated as being relatively good. European dairy firms do not express a preference for the American system.

Innovation and strategy

- On the one hand, companies in the dairy industry that foster product innovation will be negatively impacted by procedural obligations. On the other hand, process innovations are stimulated by food law, since systems and

procedures have to be installed. Companies that foster process innovations accept administrative requirements more easily than companies that foster product innovations.

Labelling

- Policy towards SMEs should be adjusted to product characteristics and supply chain position. The benefits of co-labelling depend on these two variables.
- Co-labelling - printing the name of the processor on the package of the end-producer/retailer - is only beneficial (benefits outweigh administrative burdens) if the producer (SME) procures a differentiated product, which is not easy to copy. For commodities (homogeneous produce which is supplied by many companies) upscaling in intermediary production stages will be inevitable, to reduce costs. In the long run, SMEs producing homogeneous output will necessarily merge, to enhance economies of scale. Upscaling of commodity-production will be to the benefit of efficiency of food supply chains and should therefore not be obstructed.
- EU-Origin labelling will hide intra-communal food safety and quality differences. On the other hand, it could stimulate exports (especially to non-western countries). Companies will prefer to distinguish themselves on their brand-name, PGI/PDO and food safety and quality characteristics. Origin labelling (a 'made in EU' label) has a contra-productive effect, because it hides company- and country-specific differences. Moreover, the EU as a whole will be vulnerable should food or political problems occur.

Transparency

- Despite the pressure to install HACCP, food safety and quality systems are more provoked by clients' wishes than by legal obligations. So the costs which are connected to them would possibly have been made even if food legislations would not impose them. Integration of food safety and quality requirements can alleviate compliance costs.
- In general, there is not a broad preference for increased chain transparency through co-labelling. Technically there are barriers if such transparency should be improved by means of labelling.

1 Introduction

This report sketches a part of the detailed findings of a research on behalf of DG Enterprise of the European Union competitiveness of the dairy sector of the European food and drinks industry, the effect of administrative burdens and the impact of a European labelling scheme. This report concentrates especially on the impact of administrative burdens. The goal of the paper is to frame the effect of regulatory burdens in a research outline which enables the study of their effect on the competitiveness of the food and drinks industry, especially the European dairy sector. A firm perspective is used. Special attention is paid to the connections of demands from and changes in the regulatory framework with innovativeness, food safety and quality system deployment, labelling requirements and transparency in the food chain (co labelling, from the perspective of private label sales).

The following activities and questions specify our intentions:

- to delineate 'administrative burdens' from other administrative requirements which are connected with a changing legal framework, especially origin labelling;
- to construct a theoretical framework which can be used to explain the relationship between changing legal requirements, administrative burdens (especially connected with origin labelling) and competitiveness of the dairy industry, from a company perspective;
- to deliberate on the relationship between administrative burdens, innovation and competitiveness;
- to deliberate on the relationship between administrative burdens, food safety and quality deployment and competitiveness;
- to investigate the relationship between administrative burdens, food labelling requirements and competitiveness;
- and to investigate the relationship between administrative burdens, supply chain transparency and competitiveness.

The European food and drinks industry is, with a turnover of €800 billion and 4 million people employed, the biggest manufacturing sector in Europe (CIAA, 2006). Eleven percent of world exports of agricultural and food and drink products originate from the EU; the share however is shrinking while shares of China, Brazil, Australia and New Zealand are increasing (CIAA-b, 2006, p. 7).

Dairy product exports reach up to 12% of food and drink exports, but have declined significantly in recent years. The expansion of this sector relies to a large extent on its competitiveness outside the EU and the level of quality & safety assurance inside. The promotion of food quality and avoidance of food hazards is of imminent importance for consumer safety and for safeguarding a competitive position in the international arena.

However, an abundant system of prescriptive legislation has been created, both at the level of the Community as on National levels. In many cases, administrative and other compliance costs increased excessively. As a result of the Lisbon call

> 'to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion' (cited in CIAA-a, 2005),

initiatives have been taken to improve legislation and (thereby) reduce administrative burdens. Administrative burdens are a result of public intervention, which is an alternative to the rule of the free market. Public intervention may use instruments like: information procurement, process standards, product performance standards and pecuniary measures (Henson and Traill, 1993).

Governance of the food industry

In this report we assess the factors that affect the competitiveness of sectors in the European food industry, especially with respect to labelling and (the connected) administrative burdens. Costs which result from regulation play an important role in the willingness to comply to it, especially for those food firms which are exclusively or dominantly profit-seeking.

Governance of the European food industry poses a choice between self-regulation (of which voluntary labelling is an example) and command-and-control (of which mandatory food labelling is an example), or a combination of these (Sinclair, 1997). 'Pure' self-regulation could have negative consequences for the welfare of nations if public goods (like environmental sustainability, population health) are involved, for which property rights are ill-defined, or if a lack of transparency (like of food safety level, origin, or GMO content) creates a situation of asymmetric information (with possibilities of opportunistic behaviour; Williamson, 1985). An example of the first is the adoption of environmental

sustainability by private enterprise. A 'neo-classical' approach to the environmental problem presupposes unlimited resource-substitution possibilities, a 'time-less' world in which technological innovation is produced instantly and at will, and a *voluntary* internalisation. Self-regulation as such does not make companies survive in a competitive environment, on the contrary (Rumelt 1990, Reinhardt 1999, Christmann and Taylor 2001).

In the past, regulatory stringency has been the dominant instrument to achieve food safety and sustainable production. The deployment of a 'hierarchical enforcement' policy is considered by many as inefficient and costly, stifling innovation and inviting enforcement difficulties (Fairman and Yapp 2005). Carried out to the extreme, this policy would require the use of so many natural and social resources that the net-benefits would be marginal. With respect to the food industry, pure self-regulation could go at the cost of consumer's health. Moreover, leaving food supply to the market would possibly lead to price deterioration to an extent that individual firms would perish in the long run. For a long time, theories of industrial organisation fostered the influence of market structure on profitability of firms (Roquebert et al., 1996). It considers firms as passive entities, which is a narrow view on reality. Many firms in the present European food industry have the power to pursue a market strategy. Food companies' strategies should be considered in the effect of rules and regulations. Nevertheless, the 'passive model' of reactive adjustment to environmental forces applies to many companies in the European food industry, since most of them belong to the SMEs (< 250 employees), employing 61.3% of personnel in the sector (CIAA-a, 2005, p. 4). Lengthy customs' procedures are one indicative factor explaining the lack of export growth (CIAA-b 2006, p.28).

The 'active model', however, stresses the inner strength of companies by exploiting its basic resources (a stream called the resource-based view; Barney, 1991).

Why should companies comply to burdensome public regulations? As to Cornelissen (2004b) the profit-seeking firm will comply to regulatory requirements if the benefits of complying are bigger than the costs, or alternatively, if the disadvantages of not-complying exceed the costs of complying. Costs and benefits can be vested in profits or reputation (damage). Positive compliance decisions will be made comparing the perceived marginal benefit of compliance or the perceived marginal cost of non compliance with the perceived marginal costs of compliance (Henson and Heasman, 1998, referring to Baron and Baron, 1980). With respect to information costs to be made to comply, rational firms and individuals will spend such costs to the point where the marginal benefits (discounted error costs) are equal to the marginal costs of information procurement

(Ogus, 1992). If marginal error costs are low, it follows that individuals will not spend much money on information costs. Where marginal error costs are high (for instance: possibility of death, heavy injury, costly recalls in food industry et cetera), the willingness to spend money on information procurement will be high. Since lack of food safety is perceived as a serious cause for possible personal harm, the willingness to spend costs on reducing such risk through information may be high.

In general, excessive administrative burdens increase transaction costs in the market and will therefore impede on the competitiveness of food firms. It is not clear in advance whether administrative requirements are higher in a common law system (UK, US) or in a regulatory (European, continental) system of law. Possibly the ex ante costs (costs of acquiring and assimilating information before the legal rule is formulated) are higher (Ogus, 1992) in a continental system, which is based on prevention of risks, instead of litigation. On the contrary, the ex-post costs in a common law system will presumably be higher. Excessive administrative burdens is only one problem with which the European food and drinks sector is confronted. It is related to other tendencies which provoke a loss of competitiveness (CIAA-a, 2005, p. 4):

- lack of investments in R&D and innovation performance; as SMEs have lower profit margins, budgets for R&D are presumably low also. Spendings on R&D are relatively low with 0.32% of output in the EU;
- globalisation and increased competition from countries with comparative advantages in basic food production;
- slow productivity growth.

How can the industry address these problems, and what role does the legislative process play in this respect? To be able to formulate a conceptual model to address this question, the administrative burden concept is first delineated in the next chapter 3.

2 Administrative burdens: delineation of concepts

It is an expressed goal of the Commission to reduce administrative burdens by 25% in 2012. The effect that is expected from a reduction on EU as well as national levels is an increase of GDP of 1.4% (€150bn) in the mid-term (COM (2007)23 ref. to: Gelauff and Lejour (2005)). For instance, for The Netherlands at the end of 2002 the administrative burdens were €23,780 per firm (€16.4bn for 689,623 companies in total, according to the Dutch EIM/CBS; Suyver and Tom, 2004), while in 2007, on the basis of Ministry plans in 2002, these burdens should be €3bn lower, reducing the average burdens with €4,500 per firm. However, it was also projected that large firms would benefit 13x more than small firms. Small companies were projected to benefit €3,560 (in total: 76%), medium-sized companies €7,327 and big companies €45,735 (Suyver and Tom, 2004, table 5.1). Other countries and organisations have proposed similar policy goals. In Sweden an action plan was initiated to select areas of regulation that can be simplified or changed to reduce burdens, on the basis of the Dutch Standard Cost Model. Also organisations like CIAA have proposed initiatives to improve and simplify the EU regulatory framework (CIAA-a, 2005, p. 3). CIAA is especially concerned about the research drain in biotechnology, the cost of pre-market approval of novel foods, regulation about legal additives, easing up regulations for nutrition and health claims, food labelling (modernisation, simplification *and* consolidation, the stimulation of self-regulation and the exclusion of food and food ingredients from the scope of Reach (Revised Chemicals policy).

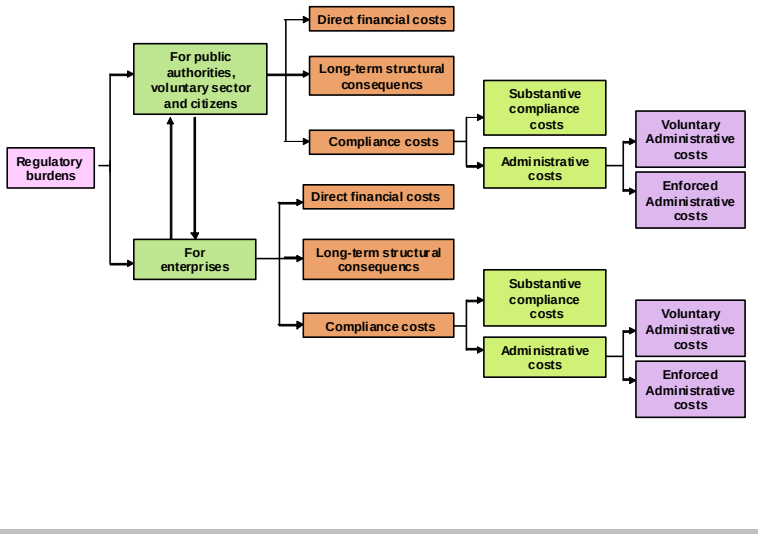
The delineation of administrative burdens (based on the standard cost model) is given in figure 2.1. Administrative burdens, as to EU definitions, refer in a broad sense (including labelling, monitoring, reporting and assessment) to all information requirements (either to public or private bodies) that are induced by regulatory activity and would not be performed if such legal obligations would not exist.

There is much diversity however in the vocabulary which is used to delineate regulatory - including 'administrative'- burdens. The UK Hampton report suggests that the costs of regulation can be split up in (Scrivens, 2007):

- policy costs: the costs inherent in meeting the aims of a regulation (direct cash costs + investments, or changes in organisation of a firm necessary to meet obligations);
- administrative costs - costs of gathering information about a business, or checking on a business's compliance.

The report especially addresses the costs of inspection of regulatory bodies to guarantee compliance. It argues, among others, that risk assessment can reduce the number of inspections, that such inspections should be made only with a reason, and forms and procedures should be simplified.

Figure 2.1 **Delineation of administrative burdens (based on COM (2007) 23)**



Further specifications of the concept 'administrative burdens' are found in the outline that describes the Dutch Standard Cost Model to assess such costs. In the Dutch version (The Hague, 2003) a distinction is made between obliga-

tions to 'do or don't', and information obligations. As to the Dutch system, administrative burdens are costs to *enterprises* to come up to information obligations which result from regulation and legislation by the government. Costs from self-regulation are not covered by the administrative burden concept. The main difference between the (original) Dutch standard cost system is vested in the fact that the EU system includes also voluntary information costs of public authorities, whereas the Dutch system only regards the information costs of *enterprises*. In the original Dutch outline, voluntary measures to come up to information requirements are included in the administrative burden concept, whereas in the derived EU-system, there should be a legal requirement to take information measures. Benefits which are connected to obligatory information requirements are not considered as a 'negative' administrative burden. Administrative burdens in the Dutch system are measured using (among others) the following principles (the Hague, 2003):

- concrete and measurable (not qualitative);
- only costs are included, not the benefits;
- if the costs are compensated by a financial compensation, they are not included;
- structural costs should be quantified;
- one-time costs should be quantified and attributed to different periods;
- costs of monitoring legal changes are included in the concept;
- registrations for multiple purposes are attributed to regulation and legislation, that causes the burden.

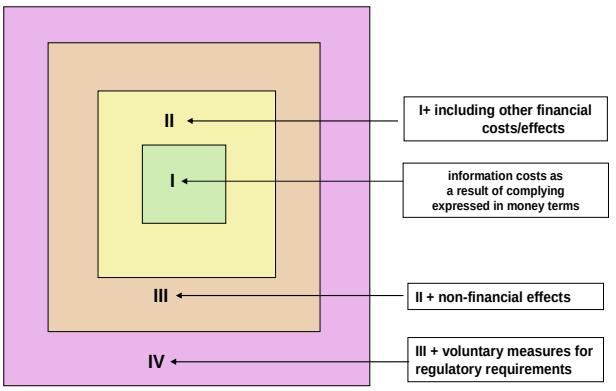
The OECD's Red Tape Assessment ('Scoreboard') project was initiated to compare administrative burdens over several countries (among others: Netherlands, USA, United Kingdom and Italy), using a slightly adapted version of the Dutch Standard Cost Model; similar studies were performed by the World Bank and World Economic Forum (OECD, 2007). As to the OECD, the abandonment of additional regulatory requirements which supplement necessary regulations could reduce administrative burdens. The more open an economy is, the less governments are able or willing to regulate domestic economic activity (Pevcin, 2006 referring to Pryor, 2001).

Within this report administrative burdens (narrowly defined) are 'the information costs which are caused by changing legal requirements and made for complying with them'. We call these 'level 1 costs'. They can be measured for administrative bodies and/or for private enterprises. A broad view encompasses all impacts to administrative and/or private bodies (so also other costs, expressed in money terms, than information costs are included; this we call: level

2 costs. An even more broadened view encompasses not only financial burdens, but also qualitative burdens (like environmental and social impacts): this is 'level 3 costs'. The investigation of such causal effects is of importance for the construction of an impact analysis. Last, also the voluntarily imposed burdens are included (like private ISO systems which is installed to protect food safety, and the like (this is level 4 in our analysis).

We propose to depart from this broadened view. However, empirical results should be organised in such a way, that also data on the other levels can be provided.

Figure 2.2 A broad view on administrative burdens



Cumulative regulatory burdens, as defined in COM (2006) 691 of 14 December 2006 are extra legislation which impedes the placing of a food product on the market with the ensuing consequences for competitiveness, or raise costs in an unjustifiable way to economic operators which lead to price increase of the end food product, or prolong the time-to-market. Cumulative administrative burdens are caused by unnecessary legislation. Unnecessary regulation

hampers international trade and competition. Regulations are called unnecessary (cumulative) if they are superfluous for coming up to the goal of a legislation or for guaranteeing the level of protection the Treaties offer. WTO-articles (article XX) and Agreements (with respect to Trade, Sanitary and Phyto-sanitary measures for instance), restrict regulation to a level that obstructs international trade more than necessary to reach the legal objective (Kalinova, 2005).

As expressed, unnecessary or extra regulations ('goldplating') can cause avoidable costs and obstruct competitiveness substantially. For instance, the costs of plant variety protection with a 15 years' protection period are USD5,687 in China, USD10,480 in the EU and USD4,344 in the US (based on Louwaars et al., 2005 cited in: Tripp et al., 2007). The Action Program (COM (2007) 23) addresses EC regulations and directives, national transposition and implementing measures connected with these, as well as national and regional abundant information obligations. Expressed priorities with respect to investigation of excessive administrative burdens are Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the adjustment of Member state laws with respect to the labelling, presentation and advertising of foodstuffs, as well as information obligations with respect to GMO traceability rules (Regulation 1830/2003). Both regulatory revisions can act upon dairy processors, as well as on other companies in the food sector. An example of 'goldplating' outside the food sector is given by Directive 95/46/EU, governing the protection of privacy. The EU-directive contains 72 considerations and 34 articles, while the Dutch implementation (Wbp) contains more than is required with a minimal implementation: 200 considerations and 83 articles (Cuypers, 2006).

Often, but not necessarily, goldplating is linked to such national add-ups in the transposition of EU law to national law. Within our research, we conceive 'goldplating' as being vested in:

- the translation of EU regulations in national laws and other requirements;
- the translation of national laws and requirements in company information systems and other company devices (like investments, procedures et cetera).

For instance, misconception of national rules could lead to over-compliance on a company level. Both could impede (or promote) the competitiveness of the European dairy sector.

Regulatory burdens are a result of legal *content*, but also of their *form* (clearness, consistency et cetera) As to Cuijpers (2006) vague and open norms, complexity and uncertainty of interpretation, new procedures and burdens, discongruence with the privacy-understanding of the citizen as well as the lack of

stimuli for self-regulation are the result of excessive legal requirements. Administrative burdens could distract assets from opportunities to invest in operational and marketing activities, which leads to declining competitive performance. Possibly more than proportional burdens are created in food law requirements. While the creation of food safety systems is automatically affecting administrative burdens and such systems are generally accepted, the implementation of new labelling requirements, GMO and Novel Food-related impediments and product-oriented requirements of innovation can hamper competitiveness if such requirements are unevenly distributed over countries. Regulatory and administrative burdens will disproportionally affect competitiveness if:

- the burdens are not compensated by benefits with respect to food safety and quality, improved transparency or other (societal) factors that positively affect the food system;
- growth and market shares are affected disproportionally;
- innovativeness is obstructed more than necessary.

We will sketch a theoretical perspective in the next chapter (3) to be able to coherently analyse the influential factors on competitiveness in general, and the effect of administrative burdens in specific.

3 Theoretical framework

Two complementary theoretical orientations can be used to measure the effect of regulatory burdens, including its costs, on competitiveness of individual firms. We propose:

- the total quality management framework (TQM), paragraph 3.1;
- the transaction cost framework (TCE), paragraph 3.2.

3.1 The TQM framework

Total quality management is a practical approach to enhance product as well as process quality aspects, strategic attitude (top-management involvement) and organisational behaviour through empowerment of employees. Consumer needs, not technological governance, is the starting-point of all quality processes (Spencer, 1994; Hackman and Wageman, 1995). As opposed to the 'Deming' principles of quality', the TQM principles are not universally applicable, but their application depends on the characteristics of a specific firm. Process-control is fostered to reduce unnecessary sacrifices of inputs. In general, it is supposed that the costs of bad quality are far greater than costs of avoiding bad quality (Hackman and Wageman, 1995), although quality has a price which could be excessive. So, with respect to quality costs, two opposing tendencies can be discerned: prevention costs (including appraisal costs) and failure costs. Prevention costs increase with higher levels of quality assurance (within this outline: of regulatory stringency), while at the same time failure costs are reduced (costs of non-compliance, such as is the case with food-borne diseases et cetera). While the European system fosters prevention (risk avoidance), the US system of litigation fosters compensation of failure. The question is what, at the firm level, the 'ideal' combination is of both policies, given that fact that prevention costs have to be weighted against failure costs.

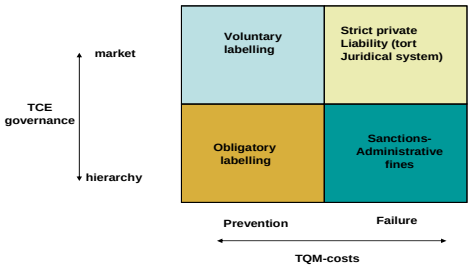
3.2 The transaction cost approach

Transaction cost theory provides a new perspective on the structuring of economic organisation. While former theorising conceptualised a firm as a production function, transaction cost economics regards a firm as a governance mechanism (Rindfleisch and Heide, 1997; Williamson, 1998). Likewise, economic organisation can be governed in a hierarchical way (like a - vertically integrated - firm) or leave the economic exchange and its characteristics to market governance. Hierarchies (integration) cause bureaucratic costs, which induce a tendency towards market governance. However, dimensions of governance like the necessity of asset specific investments (translated to the study at hand: investments in for instance quality assurance systems induced by buyers to enhance food safety, combined with lack of information, asymmetrically distributed information, or (market) uncertainty can lead to opportunistic behaviour and shirking, so that a hierarchy is preferred (translated to our research: governmental intervention is necessary). Transaction cost economics especially regard the consequences of incomplete contracts as a result of limited rationality and information. In general, asset specificity forms a strong bias towards hierarchy (governmental intervention; David and Han, 2004; Geyskens et al., 2006; Poppo and Zenger, 2002). The role of food labels, from a transaction cost perspective, is the improvement of information processing so that contracting is facilitated.

Within this research, the following combinations of the two theoretical viewpoints can be discerned (figure 3.1).

Figure 3.1 shows that labelling can be regarded as an instrument to promote market efficiency, or as an instrument to control firms. Both are directed at protecting buyers from inefficient purchase decisions. Perceptions on the usefulness of labelling information affects the opinion whether or not mandatory nutritional labelling would be beneficial (Gracia et al., 2006). However, usefulness of labelling information does not always implicate that buying behaviour is adjusted (see in this respect: Hefle et al., 2007). With respect to origin labelling an extensive research by Loureiro and Umberger (2007) in the US shows that US consumers prefer USDA safety inspection over country-of-origin labelling. As to these authors, revealing origin make sense if the origin stands for higher food safety or quality. Labelling bridges the information gap between consumers/buyers and suppliers with respect to basic

Figure 3.1 **TQM and TCE**



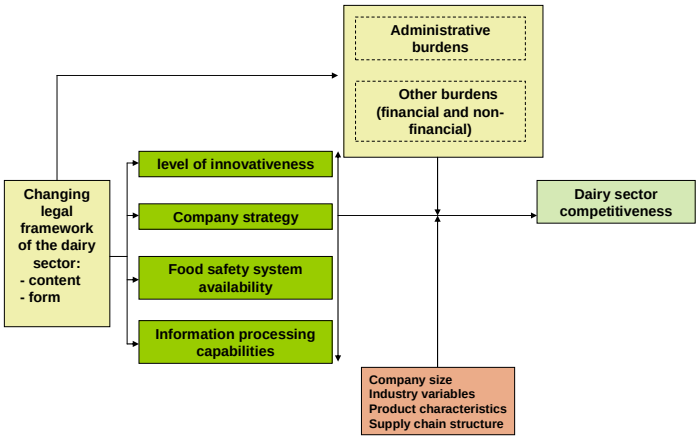
characteristics of a product or service. Labelling which is not governed by regulation and certification is possibly victim of opportunism. An example in this respect is eco-labelling. Despite European efforts to establish authorised, non-compulsory ecological labelling (Eco-label I in CEE 92/880 and Eco-label II in CE 1980/2000; Proto et al., 2007), variations in eco-labels are widespread and said to be more confusing than informative. According to Van Amstel et al. (2006) the reliability of information of five investigated food labels showed severe shortcomings, and do not fill the information gap between seller and buyer.

The overview we presented in figure 3.2 coincides to a large extent with Loader and Hobbs' (1999) options to reduce information costs for consumers: (1) product certification or labelling at the firm-level, (2) legislative protection in the form of labelling regulations (also in: Unnevehr and Jensen, 1996) and (3) tort liability law (with the chance of market failure).

3.3 Research framework

Next, we present a research framework which visualises the proposed effect of regulatory burdens and key factors (innovativeness, strategy, food safety system availability and information processing capabilities) impacting on the competitiveness of a highly innovative sector, like dairy is (see figure 3.2).

Figure 3.2 **Framework for the analysis of the administrative burden effects**



Components of the research framework are addressed in the following sub-paragraphs:

- innovativeness and strategy (paragraph 3.3.1);
- food safety system availability (paragraph 3.3.2);
- information and communication capabilities (paragraph 3.3.3).

3.3.1 Innovativeness and strategy

Administrative and monitoring requirements will hamper the acquisition of capabilities to innovate disproportionally because of resource scarcity at the firm's level (compare: Avermaete et al., 2004; Batterink et al., 2006; Romijn and Albaladejo, 2002; Loader and Hobbs, 1999). *'Innovativeness'* can be radical or in some degree incremental (Ettlie et al., 1984), can be process as well as product-oriented, and address exploitative and/or explorative changes of product-market configurations. The innovation orientation is associated with a firm's strategy. Regulatory demands converging with the company's strategy will be

welcomed more easily than a 'generic' food and drink safety policy. This implies that the perception of a set of rules being 'burdensome' is dependent on the firm-specific aims and strategies that are intended to be deployed. Firm strategies can be classified on a range from 'defender' to 'prospector' (Miles et al., 1978; Morgan et al., 2000). A defender company will, in general, tend towards a cost-oriented strategy; it defends its market share by the provision of products with similar quality characteristics as competitors, but at lower prices. On the contrary, prospector companies aggressively seek for new market opportunities and develop new products and/or markets to outperform competitors. Prospector companies are well equipped for product change with available R&D departments and information and communication resources.

Innovativeness and business renewal can be affected by legislative efforts along two routes: formal and content. Searching for causes for excessive administrative burdens should therefore include an investigation of the formal aspects connected to law change: its predictability, consistency, proportionality and the level of perceived behavioural control of changes in production and/or product characteristics. With 'controllability' we depict the possibilities to implement and/or act in conformity with regulator wishes. 'Proportionality' refers to a necessary balance of consequences for companies, buyers and competitors, inside and outside the EU. Whether there is proportionality depends economically on the costs needed to comply versus the positive profitability and cash-flow effects that are harvested. With respect to the dairy sector it should be noted that many firms are highly innovative. Innovation in this sector will likely to be hampered by, among other (CIAA-a, p. 6):

- legislation on genetically modified organisms;
- legislation with respect to nutrition and health claims (the possibility to claim a nutritional or health benefit connected to a product); the changed consumer behaviour and consciousness of health consequences of food intake as well as nutritional properties of (novel) foods, makes innovation in this area of extreme importance;
- pre-market approval schemes of novel foods and additives with an average time-to-market of two years.

While the European dairy sector in general is innovative, the spread in innovativeness is very wide, ranging from companies that for instance pack milk and try to optimise processes, and companies that modify the basic characteristics of inputs (Omega3 for instance) and/or output (for instance dairy products to which health claims will be attached).

3.3.2 Food safety system availability

Food safety systems can improve transparency and consumer's trust, but in many cases companies are obliged to install or expand information systems on legal grounds (for instance to adjust for food labelling requirements) (see: Caswell and Padberg, 1992; Przyrembel, 2004), which require extra costs. Especially SMEs will possibly be more than proportionally affected in their profitability, while at the same time they cannot easily harvest the 'quality-premium'. Administrative burdens are among others induced by compulsory quality systems (like HACCP). Costs of quality assurance can be measured with the P-A-F method (prevention, appraisal and failure costs; Schiffauerova, 2006). If these costs exceed perceived benefits, food legislation effects on competitiveness will be registered. The rationale behind the model is that lower failure costs are to be compared with increasing appraisal and prevention efforts, if product quality is improved. The scheme can easily be adapted to serve purposes in other fields, like environmental management (see for instance: Watson et al., 2004), or the costs of law implementation. Formally, administrative burdens could be arranged under each category of quality costs, but the appraisal costs will be the biggest causal factor (= costs of 'operating' food safety assurance systems). Executing food safety requirements causes operational costs, while also prevention costs will accelerate administrative requirements. Prevention costs are costs which are made to prevent a-conformity with legal requirements. Companies can be confronted with higher administrative loads, but could take this for granted for different reasons, like improved competitive power and/or a better food and drink safety/quality. Food safety and quality assurance systems may be adopted on a voluntary basis. While the systems cost money, they may reduce transaction costs in international trade by assuring a certain level of quality. They may therefore also serve as trade barriers (Holleran et al., 1999), and in this way, adversely, stimulate competitive performance. We suggest that dairy companies that already have certified food safety/quality systems at their disposal, will favour regulatory changes with relative ease.

3.3.3 Information and communication capabilities

In situations of asymmetrically distributed information and market imperfections, labelling can enhance flexibility, efficiency, responsiveness and informedness

(for instance: the willingness to comply by producers) in the market (see extensively Van Amstel, 2006). Provision of information to the market, in the form of labels, brochures et cetera, requires the organisation to be able to process information and to communicate in a structured way. Food labels can serve different purposes:

- inform about a certain level of guaranteed food safety;
- indicate a level of environmental conformity;
- indicate a certain level of social adequateness of the processes behind the food products;
- indicate identity (origin);
- information about the composition of a product, i.e., its nutritional value (EU-Council Directive on Nutrition Labelling for food stuffs (90/496/EEC.

Mark of origin labelling guarantees that a certain product has (1) passed through, or (2) been produced, or (3) carries the legal assurance of (4) or is to a certain level produced in a certain place, region or country. Economically labels provide a message about safety, quality, taste or any other food characteristic which influences the perceived usefulness of that product. So they compensate for a lack of informedness on the side of the buyer of a product or service. Food labels are valued positively on an individual or firm basis, if the marginal costs of providing them ('production' costs, costs of control et cetera) are lower then the marginal benefits. In the case of marking for origin, the benefit lies in the increased competitiveness or competitive performance for the company, as well as the social and environmental effects of the labelling requirement. The role of labelling should be viewed in connection with the role of direct regulatory bodies (like the FDA in the USA or the EFSA in Europe). The stronger the ex-post litigation, the lower the perceived value of mandatory labelling (providing ex ante information) will be. Since in general the European culture fosters ex ante information and prevention over ex post litigation, it is not surprising that a labelling policy over a system of rules and sanctions will be preferred.

Building information and communication capabilities (leading to information processing through labelling and the like) does not enrol overnight, but is a process which takes place in phases. As Hutter says, responsiveness of firms to regulatory requirements is described in three phases (Hutter, 2001 as cited in Cornelissen, 2004a):

(1) the design of procedures/rules/systems to introduce the requirements in the organisation;
(2) the operationalisation phase (auditing, enforcements of rules et cetera);

(3) the phase in which rules/procedures (compliance) are part of normal, everyday life.

In an assessment of competitiveness, the phase in which companies operate should be taken into account. Other control variables are addressed in the next paragraph 3.3.4.

Whereas food labels create transparency on (among others) the characteristics of the supply chain, private labels play a special function in this respect. Private labels are 'all merchandise sold under a retailer's brand. That brand can be the retailer's own name or a name created exclusively by that retailer' (Private Label manufacturers' Association definition in: Bergès-Sennou et al., 2008). They can create homogeneity with respect to a multitude of suppliers on the one hand, but on the other hand the craftsmanship of supplying intermediate companies is hidden. This is the more disadvantageous for the intermediary company the more innovative it is, since innovation has a price which can only be earned back by means of a premium on the selling price. With the private label holder controlling the distribution channel, it is a matter of negotiation whether such a premium is harvested. In this process, private label holders will take a strong position because of the scale at which they buy. Moreover, if an intermediary producer also serves the consumer market directly (which could take place in competition with the private label it supplies) he experiences price erosion and sales decline because of the relatively low price of the alternative.

Private labels serve to reduce administrative burdens to the consumer (because of homogeneity of product and quality), while scale effects lead to lower prices. However, they increase costs for (intermediate) producers (regulation of the supply by the direct label holder), they experience direct competition for their sales to consumers, and will possibly be inclined to sell at relatively low prices (which is not the case under all circumstances; see Gabrielson and Sørgard (2007); Bergès-Sennou et al. (2008). We therefore suggest that upstream producers of differentiated products will foster transparency of the supply chain to enhance their image for the end-user.

Table 3.1	Price differential between private label and manufacturer brands by country (%)		
Country	**PL price differential**	**Country**	**PL price differential**
Greece	-48	Philippines	-32
Australia	-47	South Korea	-31
Germany	-46	Mexico	-28
Belgium	-45	South Africa	-28
Czech Republic	-44	US	-28
Spain	-44	Switzerland	-27
Hungary	-43	Canada	-27
Ireland	-42	Denmark	-27
Portugal	-42	Italy	-26
France	-40	Chile	-26
Austria	-40	Netherlands	-26
Slovakia	-38	Japan	-25
Sweden	-38	Israel	-23
Croatia	-37	Brazil	-20
Finland	-36	Puerto Rico	-19
UK	-36	Colombia	-19
Argentina	-35	Singapore	-13
Norway	-34	Hong Kong	-10
New Zealand	-33	Thailand	-10

Source: AC Nielsen, 2005, p. 17.

3.3.4 Control variables

Size

An important control variable is the size of companies. SMEs might be confronted with disproportionately larger compliance costs, because economies of scale are lacking (Loader and Hobbs, 1999). Administrative complexity has - in the long-run - a negative impact on the level of business ownership and (thus) entrepreneurship (Stell and Stunnenberg 2007). Administrative burdens refer, among others to the costs to be made to investigate changes in the legal system. As to Cornelissen (2004a), small firms - in particular in biotechnology - do not necessarily have a limited knowledge and comprehension of the law. The research on the subject is very meagre up-to-date. Cornelissen (2004a) op-

poses the results of a study from Genn (1993), who studied the permeation of health and safety regulations in industrial and agricultural business. A distinction was found between highly motivated, proactive employers (with numerous sources of information - and a perception of a need to keep informed and in line with regulations), and a second group of firms with employers who were less motivated and reactive. This distinction was, in further studies, also ascribed to large versus small firms. We propose that size is directly related to the capacity to inform and be informed about legal requirements and possible changes.

Network embeddedness

Companies are, to a smaller or larger extent, entangled in a web of relationships, forcing them to adopt the norms and practices in the business network. But they also can be change-oriented and put their own goals and standards first, relying on unique resources to adjust their environment inside-out (Porter and Kramer, 2006). In practice, both tendencies can occur at the same time and in the same organisation.

Food safety often cannot be inspected ex ante by buyers in the supply chain. A situation of information asymmetry exists, in which sellers usually have more information than buyers (Loader and Hobbs, 1999). The buyers could solve this problem by performing checks themselves, which would lead to an increase of transaction costs (and thus loss of efficiency of markets). Especially end-consumers experience food risks 'seemingly irrational and inconsistent' (Verbeke et al., 2007), exaggerating food risks (compared to experts' opinions) beyond proportion. We suggest that the more embedded companies are, the more support they experience in assessing and coming up to legal requirements; they will therefore experience lower administrative burdens than companies that operate on an isolated basis.

Product characteristics

Specific requirements with respect to dairy product (like almost complete absence of dioxin in raw milk) will have an impact on the production and procurement processes of raw material. Differences between countries will affect the competitive position of European dairy industry.

Industry characteristics
Generic trends and tendencies in the business environment (which can be categorised by means of Porter's diamond) will affect the individual business. Differences between countries or regional differences on a global basis will have to be considered.

Summary
Summarising, figure 3.2 depicts that changing legal requirements (its content and form (clearness, completeness, complexity et cetera)), for instance with respect to food safety and/or labelling requirements, have an influence on firm management:

- on the firms' strategy deployment (will for instance hamper or stimulate the strategy choice (what markets to enter, what products to produce, what consumers to focus at);
- the level of innovativeness; pre-market approvals, the possibility to claim health influences, the level of protection of new products et cetera all will directly be affected by legislation; moreover, administrative requirements claim scarce resources which cannot be allocated to more productive destinations;
- the level of system availability; companies that have the systems available to address food safety regulation will possibly better be able to cope with changing legal requirements;
- the routines and competences on information gathering, ordering, interpretation and storage. Origin labelling possibly will be evaluated with available information and communication capabilities, which give opportunities to exploit it commercially.

A - to a large extent - non-managerial influence to firms included in figure 3.2 is the administrative and other burdens that will be affected. These burdens have a negative impact on the competitiveness of the dairy industry. Control variables that mediate between the effect of the mentioned factors and competitiveness are possibly: company size, industry and product characteristics, as well as the supply chain structure (level of integration, transparency, willingness to cooperate et cetera).

4 Analysis: a preliminary study

Experience from previous research (Wijnands et al., 2007) has already contributed to a general insight in the interdependencies between legislation, information obligations (leading to administrative costs) and food safety requirements, innovativeness and competitive performance. A further analysis of the data gathered in 2006, using partial least squares (PLS) has revealed the following interdependencies:

- predictability and clearness of food legislation is significantly related to the instalment of (mandatory) safety and private quality systems (SAFPRIV);
- size (SZ) is significantly related to the predictability and clearness of food legislation (PREDCL); in other words, larger companies are better informed than smaller; this proofs the point that SMEs possibly have more problems in assessing the impact of legislative changes than large companies;
- the content (CON) of European food law is negatively related to its innovativeness (INN); in other words, European food law obstructs innovativeness; also the model proves that the quality of content of law (CON) provokes lower burdens to the companies (ADM);
- administrative requirements (ADM) are positively related to obligatory and private safety systems (SAFPRIV);
- administrative requirements are negatively associated with export performance outside the EU (EXPO), while also is shown that systems (SAFPRIV) improve such exporting capabilities.

It is revealed that administrative burdens are substantially caused by regulation in general, and specifically by systems which are deployed to come up to safety and hygiene requirements. Further analysis showed that inside the EU a level-playing field is created and no significant effects are discernable. Companies that assess the quality of EU-food law as good, score low on innovation, or vice versa (Bremmers et al., submitted). The question remains, and is subject of further study, whether such generic relationships also apply to the dairy sector, what the role is of labelling in the picture, and what specifics within the dairy chain possibly bring different colours in the picture for dairy industry.

5 Data gathering process and results

We addressed a survey questionnaire to micro, small and medium-sized as well as large enterprises:

1. micro-enterprises: < 10 employees or < €2 million turnover or balance sheet total;
2. small and medium-sized enterprises: between 10 and <250 employees or between €2 and < €50 million turnover or €< 43 balance sheet total;
3. large enterprises: above 250 employees or < €50 million turnover or €< 43 balance sheet total.

Dairy firms were addressed in The Netherlands, France, Germany, UK, Italy, Poland; for benchmark reasons also Brazil and the US were involved. To ensure a sufficient level of response, we sent a survey to members of each sub-group. For each participating country 100-200 addresses were selected. A survey (see appendix) was composed, which included questions on:

- company characteristics;
- food safety and quality systems;
- innovation;
- strategy;
- information capabilities;
- administrative burdens (compliance costs);
- competitiveness;
- transparency (labelling in the food supply chain).

Despite additional efforts to improve the response rate (telephone calls to more than 300 firms in The Netherlands, France, UK and US, second mailing to France, involvement of research institutes/universities in Germany, Italy and Brazil), the response remains low upon till now (20 June 2008). Included in this report are 34 valid cases (companies) of a total response of about 60. Conclusions on the hypothesised relationships are included in the next sections. They are a result of a combination of literature search and responses on the questionnaire.

5.1 Baseline results

Although further analysis will be based on more firms, the present document addresses 34 companies. Their home country is given in table 5.1 (1 company did not reveal its origin).

Table 5.1	Origin of respondents
Netherlands	12
France	6
Poland	1
UK Europe	6
Italy	3
Germany	5
Total	33
Missing	1
	34

N=34.

The average size of the companies included in the data is 9838 on average, with a STD of 48162, which indicates a big spread in the size of the companies. The main products the companies make are hard cheeses (29% of production total on average), soft cheeses (27.8%), drinking milk (12.52%) and deserts (7.9%). On average, 58.48% of all production and sales are meant for other companies, while 21.31% is meant for consumers and 6.46% for internal deliveries. The number of food safety & quality systems (FSQSs) which are certified are given in table 5.2.

Table 5.2 Available certified FSQSs		
Number of firms	**Number of systems**	**%**
0	5	20
1	7	28
2	4	16
3	4	16
4	2	8
5	2	8
10	1	4
Total	25	100
Missing	9	
	34	

5.2 Innovation and administrative burdens

The first research question was: *what is the relationship between administrative burdens, innovation and competitiveness?*

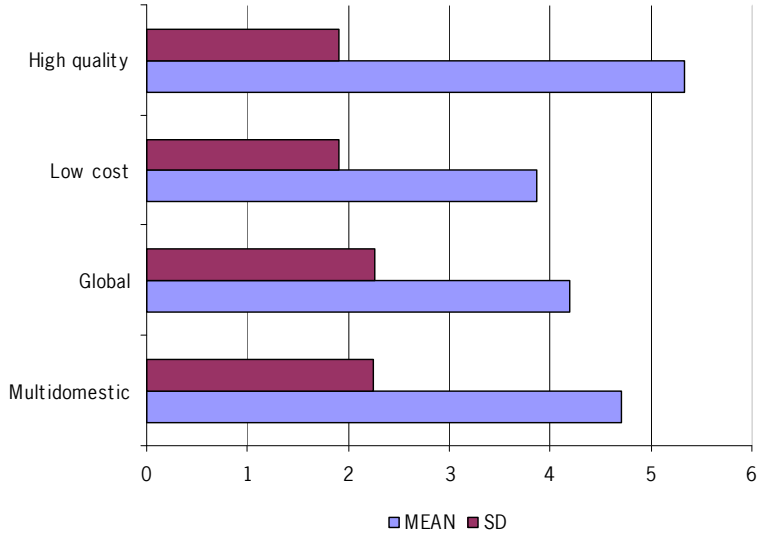
The relationship of administrative burdens and innovation is twofold. On the one side administrative burdens distract resources so that less assets are available to innovate. On the other side, innovation itself can be a source of administrative burdens. To start with the second effect, market entrance is limited through heavy legal requirements such as pre-market approval (which is especially the case with additives, sweeteners, GMO-related food, supplements, novel and functional foods, as well as novel packaging and enzymes). These tendencies work to the disadvantage of the innovativeness of SMEs, who lack the resources to come up to strict legal requirements. Process innovations are necessary to increase efficiency in a globalising market. For SMEs innovation takes the character of combining new impulses with existing skills and routines (Gielen et al., 2003).

The causes for existing administrative burdens and drain of resources, are vested in required systems to guard for food related diseases and food quality. We argue, that administrative burdens can impede on innovation, since scarce resources are used to come up to legal requirements for food safety and quality. Such improvements will often be 'hidden': consumers cannot experience differences in safety and quality ex ante, but only ex post, after having bought/consumes the product. We proposed that innovation is related to company strategy. Possibly, a cost orientation (by for instance improving processes)

is more in line with a policy of food safety system implementation than a policy of flexibility and product change.

To investigate the strategy that the companies apply, we asked a question (13), investigating whether the product is adjusted to local taste (multi-domestic strategy) or whether a global strategy is used. Moreover, we tried to distinct the defenders (in line with a low cost strategy) from the prospectors (differentiation strategy; aiming at high quality).

Figure 5.1 **Strategic orientation of companies**



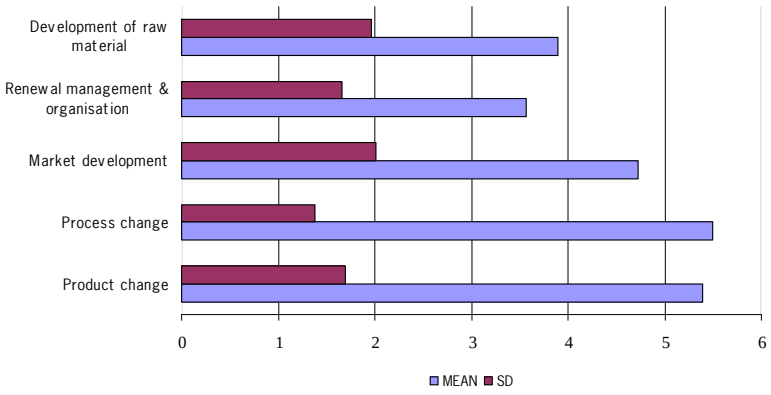
7-point scale; N=30; 1 = low/not appropriate, 7 = high/appropriate. This note also applies to the survey results presented in the next figures.

We conclude that companies in the European dairy industry focus more on high quality than on low cost, which is in line with the innovative character of the subsector. Adjustment to local taste (a multi-domestic strategy) will be applied more by small companies than by the big ones. The data show no significant correlation in this respect however. To investigate the kind of innovation that was applied, the following question (10) concerned a further categorisation of innovation from a Schumpeterian viewpoint:

Our innovation focuses on modification of the product we make
Our innovation focuses on improving processes of our operations
Our innovation focuses on developing new markets
Our innovation focuses on organisation (cooperation, licensing, patenting, merging)
Our innovation focuses on developing and acquiring new raw materials

The response of 17 valid cases in this respect, shows the following output.

Figure 5.2 **Innovation categorisation**

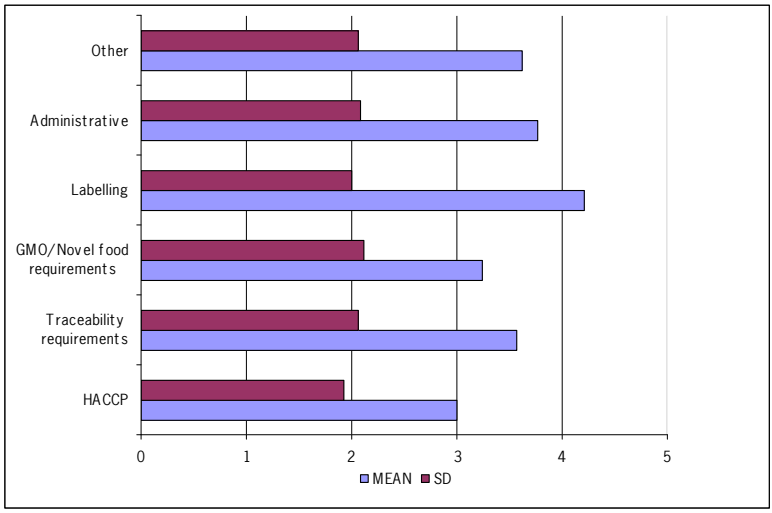


7-point scale; N = 18-25.

It can be observed that product development scores highest in the range of innovation options. This is in line with the idea of a highly innovative subsector. What then are the impediments of innovation in this sub-sector? To assess the impediments for innovation, we asked (12) to indicate to which extent the company feels restricted in innovation by the food legislation that applies to it:

- traceability requirements;
- HACCP requirements (Hygiene Regulations);
- Novel Food and/or GMO Regulations;
- labelling requirements;
- administration (such as bookkeeping) requirements;
- other mandatory food safety and/or quality system requirements.

Figure 5.3 **Innovation barriers**



7-point scale; N = 21-26.

Figure 5.3 shows that labelling requirements are a serious threat to innovation, as well as (second) administrative requirements. This is in line with our theoretical framework. Companies which are more innovative will perceive to be hampered more by bureaucratic structures.

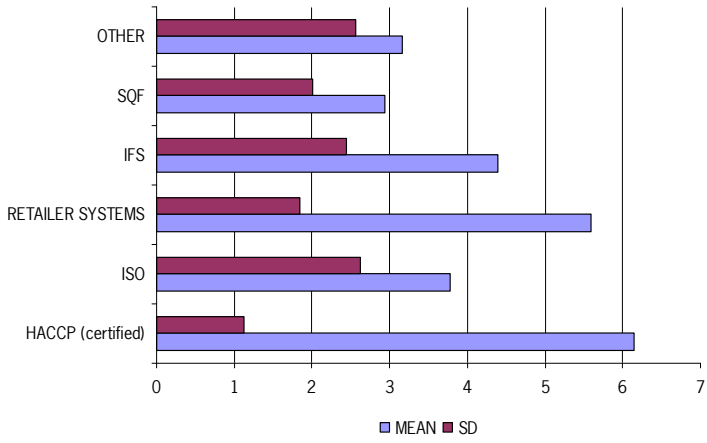
The introduction of private labels could have a negative effect on innovation. In 2005 in Great Britain and Italy the greatest share of household income was spent on private label products (AC Nielsen, 2005, p. 24). Especially in refrigerated food (milk, yogurt, butter/margarine, cheese et cetera) private label takes a major share of overall value. As to AC Nielsens's Executive News Report, for milk the private label share in 2005 was 43%, for cheese 33%, and for butter/margarine 21%, for yogurt 15% (ACNielsen, 2005 p. 14), while the price differential between private label and manufacturer brands are big (between 10% - 48%).

5.3 Administrative burdens and food safety and quality system deployment

The second research question was: *what is the relationship between administrative burdens, food safety & quality deployment and competitiveness?*

On average, the respondents have 3.1 FSQSs, of which an average of 2.2 are certified. This implicates a certification rate of 70%. We asked questions about the perceived helpfulness of food safety and quality systems to comply (9). We asked: do you consider the following food safety and quality system X to be helpful in complying with food legislation for your local company? The results are shown in figure 5.4.

Figure 5.4 **Level of support for compliance**



7-point scale; N=17-23.

It appears that especially certified HACCP is considered of primary importance for compliance; this is not surprising, since HACCP is an obligatory system in the dairy industry. Also retailer systems (like BRC) score high. This expresses the positive aspects of supply chain integration: it takes away responsibilities with respect to compliance from the shoulders of the (smaller) upstream producers to a degree, and centralises administrative burdens.

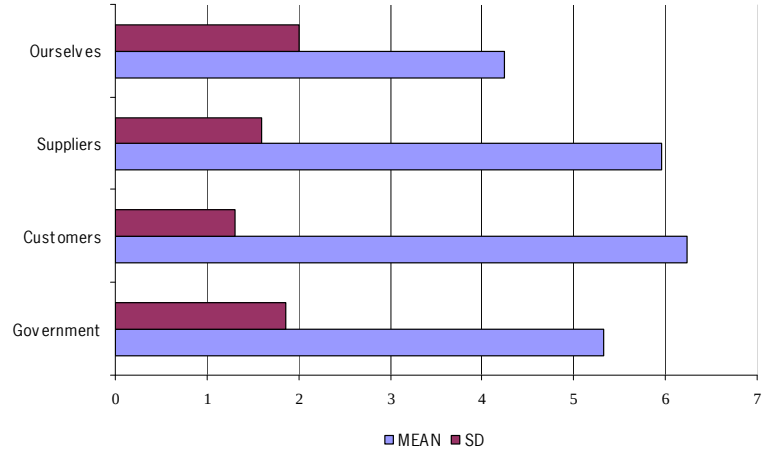
While compliance using FSQSs is a defensive strategy, we also asked questions about the - from a strategic perspective - positive aspects of such systems. If taking measures to enhance food safety would be regarded - in effect- as a burden, why then would such requirements be undertaken on a voluntary

basis? To investigate the reason for introducing food safety and quality systems we asked the following question (8). We asked an answer to the following questions:

- we have got FSQS because governmental agencies ask for it;
- we have got FSQS because buyers ask for it;
- we demand FSQS from our suppliers;
- we have got FSQS to distinguish ourselves from competitors.

The results are as in Figure 5.5.

Figure 5.5 **Reasons for installing FSQSs**



7-point scale; N = 24-25.

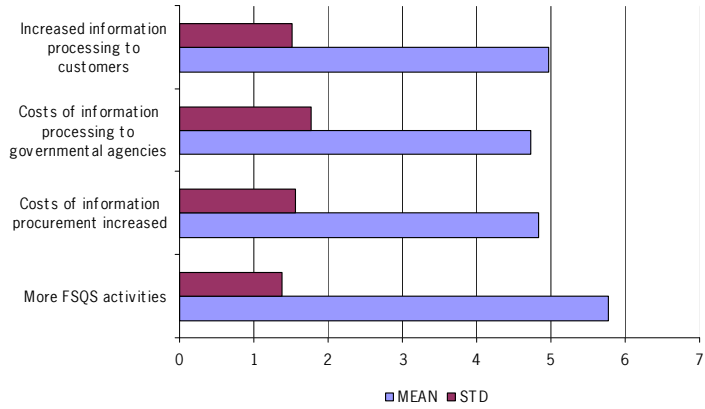
The overriding argument for installing food safety and quality systems are not governmental demands, but customer wishes. This is in line with the own demands companies make towards *their* suppliers. However, some respondents commented the great diversity of systems and standards between EU-countries. This will, as a consequence, have a negative impact on export performance. We investigated the effects of food safety and quality regulations. Did tightening norms increase administrative burdens (17)? We asked whether such regulations have led in the past three years to:

- efforts to implement food safety and quality systems;
- information gathering costs about the content of law;

- information processing costs to inform governmental organisations;
- information processing costs to buyers of the product.

The statistical results are as in Figure 5.6.

Figure 5.6 Effects of food legislation



7-point scale; N=30.

Figure 5.6 illustrates that on the one side administrative FSQS activities have increased, but on the other side increased costs have to be made to provide the necessary documentation. Figure 5.5 shows, that FSQSs are provoked at least by two parties: demands from legislation and demands from customers (especially in b-to-b transactions).

The obligatory introduction of HACCP certification will cause relatively higher adjustment costs in SMEs than the impact this legislation will have in large organisations. HACCP places burdens on SMEs because of documentation, validation and verification requirement (Taylor, 2001). Barriers for SMEs for smooth HACCP-implementation are the lack of skills, training and technical expertise as well as lack of time and money (Taylor, 2001). On the other hand, benefits can be discerned which can be depicted as market-driven (enhanced reputation et cetera) or supply-side driven (improvements in efficiency, see Henson and Holt, 2000). Other benefits are increased focus in the organisation, team-building, as well as legal protection (Taylor, 2001). The perceived importance of HACCP and its benefits towards customers which are discerned on the basis of the empirical material underlines this statement.

5.3.1 Labelling and administrative burdens

The third research question was: *what is the relationship between administrative burdens, food labelling requirements and competitiveness?*

For several reasons, labelling can induce a premium on the price to the producer:

- product characteristics and improvements in general transparent to the public, so that - depending on the willingness to pay - a premium on the price is harvested;
- at the cost side labelling reduces the information-gathering costs to the buyer.

In general, changes in labelling requirements can lead to additional costs: design of new packaging, information overload to the consumer (problems to digest extra information on the package) and subsequently loss of effect, information gathering costs with respect to form and content et cetera

A premium is harvested, if labelling contributes to the value of a brand. The value of a brand/label can be measured by discounting the extra cash flows which are generated through the better image or reputation of the firm(s) behind the brand. A brand value is economically expressed as the value of an image and/or reputation. Image expresses the public's short-run beliefs, while a reputation is more durable (Marwick and Fill, 1997 in: Berthon et al., 2008).

5.3.2 Mark-of-origin ('EU') label

Mark-of-origin labelling is recognised as a source for improved competitive performance if such labelling designates superior quality and/or safety. Probably especially in internal communal trade, mark-of-origin labelling renders no significant contribution to welfare. In international business relationships it can have a definite function, especially to those countries that lack superior quality and/or safety levels: reading frequency of food labels appears to be dependent on the degree of uncertainty about the food supply (Wandel, 1997). In an extensive study of the USDA ('Mandatory country of origin labelling of imported muscle cuts of beef and lamb') to assess the acceptability of labelling imports from outside the USA, only US farmers supported the idea, supposing that the consumer

would better be able to discriminate between home-made and foreign-made product and thus buy more own produce. Golan et al. 2001 suggest that the costs of origin labelling exceed the benefits, which is in line with other studies (for instance: Blank, 1998, in Golan et al., 2001). The question for any mandatory labelling system is whether it is effective enough to cover the extra administrative costs.

> 'Clearly, mandatory labelling will not be effective if it is not accompanied by consistent, achievable standards, testing services (or IP), certification services, and enforcement. In fact, labelling requirements in the absence of these services have more potential to disrupt the market than they do to reduce transaction costs. For example the inconsistent manner in which EU tolerance levels have been applied has increased uncertainty and information and search costs. In many cases, food manufacturers are uncertain how best to comply with EU standards and ensure access to the European market.'
> Golan et al. (2001)

Origin labelling, just like any kind of economic labelling or branding, will be preferable if consumers are diverse; only in that case price differences will occur and information has a value added to the consumer. For producers that want to distinguish themselves from competitors, homogeneity of product suggested by a label like 'made in the EU' is not preferable since such labelling hides quality differences instead of exposing them. In addition to the questionable advantages of origin labelling, an abundant amount of questions have to be asked, most of them contributing to information burdens (either for public including EU authorities, or for private firms trying to comply. As an example the questions surrounding GMO labelling are exposed in table 5.3.

The question is not so much whether origin labelling increases administrative burdens (it will, in a voluntary system by controlling those companies that commit themselves to a labelling system, and in a compulsory systems by increase of monitoring and control costs) but whether origin labelling costs are lower than the advantages that can be expected (in the form of extra value added and/or sales). Those advantages are, on logical grounds assessed to be meagre.

Regarding export performance they could be harvested at three levels:

- intra-communal;
- EU-US;
- EU-lower developed countries.

Table 5.3	Effects of labelling		
Policy questions	**Policy options**	**Probable effect on administrative burdens legal authorities**	**Probable effect on administrative burdens private firms**
How are genetic engineering, genetic modification, or biotechnology defined?	Broadly By specific techniques used	+/- +	+/- +
Is program voluntary or mandatory	Voluntary Mandatory	+ +	+/0 +
Which products are covered?	All food products Only key food products Only certain food categories	+ +/0 +/0	+ +/0 +/0
Which ingredients are covered?	All ingredients Only most important ingredients All ingredients except preservatives, additives et cetera	+ +/0 +/0 +/0	+ +/0 +/0 +/0
When are labelling requirements triggered?	X% of product is GM Most important ingredients are GM Important characteristics are altered	+ +/0 +/0	+ +/0 +/0

Table 5.3	Effects of labelling (continue)		
Policy questions	**Policy options**	**Probable effect on administrative burdens legal authorities**	**Probable effect on administrative burdens private firms**
How are products made from animals fed with GM inputs handled?	Labelling required if feed is GM Labelling not required if feed is GM	+ 0	+ 0
How are restaurant, take-out, bulk, and institutional foods handled?	Included in labelling requirements Excluded from labelling requirements	+ 0	+ 0
What label statements must/can be made	Does contain GMOs (genetically modified) May contain GMOs Non-GMO Does not contain GMOs	+ +/- + +	+ +/- + +
How are companies required to verify GM status?	Self-certification by seller is acceptable Testing Third-party certification	0 + 0	+/- + +

Source: Adapted and extended from: J.A. Caswell - Labelling Policy for GMOs: To Each HisOown? AgBioForum Vol. 3, No 1, 2000 pp. 53-57.

It can be stated that only with respect to the third category an improved competitive advantage can be expected. While intra-communally a label 'Made in the European Union' hides differences in quality and safety levels and therefore possibly works counter-productive, in the EU and the US a level playing field has

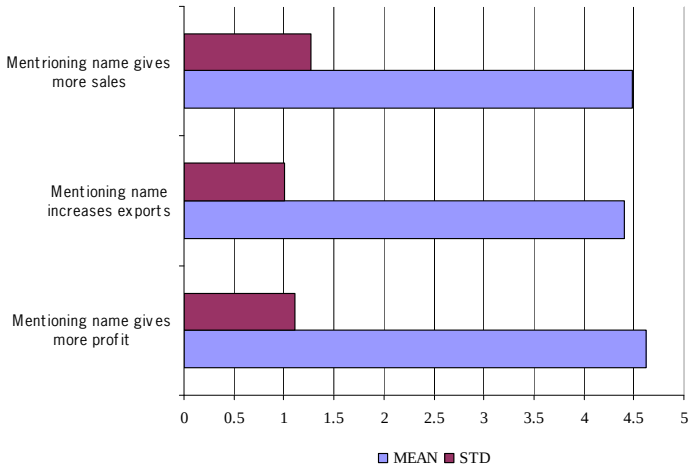
been established by the development of global instead of regional standards for food safety.

5.3.3 Co-labelling and private labels

Private labels and labels of producer's brands serve similar functions as food labels: they inform about the characteristics of the product and the supply chain behind it. Co-labelling (printing the producer's name on the package) is one of the possible options to create chain transparency. First we investigated the level of transparency of the supply chain to the customer (23). The questions were:

- Our name as processor is clearly visible on the package of the final product;
- The origin of the raw material/ingredients in the product is clearly visible on the package of the final product.

Figure 5.7 Effects of co-labelling



7-point scale; N = 27-29.

The visibility of the company name on the package of the final product scored on average 4.76 (N=25) with a wide spread (STD = 2.350). It depends on the position in the supply chain whether the company name is mentioned.

The visibility of the raw material included in the end-product was evaluated lower: 3.80 (STD = 2.43; N =25).

Next we asked what effect is expected from improved transparency through origin labelling (25):

- a much lower (1) - much higher (7) profit margin;
- much lower (1) - much higher (7) exports;
- much lower (1) - much higher (7) turnover.

The results appeared to be mediocre (see figure 5.7).

It appears that the companies in the sample on average do not expect strong positive effects of increased chain transparency. Standpoints will logically be very diverse Retailers which already express their own company name on the package will oppose, while producers upstream will possibly see the benefits of the system. Private label holders will clearly oppose, because mentioning producer's brands on the package is contrary to the intentions of private labelling. There are also technical reasons for opposing to a system of co-labelling:

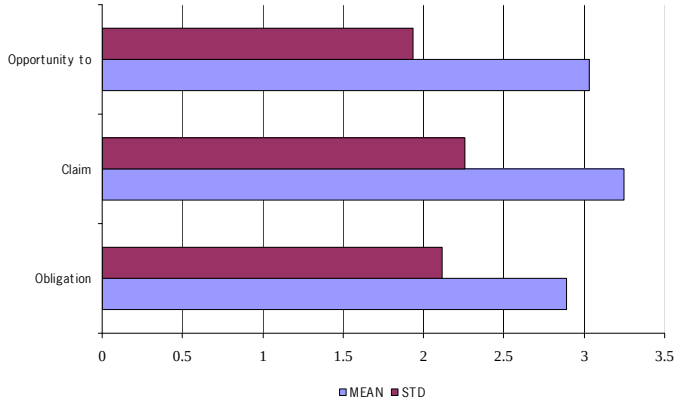
- often there are many contributors to the end-product; if this is the case, increased transparency will lead progressively to information processing costs;
- under such circumstances the costs of monitoring and control will be exorbitant;
- the delineation of which producers are mentioned on the label (defining the scope) will, under conditions of a multitude or co-processors, be only realised at great cost;
- even if the input for the end-product is homogeneous, it could be that there are a multitude of (small) suppliers; the costs for the end-producer would be exorbitant.

If, however, such transparency should be realised, it can be done by means of:

- an obligation to mention the name of the producers upstream;
- giving a producer upstream to claim that his name will be put on the package;
- facilitating the end-producer to mention the names of suppliers on the package.

Figure 5.8 shows the results.

Figure 5.8 **Options for co-labelling**



7-point scale; N=28-29.

There appears to be not much support on average, but standard deviations are very high. Preferences within the dairy industry are, as mentioned, possibly dependent on the actual circumstances and position in the supply chain a company takes in. On the one hand, co-labelling increases administrative costs to the end-producer/retailer that brings the product to the market as well as to governmental agencies which in a voluntary system would specify the form and in an obligatory system would enforce and monitor implementation. On the other hand, possibly it would improve the position of SMEs in the consumer market. We discerned a negative, but non-significant relationship between size (personnel) and the preference of a system that installs the obligation to print the name of producers upstream the supply chain on the package.

The increased visibility can provide a premium on the price which can be harvested by either the retailer or the producer (SME), depending on the power relations. The outcome of the bargaining process is highly unpredictable and depends on: the number of suppliers from which the retailer/end-producer can choose, the level of product differentiation (homogeneous products (commodities) will possibly meet high competition and so the premium which is rendered is relatively low), the level of dependency (alternative market channels available to the producer-SME and the retailer-seller), level of transparency of product-

characteristics to the consumer and the number of suppliers with the same or similar products to choose from.

In case of: a homogeneous product with alternative supply channel (commodity) administrative burdens for the enterprises as well as for governmental agencies will possibly outweigh the benefits from increased transparency of the supply chain. Summarising our viewpoint, the following table can be used to assess the policy alternatives. A distinction has been made between SMEs that:

- deliver their product directly to the consumer-market and SMEs that deliver their product via a second organisation (for instance a retailer). Within this last category a further distinction can (among other) be made between situations in which:
  - the SME's product is a component of the end-product of the end-producer/retailer;
  - the SME's product is sold in its original state by the retailer and meets the competition of other (including the retailer's) products;
  - the SME's product is sold under private label by the end-producer/retailer.
- SMEs that make a commodity or make a differentiated product. A commodity is defined as a homogeneous product which is produced by many suppliers.

With respect to the economic effects of private labelling in general, Bergès-Sennou et al. (2008) make a distinction between the short run and the long run. As to the authors, a positive impact on total welfare is suggested (although a redistribution of profits in the supply chain can be expected). In the long term 'the impact of PL could well be less positive. The argument is as follows:

> 'The development of PLs leads to a different share of profits within vertical structures. A decrease in the profits of the upstream producers could lead to less innovation and thus reduce the variety of goods available to the consumers. This mechanism is reinforced by the strategy of retailers who develop 'me-too' products. This strategy is nothing more than free-riding on research and development of new products. Such free-riding will discourage the efforts devoted to the development of new products in the long term.'

Figure 5.9 Product characteristics and chain transparency

Supply chain position of SME producer	Product characteristics	Policy alternative
SME delivers directly to the consumer-market	Commodity	Upscaling to reduce costs and in this way avoiding entrance to the market; this process will enrol naturally in a competing market; no reason for intervention. Need for process innovations
SME's product is a component of the end-product of the end-producer/retailers	Commodity	Upscaling to reduce costs and in this way avoiding entrance to the market; this process will enrol naturally in a competing market; no reason for intervention. Need for process innovations.
SME's product is sold in its original state by the retailer and meets competition	Differentiated product	Stimulation of product innovations, for instance by facilitating the access of new products to the market.
SME's product is sold under private label	Commodity	Reduction of costs via process innovations; natural tendency to upscaling; competition will reduce the number of SMEs.
SME's product is sold under private label	Differentiated product	Craftmanship of SME is hidden and premium not collected. Co-labelling can re-arrange the distribution of the value added in the supply chain. Label of the SME producer should be mentioned on the package. Preference of a voluntary system; SME has power to enforce co-labelling.

In cases of a commodity the net-effect of co-labelling will most likely be negative: administrative burdens will increase, while the advantages are limited; economically there is no reason to enforce enhanced chain transparency. In case of a differentiated product, co-labelling is one alternative for strengthening the position of SMEs. However, in case co-labelling has a function, SMEs are in many cases also strong enough to create competitive advantages themselves.

The effects of private labels on administrative burdens, looking at the EU as a whole, are expected to be positive, because of upscaling.

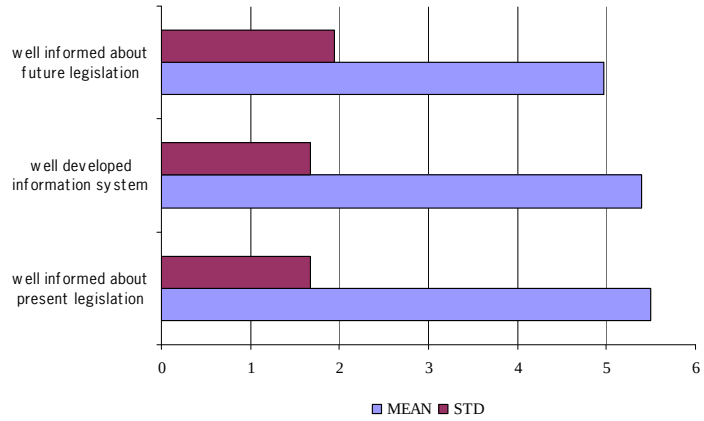
5.4 Administrative burdens and transparency

The fourth research question is: *what is the relationship between administrative burdens, supply chain transparency and competitiveness?*

We have asked ourselves in the previous paragraph what the significance is of increased transparency in the supply chain. Additionally, we gathered empirical information on the transparency of legal rules to the companies. We asked a question concerning the clearness of the rules that apply to the company, now and in the future. We investigated whether the legislation that is significant to the company is clear and predictable (14). We submitted the following statements to the companies:

- we are well informed about the food legislation that applies to our local company;
- we have a well-developed information system to comply to information requirements;
- we are well informed about upcoming food legislation that is relevant for our company.

Figure 5.10 **Level of informedness**



7-point scale; N=30.

In general, companies are well informed about the present and upcoming legislation that applies to their business unit. This result is in line with the outcomes of the competitiveness study of Wijnands et al., 2007. Companies indicate they have a more than average developed information system, and are reasonably well able to predict future food regulation developments. We remind that the fact that companies indicate that they are well informed, does not prove they know the rules.

Transparency in the food chain concerns, among others, the relationship between retailer and producer. However, empirical work about producer-retailer relationships is rare (Berges-Sennou et al., 2008) . Lack of clearness and transparency will invoke SMEs to mimicry the behaviour of larger organisations in their sector. However, SMEs are less well informed than bigger companies. We combined the results on the level of informedness with a size measure (personnel). The results show, that in general bigger companies indicate to be better informed about the present state of regulatory requirements, and have more certified food safety and quality systems at their disposal.

Table 5.5	Correlation Personnel x Informedness			
			2Personnel	**14 We are well informed**
Spearman's rho	2Personnel	Correlation Coefficient	1.000	.438*
		Sig. (2-tailed)	.	.016
		N	34	30
	14 We are well informed	Correlation Coefficient	.438*	1.000
		Sig. (2-tailed)	.016	.
		N	30	30
Correlation is significant at the 0.05 level (2-tailed).				

Non-parametric Spearman's rho (personnel x informedness) shows 0.438 ($p < 0.05$ two-tailed). The significance of this is that they are better able to monitor the impact of new requirements or evaluate the impact of changes. However, innovative SMEs possibly require managerial flexibility which is hampered by internal procedures in bureaucratic systems.

A distinction should be made between those organisations that are heavily embedded, i.e., will copy procedures and rely on safety systems to reduce liability and conform to market standards, and companies that act on a 'stand-alone'-basis. Companies that already have systems like ISO or certified HACCP available, will absorb new legal requirements with more ease than companies which do dispose of such systems. Safety systems reduce organisational flexibility. Highly product-innovative companies, however, will rely on a flexible attitude towards the market and put efforts in R&D to change basic product characteristics. Such companies will regard governmental interference and prescriptions that impede on flexibility as burdensome. In the US, barriers to market entrance are lower because of a fundamental different way of governing newly developed food and foodstuffs. As elaborated in Wijnands et al. (2007), the legal culture in the US is more repressive compared with Europe, while the European food culture is preventive of a kind. It is a matter of moral and political choice to make shifts on the scale of repressive - preventive food legislation. While the US is shifting gradually towards a more preventive system, the EU is holding its position and trying to reduce the extra (prevention) costs a preventive policy requires.

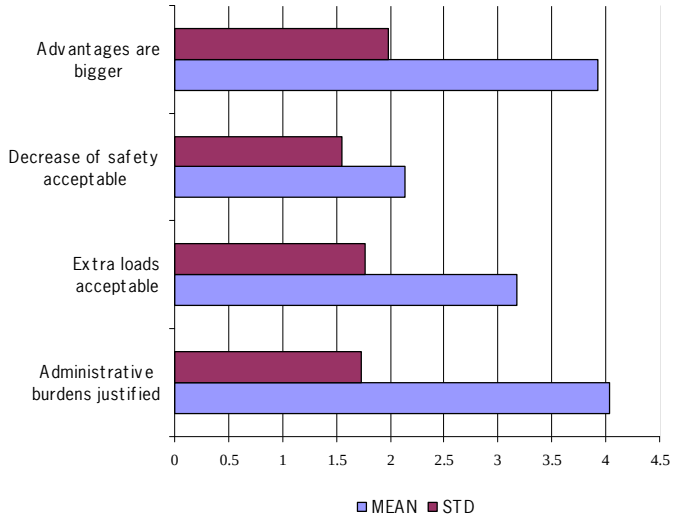
5.5 Administrative burdens and competitiveness of the diary industry

To investigate the net impact and acceptability of administrative burdens we asked to indicate the extent to which:

- the administrative burdens caused by food legislation are warranted by the increased food safety and quality that is achieved;
- a further Increase of administrative burdens is acceptable if this increases food safety and quality;
- a decrease in food safety is acceptable if it decreases the administrative burdens;
- the benefits caused by food legislation outweigh the administrative burdens this legislation provokes.

We obtained 27 valid cases of European companies in the dairy food sector. The statistics are included in the following figure.

Figure 5.11 Safety level and administrative burdens



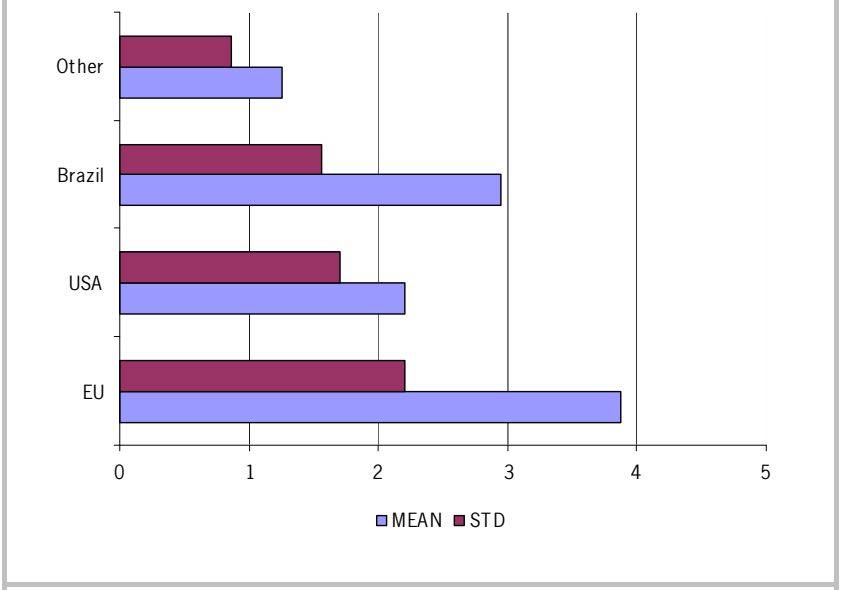
7-point scale; N=28-30.

Although there are only a limited amount of cases, the results are in line with the 2007 study on competitiveness in general of the food industry (Wijnands et al., 2007. They oppose to further increase of administrative loads, but are not willing to sacrifice food safety to reduce compliance costs.

5.6 Overall assessment of quality of legislation

We asked an overall judgment on the quality of the European food industry legislation. First we tried to find out which legal environment is preferred (21): EU USA, Brazil or a different legal environment. For European countries the statistical results are as follows:

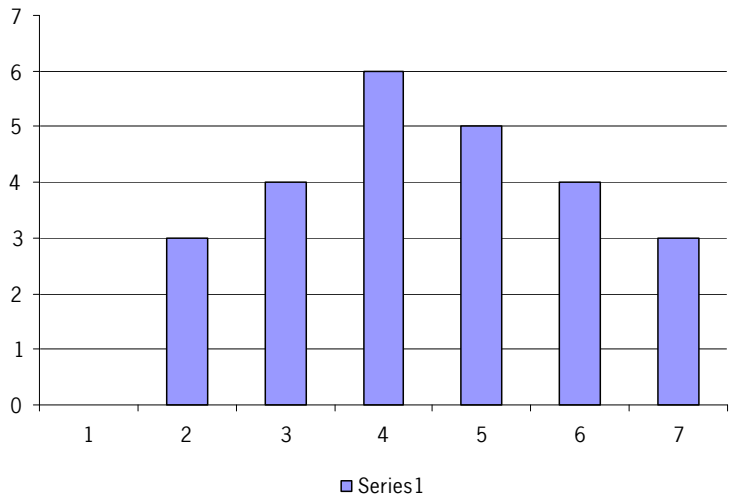
Figure 5.12 **Preference legal system of European dairy companies**



7-point scale; N = 22-24.

The results show the European dairy companies in general prefer the European legal environment over for instance the USA (mean = 3.88 vs 2.20 on a 7-point scale). Last we asked the companies to provide a mark for the food legislation which applies to the own company. We asked: 'The food legislation which applies to our own company is good'.

Figure 5.13 **Assessment of quality of EU food legislation**



7-point scale; N=25.

The EU food legislation scores on average 4.68 on a 7-point scale (STD = 1.558, N=34), which is in line with the positive picture of the EUFI-I report (Wijnands et al., 2007).

5.7 Control variables

In the previous pages, we already paid attention to the influence of size and network on administrative burdens and competitiveness. Here we pay attention to the supply chain specifics and its change over time. Supply chains are not static. The change in supply chain structure refers to changes in the contacts between consumers and retailers/companies, which affect previous stages in the supply chain. The special position and policy alternatives to enhance innovativeness in SMEs are elaborated upon below. A major impact is vested in the fact that consumers buy more and more dairy products under private label (AC Nielsen, 2005). This has several consequences:

- a shift and change of administrative burdens within the supply chain;
- indirect contact with the end-market for a part of total production of SME-processors;
- competition of branded products with private label produce via the same outlet: the chain participant which created the private label in the first place.

According to the European Commission '*Small and medium-sized enterprises are the backbone of the European economy, and the most important creators of new jobs and economic growth*' (European Commission, 2007). The European commission mentions the administrative burden as a main drawback for SMEs. Reasons for protecting SMEs are connected to their economic and/or social functions. The two questions cannot be treated apart from each other. Several (combined) reasons are mentioned for this:

- they are sources of innovation;
- they employ a large part of the productive population;
- they account for the majority of companies in the EU;
- they have characteristics which big companies lack: they are flexible, diverse, experienced in traditional food production et cetera;
- they are more flexible and this combined with innovativeness makes them better able to serve niche markets (Berthon, 2008).

While SMEs excel in innovativeness, traditional production and diversity, food safety concerns, labelling and other legal requirements will favour large versus small companies:

- standardised production is more easily to control and monitor;
- it can be sold under one label, thus bridging the differences between more than one processor for a specified end-product;
- it is more easily to market (advertising) and to build an image of trustworthiness;
- burdens of innovation are easily copied by large producers and private labels, if legal protection is not formalised (SMEs do not excel in creating barriers to copying behaviour; on the other hand, with respect to processes and procedures they are convicted to copy, to reduce costs and administrative burdens).

SMEs are threatened by *supply chain structure change*:

- required homogeneity/standardised output, to come up to legal (food safety) as well as market demands (sales at large scale via (store) brands = private labels);

- lack of transparency of improved quality towards the consumer through legally prescribed or enforced by retail companies for instance (and not being able to collect a premium because of improved product characteristics as a result of complying to legal requirements) because of the structure of the supply chain (indirect sales via deliveries to retail chains et cetera);
- shifts in the distribution of the premium which is harvested because of positive buyer effects through structural changes in the supply chain.

As elaborated in the adjacent study on legal impediments on innovativeness of food companies by Van der Meulen (2008), SMEs are hampered in their competitiveness by pre-market approval schemes on GMO, functional foods and

Table 5.6 Starting a new firm

Country	Administrative complexity	Lack of financial support	Risk tolerance
Austria	0.683	0.732	0.433
Belgium	0.799	0.819	0.467
Denmark	0.846	0.758	0.596
Finland	0.711	0.651	0.558
France	0.822	0.859	0.597
Germany	0.761	0.805	0.504
Greece	0.762	0.892	0.534
Ireland	0.731	0.751	0.736
Italy	0.810	0.873	0.546
Luxemburg	0.754	0.815	0.496
Netherlands	0.655	0.590	0.519
Portugal	0.869	0.880	0.410
Spain	0.768	0.835	0.569
Sweden	0.819	0.843	0.464
United Kingdom	0.721	0.709	0.663
Iceland	0.544	0.692	0.547
Norway	0.761	0.613	0.356
United States	0.685	0.780	0.711
Weighted average	0.745	0.777	0.544

Source: Van Stel and Stunnenberg (2004), p. 8; original; Flash Eurobarometer 134 and 146 (average 2002 and 2003), European Commission.

additive regulations. Especially regulations 258/97 (Novel Foods and Novel Food Ingredients) as well as 1829/2003 on genetically modified food increase the time-to-market of new findings; uncertainty exists not only with respect to the time schedule but also whether food and/or ingredients are addressed by the regulations (the scope; see in detail: Van der Meulen (2008). In an extensive study by Krauss and Stahlecker (2001) it was argued for German biotechnology firms that barriers were vested in:

- low impulses to found biotechnology firms out of academic research;
- bad alignment with the institutional environment;
- government restraints.

Administrative complexity has a negative influence on the latent and actual inclination to start a new firm (Grilo and Thurik, 2004). The measured impacts on starting a business are given in the following table.

The table shows that administrative complexity in the US is lower, while risk tolerance is higher than in 18 OECD countries.

6 Final remarks, conclusions and policy implications

The European dairy sector is highly competitive and innovative. However, on a world market countries from South-America, Australia and Asia are increasingly catching up. We defined a framework using TQM-cost insights and TCE to express, on theoretical grounds, the effects of regulatory burdens on the competitiveness. we found that problems arising in the food industry as a whole also apply to dairy companies. In a discussion with experts from the dairy industry some administrative burdens were mentioned in related domains: REACH, the regulations on animal by-products (where tracing and tracking is useful for animals and meat but hard for milk that is collected in batches and cannot easily be traced back to the farm), administrative burdens in exports (Achterbos (2007) and competition law (cooperation by SMEs).

Especially for future growth, the dairy industry will have to operate on the world market rather than on the European market, with specialised, innovative and distinctive products. Excessive administrative burdens connected with hierarchical market structure will not be in the interest of the dairy industry. A positive perception of the form of regulations is strongly related to the size of companies. As Doyle proposes (Doyle, 2007), firms should be supported to close the gap between regulation dissemination and the translation of such regulation in knowledge at the firm level to maintain competitive. Possibilities to monitor the level of compliance are limited, so instruments to increase food safety should benefit to the producer, so that voluntary compliance is reached. In this context it should be noted that external monitoring and inspection can either address the outcomes, or can address the established procedures for internal control (Scrivens, 2007). Monitoring procedures is less costly than monitoring outcomes. Especially non- or insufficient compliance could signal a need for simplification of the law system (OECD, 2007).

Conclusions and advice can be stated as follows. Although companies depict areas where EU food law could be simplified and specific areas of regulations are seen as burdensome, they have a preference for the European system, which puts food safety above ex-post litigation.

A distinction should be made between the form and the content of food law. Especially product innovative companies are dissatisfied with the content of food law.

Time-to-market of new output is long, costs are relatively (compared to the US) high, and procedures are intransparent. Legal prescriptions are scattered and a comprehensive overview is often lacking (see Van der Meulen (2008) for details).

European dairy companies are inclined to accept relatively relatively high administrative burdens (especially in comparison with the US) for the sake of food safety and quality. In other words: they will not choose for a policy that reduces administrative burdens at the expense of food safety and quality.

The European food law with respect to the dairy industry is evaluated as being relatively good. Companies in the dairy industry that foster product innovation will be negatively impacted by procedural obligations. However, process innovations are stimulated by food law, since systems and procedures have to be installed. Companies that foster process innovations will accept administrative requirements more easily than companies that foster product innovations.

Policy towards SMEs should be adjusted to their product characteristics and supply chain position. The benefits of co-labelling depend on these two variables. Co-labelling (printing the name on the package of the end-producer/retailer) is only beneficial (benefits outweigh administrative burdens) if the upstream product is differentiated (not easy to copy). For commodities (homogeneous produce which is supplied by many companies) upscaling in intermediary production stages will be inevitable, to reduce costs. In the long run, these SMEs will necessarily merge to enhance economies of scale. Upscaling of commodity-production will be to the benefit of efficiency of food supply chains and should therefore not be obstructed.

EU Origin labelling (a 'made in EU'-label) will hide intra-communal food safety and quality differences. The positive side is that it could stimulate exports (especially to non-western countries). Companies will prefer to distinguish themselves on their brand-name, PGI/PDO and food safety and quality characteristics. Origin labelling (a ‘made in EU' label) can have a contra-productive effect, because it hides company- and country-specific differences. Moreover, the EU as a whole will be vulnerable should food- or political problems occur.

Food safety and quality systems appeared to be more provoked by customer wishes than by legal obligations. So the costs which are connected to them would possibly have been made even if food legislations would not impose

them. Integration of food safety and quality requirements is necessary to reduce monitoring and reporting costs, by private and public parties.

In general, there is not a broad preference for increased chain transparency through co-labelling, although opinions are very diverse. Technically there are strong disadvantages if such transparency should be improved by means of labelling, the costs of monitoring and control by public agencies being one of them.

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Appendix 1

Questionnaire UK: competitiveness of the EU dairy industry

Research by:
LEI (Agricultural Economic Research Institute, The Hague),
Law & Governance Group and Management Studies Group, WUR

Explanations and remarks

> The goal of this research is to compare the USA, Brazil and 6 European countries on their competitiveness, causes of administrative burdens and attitude towards supply chain transparency.
> Question one about the *'LOCAL COMPANY' fixes the legal environment you have in mind* when filling in the remaining questions. It is possible to fill in more than one questionnaire to address different legal environments. See: http://www3.lei.wur.nl/EUfoodindustry for electronic versions of the questionnaire.
> The results are only analysed and presented in an anonymous way. In no respect will the answers of individual firms be made available to the public.
> It is very important to be as complete as possible in answering all questions. It takes a maximum of 10-15 minutes!
> If desired, a summary of the results is sent to you by e-mail (fill in your address at the end).
> For further information please contact Jo Wijnands (jo.wijnands@wur.nl), tel +31 317 485941 or Harry Bremmers (harry.bremmers@wur.nl), tel. +31 317 485009.

Would you please be so kind as to answer the following questions. The results will be treated confidentially.

Please return the questionnaire to:
Agricultural Economics Research Institute (LEI)
Jo Wijnands
P.O. Box 29703
2502 LS The Hague / The Netherlands

A. General questions

1. In which country is your company located?
Please note: in following questions this is called 'LOCAL COMPANY': it fixes the legal environment for which you provide the answers. That is why ONLY ONE ANSWER IS POSSIBLE!

a. Netherlands .....
b. France .....
c. Poland .....
d. UK (European part) .....
e. Italy .....
f. Germany .....
g. USA .....
h. Brazil .....
i. Other (please indicate) .....

2.

How many people (in full-time jobs, own staff and contractors) are currently working in your LOCAL COMPANY. Approximately:	..... staff
What is the turnover of your LOCAL COMPANY? Approximately:	..... € million
What are the total assets of your LOCAL COMPANY? Approximately:	..... € million
How many different food safety and/or quality systems are functioning at your local company?	..... number of systems
To what extent (in a percentage) are these systems certified?	.....%

3.

What is your local company's position in the food chain? (indicate with an estimated percentage of total turnover, adding up to 100%)		**%**
Production and business to business sales		**%**
Production and business to consumer sales		**%**
Production for internal deliveries within the concern		**%**
Sales only, business to business sales */		**%**
Sales only, business to consumer sales */		**%**
Total is:		**100%**

IF YOUR ANSWER IS 'SALES ONLY' THEN GO TO QUESTION 13 (skip 4-12)

4.

What product(s) does your LOCAL COMPANY produce (indicate with an estimated percentage of total turnover of your local company, adding up to 100%)?	%	
Fresh drinking milk	.....	**%**
Soft cheese(s)	.....	**%**
Semi-hard and hard cheese(s)	.....	**%**
Desserts	.....	**%**
Milk powder	.....	**%**
Ingredients and/or food supplements	.....	**%**
Butter	.....	**%**
Other dairy (name?).....	.....	**%**
Other non-dairy (name?).....	.....	%
Total is.....	**100**	**%**

5.

Indicate the percentage of sales achieved with exports of your local company in a percentage of its total turnover	.....	**%**
Indicate the quantity of imported inputs of your local company (raw material, ingredients and/or semi-finished products) for your production in a percentage of total inputs	.....	**%**

6.

How can your sold products be characterised? (encircle the appropriate answer)	1 = Not at all; 4 = half of our production; 7 = whole production
We produce a recognised consumer brand	1 2 3 4 5 6 7
We produce a final product for a private label owner	1 2 3 4 5 6 7
We produce a semi-final (intermediate) product for a processor	1 2 3 4 5 6 7
We produce a legally Protected Designation of Origin/ Geographical Indication/ country of origin label, or similar	1 2 3 4 5 6 7
Our product is protected by a trade mark	1 2 3 4 5 6 7
We produce a final product for consumers under our own company name	1 2 3 4 5 6 7

7.

	With respect to your local company		
	Where does the raw material you use originate from?	**Where is the product you sell or transfer made in?**	**What is the destination of your product?**
EU country	.....%	.....%	.....%
Brazil	.....%	.....%	.....%
The USA	.....%	.....%	.....%
Other Developed countries	.....%	.....%	.....%
Other Newly Industrialised countries (NIC)	.....%	.....%	.....%
Less developed countries	.....%	.....%	.....%
Total raw material	**100 %**	**100%**	**100%**

B. AVAILABLE FOOD SAFETY/QUALITY SYSTEMS

8.

Please answer the following questions on your FSQS = food safety and quality systems (encircle the appropriate answer)	1 = totally **dis**agree; 4 =neutral; 7 totally agree
We have FSQS because governmental agencies ask for it	1 2 3 4 5 6 7
We have FSQS because buyers ask for it	1 2 3 4 5 6 7
We demand FSQS from our suppliers	1 2 3 4 5 6 7
We have FSQS to distinguish ourselves from competitors	1 2 3 4 5 6 7

9.

Do you consider the following food safety and quality systems to be helpful in complying with food legislation for your local company:	1 = not helpful at all 4 = neutral; 7 = very helpful NA = does not apply to our company	
Certified HACCP system	NA	1 2 3 4 5 6 7
ISO food quality system	NA	1 2 3 4 5 6 7
Systems demanded by retailers (like BRC/GlobalGap)	NA	1 2 3 4 5 6 7
IFS (International Food Standard)	NA	1 2 3 4 5 6 7
SQF (Safe Quality Food)	NA	1 2 3 4 5 6 7
other (fill in:.....)?	NA	1 2 3 4 5 6 7

C. INNOVATION

10.

Indicate to what extent the following statements apply to your local company (encircle the appropriate answer):		1 = not at all; 4 = neutral 7 = to a large extent ; N = not applicable to our company
Our innovation focuses on modification of the product we make	NA	1 2 3 4 5 6 7
Our innovation focuses on improving processes of our operations	NA	1 2 3 4 5 6 7
Our innovation focuses on developing new markets	NA	1 2 3 4 5 6 7
Our innovation focuses on organisation (cooperation, licensing, patenting, merging)	NA	1 2 3 4 5 6 7
Our innovation focuses on developing and acquiring new raw materials	NA	1 2 3 4 5 6 7

11.

Indicate to which extent your local company **feels restricted in innovation** by the food legislation that applies to your local company:		1 = totally **dis**agree; 7 =totally agree NA = does not apply to our company
- Traceability requirements	NA	1 2 3 4 5 6 7
- HACCP requirements (Hygiene Regulations)	NA	1 2 3 4 5 6 7
- Novel Foods and/or GMO Regulations	NA	1 2 3 4 5 6 7
- Labelling requirements	NA	1 2 3 4 5 6 7
- Administration (such as bookkeeping) requirements	NA	1 2 3 4 5 6 7
- Other mandatory food safety and/or quality system requirements	NA	1 2 3 4 5 6 7

12.

Indicate to what extent your local company **feels restricted in innovation** by the food legislation that applies to your local company:		1 = Not at all; 7 = to a large extent NA = not applicable
- We feel restricted in product-innovation (developing and selling new products)	NA	1 2 3 4 5 6 7
- We feel restricted in process innovation (changing our production processes)	NA	1 2 3 4 5 6 7
- We feel restricted in conquering new or developing existing markets	NA	1 2 3 4 5 6 7
- We feel restricted in developing new managerial & organisational structures	NA	1 2 3 4 5 6 7
- We feel restricted in buying raw material	NA	1 2 3 4 5 6 7

D. STRATEGY

13.

Indicate to what extent the following statements apply to your local company (encircle the applicable answer):		1 = not at all; 4 = neutral 7 = to a large extent ; NA = not applicable
We adjust the composition of our products to local taste	NA	1 2 3 4 5 6 7
We focus at producing and/or selling a product in the same way at all our locations	NA	1 2 3 4 5 6 7
We focus on low costs to be able to sell at low prices	NA	1 2 3 4 5 6 7
We focus on high quality to be able to ask high prices	NA	1 2 3 4 5 6 7

E. INFORMATION

14.

Indicate to what extent the following statements apply to our local company (encircle the applicable answer)	1= fully **dis**agree I 4 = neutral; 7 = fully agree
We are well informed about the food legislation that applies to our local company	1 2 3 4 5 6 7
We have a well-developed information system to comply to information requirements that are imposed upon us by food legislation	1 2 3 4 5 6 7
We are well informed about **upcoming** food legislation that is relevant for our company	1 2 3 4 5 6 7

F. ADMINISTRATIVE BURDENS

15.

What is approximately the **estimated extra workload for your local company (expressed in estimated full time jobs):**	
- To be able to **comply** to legal food safety and quality obligations	..... extra jobs
- To come up to **beyond-compliance wishes of clients**	..... extra jobs
- To come up to our own **beyond-compliance company food safety and quality goals**	..... extra jobs

16. ***In this question administrative burdens comprise all costs your company makes to comply to food egislation.***

Indicate to what extent the following statements apply to your local company (encircle the applicable answer)		1 Totally disagree I 4 = neutral; 7 = fully agree; NA = not applicable
The administrative burdens caused by food legislation are warranted by the increased food safety and quality that is achieved	NA	1 2 3 4 5 6 7
A further Increase of administrative burdens is acceptable if this increases food safety and quality	NA	1 2 3 4 5 6 7
A decrease in food safety is acceptable if it decreases the administrative burdens	NA	1 2 3 4 5 6 7
The benefits caused by food legislation outweigh the administrative burdens this legislation provokes	NA	1 2 3 4 5 6 7

17.

Food safety and quality legislation for our local company in the past three years has led to an increase of:	1 = totally **dis**agree; 4 = neutral; 7 = totally agree
- efforts to implement food safety and quality systems	1 2 3 4 5 6 7
- information gathering costs about the content of law	1 2 3 4 5 6 7
- information processing costs to inform governmental organisations	1 2 3 4 5 6 7
- information processing costs to buyers of our product	1 2 3 4 5 6 7

G. COMPETITIVENESS

18.

In exporting food products the food legislation which applies to our local company creates a disadvantage - advantage over companies in		1 = big **dis**advantage; 4 = neutral; 7 = big advantage NA = does not apply
- The EU	NA	1 2 3 4 5 6 7
- The USA	NA	1 2 3 4 5 6 7
- Brazil	NA	1 2 3 4 5 6 7
- Other developed countries	NA	1 2 3 4 5 6 7
- Newly Industrialised countries	NA	1 2 3 4 5 6 7
- Less developed countries	NA	1 2 3 4 5 6 7

19.

In importing raw material and/or ingredients the food legislation which applies to our local company creates a disadvantage - advantage over companies in:		1 = big **dis**advantage; 4 = neutral; 7 = big advantage NA = does not apply
- The EU	NA	1 2 3 4 5 6 7
- The USA	NA	1 2 3 4 5 6 7
- Brazil	NA	1 2 3 4 5 6 7
- Other developed countries	NA	1 2 3 4 5 6 7
- Newly Industrialised countries	NA	1 2 3 4 5 6 7
- Less developed countries	NA	1 2 3 4 5 6 7

20.

Indicate whether your company is MORE (1) or LESS (7) restricted by food legislation than by:		1 =**more** restricted ; 4 = neutral; 7 = less restricted NA = not applicable
- Tax legislation	NA	1 2 3 4 5 6 7
- Social security legislation	NA	1 2 3 4 5 6 7
- Employment (safety) law	NA	1 2 3 4 5 6 7
- Environmental law	NA	1 2 3 4 5 6 7
- Spatial planning law	NA	1 2 3 4 5 6 7

21.

If you could choose, which legal environment would you prefer with respect to food legislation (indicate with a circle):	1 = Not preferable at all 4 = neutral; 7 = Highly preferable
The legal environment of the EU	1 2 3 4 5 6 7
The legal environment of the USA	1 2 3 4 5 6 7
The legal environment of Brazil	1 2 3 4 5 6 7
The legal environment of (fill in).....	1 2 3 4 5 6 7

22.

Please answer the following question	1 = do not agree at all; 4 = neutral; 7 = totally agree
The food legislation which applies to our local company is good	1 2 3 4 5 6 7

H. CHAIN TRANSPARENCY

23.

Indicate to what extent the following statements apply to your local company (encircle the applicable answer)		1 = do not agree at all; 4 = neutral; 7 = totally agree; NA = not applicable
Our name as processor is clearly visible on the package of the final product	NA	1 2 3 4 5 6 7
The origin of the raw material/ingredients in the product is clearly visible on the package of the final product	NA	1 2 3 4 5 6 7

24.

Indicate to what extent the following statements are preferable from the perspective of your local company (encircle the applicable answer). **We prefer the implementation of a legal system that……:**	1 do not agree at all 4 = neutral; 7 = totally agree
- obligates to print the name of processors that contributed to the end-product on the package of the final product	1 2 3 4 5 6 7
- gives a processor in the supply chain the right to print his company name on the package of the final product	1 2 3 4 5 6 7
- gives an end-producer the choice to print the names of previous suppliers on the package of the final product	1 2 3 4 5 6 7

25.

Indicate to what extent the following statements apply to your local company (encircle the applicable answer)	1= strong decrease 4 = neutral; 7 = strong increase
Mentioning our name on the package of the final product causes a much lower (1) - much higher (7) profit margin for our local company	1 2 3 4 5 6 7
Mentioning our name on the package of the final product implicates a much lower (1) - much higher (7) exports for our local company	1 2 3 4 5 6 7
Mentioning our name on the package of the final product implicates a much lower (1) - much higher (7) turnover for our local company	1 2 3 4 5 6 7

26.

Indicate to what extent the following statements apply to your local company (encircle the applicable answer)		1 do not agree at all 4 = neutral; 7 = totally agree; NA = not applicable
Our company has bargaining power towards the main buyers	NA	1 2 3 4 5 6 7
Our company has bargaining power towards the main suppliers of raw materials	NA	1 2 3 4 5 6 7
Our company has access to additional financial resources if needed	NA	1 2 3 4 5 6 7
Our company has access to additional human resources if needed	NA	1 2 3 4 5 6 7
Our company can buy processing equipment if extra capacity is needed	NA	1 2 3 4 5 6 7
Our company can safeguarding property rights (such as recipes, patents et cetera)	NA	1 2 3 4 5 6 7
Our company has a sufficient number of buyers	NA	1 2 3 4 5 6 7
Our company has sufficient resources to acquire information for product development	NA	1 2 3 4 5 6 7

27. Which food legislation for your local company could be simplified or limited, without impeding on the purpose for which such legislation has been created? Please motivate your answer.

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28. Which food legislation requirement(s) do you think are superfluous because similar or the same regulations already exist? Please motivate your answer.

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29. What is according to your opinion the main restricting and/or annoying factor in food legislation, which impedes on your competitive performance? Please motivate your answer.

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.....
.....

Additional remarks:

.....
.....
.....

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.....
.....

Thanks for your cooperation!

Please return the questionnaire to

Agricultural Economics Research Institute (LEI)
Jo Wijnands
P.O. Box 29703
2502 LS The Hague
The Netherlands

I would like to receive a summary of the results:
Name company

_____

Name:

_____

Address:

_____

Zip Code:

_____

City:

_____

Country:

_____

E-mail:

_____

LEI develops economic expertise for government bodies and industry in the field of food, agriculture and the natural environment. By means of independent research, LEI offers its customers a solid basis for socially and strategically justifiable policy choices.

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