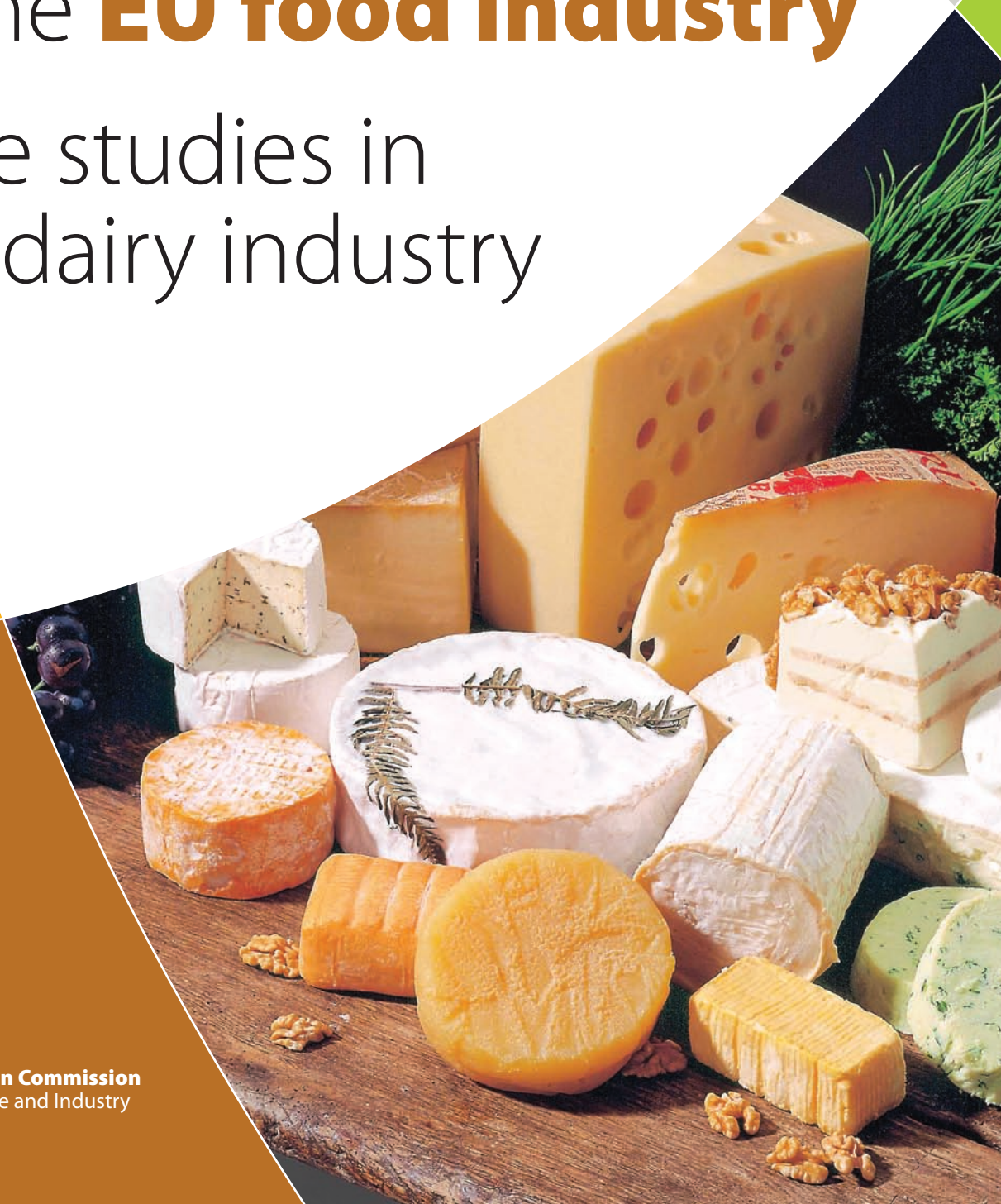
Food legislation and competitiveness in the **EU food industry**

Case studies in the dairy industry



European Commission
Enterprise and Industry

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Case studies in the dairy industry

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Preface

Any study looking into the competitiveness of the EU food industry will recognise that developments at the EU and world level and relationships with the consumer will present significant challenges to the future of the sector. These include the CAP health check, issues of international trade, the regulatory framework in which the industry operates, the position of small and medium-sized enterprises (SMEs) and the sustainability agenda, in a context of changing lifestyles, consumer preferences and volatile commodity markets. The task of enhancing the competitiveness and the innovative capacity of the sector while taking account of issues of concern to consumers, not least food safety, food quality and awareness of the environment, will be crucial in further developing market opportunities and ensuring a sustainable future for the food industry.

This study looked into a number of critical aspects of the competitiveness of the industry, namely the issues of administrative burden confronting the sector, the issue of food law or the regulatory framework, and the issue of the food chain, as well as looking in more depth at the competitive position of the dairy industry.

With regard to food safety legislation, the study found that the European dairy industry has a strong preference for the European legal system and accepts the relatively high administrative burden that serves to guarantee food safety and quality. On the other hand, in respect of food law, the research inter alia raises questions about the complexity of current legislation and the impact of product approval procedures on innovation. In relation to the food chain, the study identifies current structural changes, in particular the role of supermarkets and the use of 'own brand' labels at the retail level as significant developments.

The report's analysis of the dairy sector highlights the existence of global players and at the same time indicates that most dairy companies are very small. Overall it cautions that competitiveness of the sector is weak due in part to the limitations of the milk quota arrangements but that there is a significant level of new products being produced by the sector partly driven by packaging and ingredient suppliers.

All in all, and thanks to the authors of this informative study, we now have a better understanding of what might be called the mechanics of competitiveness. I would recommend the study to all those with an interest in the future development of the sector.

Heinz Zourek
Director-General, Enterprise and Industry

Executive summary

Main conclusion: Administrative burdens, access to raw materials and innovation are the main issues needed to improve the competitive position of the European food industry.

Background

The EU food industry is currently confronted with high food prices in world markets; this has put agriculture and the food industry back at the top of the agenda of international policy forums. The European Commission already announced in 2007 the creation of a high-level group on the food industry. The EU hosts a fair number of world-leading food enterprises but competitiveness of the European food industry is weak compared with the USA and Canada, an earlier study showed.

Research outline

This new study looked at four important aspects of the competitiveness of the European food industry. First, the competitiveness of the dairy industry, as a subsector of the food industry, was studied in more detail, with a focus on innovation and business dynamics. Second, with the help of a survey, the administrative burdens in the dairy industry were studied in more detail.

Third, this study of administrative burdens was mirrored by a legal study on the relationship between food law and competitiveness. This included four case studies, three in the Italian, French and Dutch dairy sectors and one on novel foods.

The fourth important aspect was the chain structure and the use of labelling. In the tender document that was the basis of this research project, the European Commission proposed several options for a food origin marking scheme. These were evaluated with an impact assessment against the background of the increasing market power of the retail sector and the importance of branding and private labels.

Competitiveness of the dairy industry

The dairy industry has innovative and global players but its competitiveness is weak. Improvements in labour productivity and value added in recent years are offset by a significant loss in market share. The quota system that restricts access to raw materials is found to be an important cause of this development. The majority of dairy companies are very small; nevertheless, in most countries the industry is highly concentrated. There are many new product placements in the market, with packaging and ingredient firms clearly contributing to innovation. The internal market is characterised by a stable milk market and increasing demand for cheese. In Italy and Poland, the dairy industry is becoming more important with regard to export. In Germany, the trend in labour productivity at farm level is problematic.

Administrative burdens

European dairy companies have a strong preference for the European legal system and accept the relatively high administrative burdens that guarantee food safety and quality. Demands from clients also drive food safety and quality systems. Integration of food safety and quality requirements can alleviate compliance

costs. In some aspects of food law, administrative burdens meet less acceptance. In particular, product innovation is hampered by the content of food law. Time-to-market of new products is long; costs are relatively high and procedures are not transparent. On the other hand, process innovations are stimulated by food law, since systems and procedures have to be installed.

Food law and competitiveness

From a food sector competitiveness point of view, several major shortcomings in EU food legislation present themselves. Most of these shortcomings can be improved by improved compliance with the EC Treaty and the general principles of food law.

Food legislation is too complicated to reach its target audience. Technically the hygiene package holds sufficient flexibility to accommodate traditional and small-scale production, but Member States' authorities and food businesses are insufficiently aware of the possibilities.

Pre-market approval schemes impede innovation and the practices contribute little to maturing the system. Zero-tolerance levels should be applied as provisional measures only. The proposed overhaul of labelling legislation seems only justifiable if it goes further in solving problems and simplifying legislation than is currently envisaged.

Chain structure and labelling

The modern supermarket system accelerates structural change towards vertical coordination of agrifood chains. In many EU countries, the top-five supermarkets have a market share of at least two thirds, Italy being an exception. Retailers increasingly market their brand using private labels ('own brands'), that often offer a 30 % lower price.

Co-labelling (printing the name of the processor on the package of the end-producer/retailer) is only beneficial if the producer (SME) makes a differentiated product, not a commodity. This does not necessarily need public regulation. This would be hard to implement and leads to further administrative burdens.

Origin marking is an intervention in food marking, which is dominated by brands and private labels. It already exists in the form of PDO (protected designation of origin) or PGI (protected geographical indication) labels and on a voluntary basis. Experiences with origin marking are mixed. It makes sense if consumer preferences are diverse; a 'made in the EU' label hides quality differences between regions and brands instead of exposing them.

Impact assessment of an EU marking scheme

A food origin marking scheme ('made in the EU' or 'made in Brazil' label) would not add much (other than administrative burdens) to existing labels in an era of brands and private labels of retailers. An obligation for non-EU countries to label their products is the least burdensome for the EU food industry, but it could lead to higher prices, European consumers' misperceptions and higher costs in exports if trading partners retaliated with similar requirements. A mixed food marking system (mandatory for EU products, voluntary for imports) does not make sense from the objective of improving the competitive position of the food industry as it leads to higher operational costs and an increased administrative burden and not much extra commercial value.

Policy recommendation

We recommend not to follow up the idea of mandatory origin marking. European policies could instead concentrate on: reducing administrative burdens and simplifying legislation (see Boxes 6.1 and 6.2 for concrete suggestions); access to raw materials; and innovation to improve the competitive position of the European food industry.

Tips for further reading in case of time constraints
The study ends with a policy reflection (Chapter 8). Chapters 3 to 7 give the main results of the study. Each chapter starts with key findings and ends with conclusions.

1 Introduction

1.1. Relevance

The EU food industry is currently confronted with high food prices in world markets; this has put agriculture and the food industry back on the front pages of the newspapers and at the top of the agenda of world leaders and international policy forums. Recently the EU food industry has also become more important as a manufacturing industry. The food industry is often located close to production, for which Europe is well suited, or close to consumption. With some other industries declining, this has meant that the relative importance of the European food industry within manufacturing is growing, although its importance in the total economy declines. A fair number of world-leading food enterprises are located in the EU. Nevertheless, competitiveness of the European food industry is weak compared with the USA and Canada (Wijnands et al., 2007).

This competitiveness can be improved by several strategies. Previous research (Wijnands et al., 2007) recommended enterprises to exploit economies of scale in the large open European market, to exploit economies of scope (differentiation) based on cultural differences in Europe and to try to be an innovator in the use of new technologies.

Partly in response to that research, the European Commission announced the formation of a high-level group to discuss coherent future public and private policies to improve competitiveness. To support the work of the group, the European Commission (Enterprise and Industry DG) commissioned additional research in a number of topics related to competitiveness.

To pursue the strategy of high-value products based on the European diverse heritage in food production and on innovation, the European Commission is interested to know if an 'EU food product origin marking system' would have additional value. Global economic developments, consumer concerns on food safety and the regulatory framework to secure food safety or to comply with objectives on sustainability affect competitiveness. Introducing a 'marking system', whether voluntarily or compulsory, will have an impact on competitiveness and regulatory burdens. Before carrying out a full impact analysis according to the guidelines in SEC(2005) 791, the dairy sector as a subsector of the food industry was studied in more detail, with regard to competitiveness and administrative burdens in the sector. In addition, the legal framework for the food industry was reviewed to identify opportunities for the EU legislator and executive to remove avoidable obstacles for the food industry as a means to reduce regulatory burdens and enhance competitiveness.

1.2. Aim of the study

The terms of reference for this study according to the tender specifications are:

1. a study on the competitiveness of a selected subsector of the European food industry:
   (a) definition of a subsector;
   (b) subsector competitive analysis;
   (c) impact of cumulative regulatory burdens;

2. an impact assessment of an 'EU food product origin marking scheme':
   (a) objectives and feasibility of the scheme;
   (b) assessment of possible options.

Based on the terms of reference, the aims of the study are twofold:

1. an analysis of the factors influencing the competitiveness of a subsector (i.e. dairy) of the European food industry and its influencing factors, including cumulative regulatory burden;

2. an impact analysis of the introduction of an EU food origin marking scheme; the impact analysis takes into account the regulatory burdens, the legal feasibility, the commercial value of a marking scheme, and the effects on the development of the EU's competitiveness.

The two aims are addressed in an integrated research, as far as possible. The impact analysis is carried out for all food products, whereas analysis of competitiveness and the regulatory burdens deals with the dairy sector.

1.3. Structure of the report

The next chapter of this report discusses the research framework and methodology of the study. It also provides the arguments for the choice of the dairy industry as a subsector to be studied in detail. In addition, the data collection is described. Readers that are mainly interested in the results of the study may wish to skip this chapter.

Chapter 3 deals with the issue of cumulative regulatory burden, especially in the dairy sector. This chapter looks into the complicated relationship between administrative burdens and competitiveness, presenting the results of a survey. Chapter 4 discusses the economics of labelling in more detail in relation to the proposed food product origin marking scheme. This chapter also provides more information on the role of labels in food marketing and the role of supermarkets with their private labels. Chapter 5 looks in detail at the competitive position of the dairy industry. Extra attention is paid to the issues of innovation and business dynamics. The chapter also includes the results of simulations with the GTAP model on the trends in competitiveness. Chapter 6 is based on a legal study concerning food law and its relation to competitiveness. The impact assessment for a European food marketing scheme is reported in Chapter 7. For Chapters 3, 5 and 6 detailed background reports are available (Bremmers et al., 2008; Tacken et al., 2008; Van der Meulen et al., 2008).

Each of these chapters ends with conclusions. In addition to this, the report is concluded with a policy reflection that revisits the strategies for the European food industry to increase its competitiveness through innovation and offering traditional quality food products. We link our findings to these strategies, discuss especially the problems that many SMEs face in a period of structural change, and reflect on the role of European policymakers in supporting the food industry for the sake of European welfare.

The appendix provides more information on the research team of the project.

2 Research framework and methodology

2.1. Research framework

Four important topics on the competitiveness of the food industry have been studied in this research: the administrative burden in a subsector of the food industry (the dairy industry), the competitiveness of that subsector, the economics of labelling, and a legal study on food law. The study of these topics also contributed to an impact analysis of the introduction of an EU food origin marking scheme.

The competitiveness of the European food industry has been identified as weaker than its competitors: weak in export growth, in labour productivity and in growth of the value added compared with its main competitor, the USA. Weak competitiveness may result in lower employment and income.

The impact assessment guidelines (SEC(2005) 791) distinguish general, specific and operational objectives. The ambition of the EU, expressed in the Lisbon and Gothenburg agendas, is having a highly dynamic, competitive and environmentally sustainable economy.

Article 157 of the Treaty establishing the European Community recognises competitiveness as important.

'1. The Community and the Member States shall ensure that the conditions necessary for the competitiveness of the Community's industry exist.

For that purpose, in accordance with a system of open and competitive markets, their action shall be aimed at:

- speeding up the adjustment of industry to structural changes;
- encouraging an environment favourable to initiative and to the development of undertakings throughout the Community, particularly small and medium-sized undertakings;
- encouraging an environment favourable to cooperation between undertakings;
- fostering better exploitation of the industrial potential of policies of innovation, research and technological development.

2. The Member States shall consult each other in liaison with the Commission and, where necessary, shall coordinate their action. The Commission may take any useful initiative to promote such coordination.

3. The Community shall contribute to the achievement of the objectives set out in paragraph 1 through the policies and activities it pursues under other provisions of this Treaty. The Council, acting in accordance with the procedure referred to in Article 251 and after consulting the Economic and Social Committee, may decide on specific measures in support of action taken in the Member States to achieve the objectives set out in paragraph 1.

This title shall not provide a basis for the introduction by the Community of any measure which could lead to a distortion of competition or contains tax provisions or provisions relating to the rights and interests of employed persons.'

The actions required under paragraph 1 can be seen as objectives that are more specific than the general objectives from the Lisbon and Gothenburg agendas. Metrics (indicators) on structural changes encouraging and fostering the activities mentioned are less obvious. Therefore, research efforts have been addressed to the industry dynamics, to get a clearer picture of structural changes, and to innovations as well as to the industry environment, i.e. the legislation.

The operational objective of the impact assessment is the proposed introduction of an 'EU food product origin marking scheme'. The introduction and implementation of an EU marking label can be achieved by different policy options. The policy options are proposed in the tender specification:

option 1: regulation of a wholly voluntary system;

option 2: regulation of a mixed (compulsory/voluntary) system;

option 3: regulation of an obligatory origin marking for both imports of food products and domestic food products placed on the internal market.

RESEARCH QUESTIONS

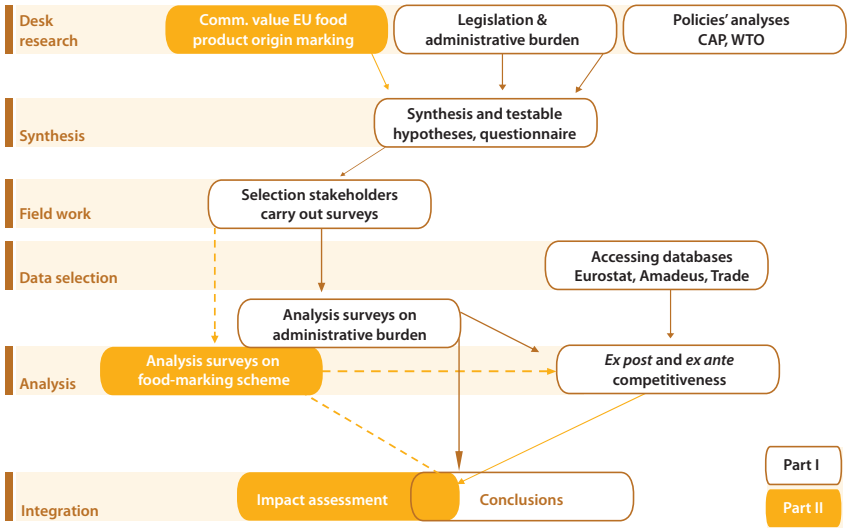
The research questions to be tackled are listed below.

- What is the impact of (cumulative) regulatory burdens? Which regulatory framework would be chosen if a genuine impact analysis would have been carried out?
- What would the effects of an EU food product origin marking scheme on the (cumulative) regulatory burden in the food industry be? And what costs will that framework induce?
- What are the commercial benefits for the EU food industry of an 'EU origin marking' label in general and for the different options in particular?
- What is the legal feasibility of an 'EU origin marking scheme' in relation to EU law and the WTO regulations regarding country-of-origin labels in international trade?
- What is the competitiveness of the dairy industry as a subsector and what is the impact of the EU origin marking scheme on the competitiveness of the European food industry, including innovation, industry dynamics and common agricultural policies?

RESEARCH FRAMEWORK

The research framework is given in Figure 2.1. The research starts with three topics for desk research, followed by field work and data analysis.

FIGURE 2.1
RESEARCH FRAMEWORK



2.2. The dairy industry as a specific subsector

A previous report (Wijnands et al., 2007) analysed the competitive position of the food industry and its subsectors. To assess the administrative burden, business dynamics and innovation, this study deepens the investigations in a subsector. The selection criteria for a subsector specification are:

- weak and declining competitive performance, which justifies appropriate measures to be taken at the Community level;
- a domain where regulatory burdens are likely to impede both competitiveness and innovation;
- tangible negative impact of external interferences (globalisation; international agreements; common agricultural policy changes).

Based on these selection criteria and the facts in the previous study, the dairy industry (NACE 155) was selected for detailed investigations. The underpinning of this choice is:

- weak competitive position in relation to the USA;
- one of the largest subsectors within the food sector (14 % of total production value);
- significant international trade (17 % of export value of the food industry);
- rapid product innovation;
- high level of regulations;
- heavily affected by trade negotiations and CAP.

SELECTION OF COUNTRIES

A selection of countries is seen as necessary to retrieve sufficient data for in-depth analyses. Even with a full compliance with Community legislation, institutions between countries differ, as do cultural differences (Hofstede, 1980). Institutions are embedded in norms and beliefs and are changing slowly. Williamson (2000) suggests periods of 10 to 100 years. A survey covering the EU-27 will blur the data, due to differing institutional frameworks. The survey should support three research objectives:

(i) to assess the regulatory burdens, namely cumulative regulatory burdens;
(ii) an impact assessment of the 'EU food product origin marking scheme';
(iii) an assessment of the competitiveness.

Regarding the first objective, countries with different cultures need to be selected. The selection criteria are:

(a) new versus old EU Member States; the former have had less time to adopt European institutions; most new Member States have a milk production below 1 % of the EU-27 total (only Hungary has 1.2 % and Poland 6 %); this is in contrast with the EU-15 Member States (except Luxembourg), which all have a share above 1.5 %; we propose to include Poland as representative of the new Member States;

(b) countries with PDO or PGI, as an indication for EU food product origin marking;

(c) northern versus southern countries; northern countries are more formally oriented and, in southern countries, informal arrangements are of larger importance (Hofstede, 1980);

(d) continental versus Anglo-Saxon oriented countries;

(e) non-EU benchmark countries.

Regarding selection criteria (b), it is relevant to select countries with origin label products. Barjolle and Sylvaner (2000) provide an overview of the number of origin-labelled products per country. The top-five countries are summarised in Table 2.1.

TABLE 2.1
NUMBER OF ORIGIN-LABELLED PRODUCTS ACCEPTED ACCORDING TO ARTICLE 17 (TOP-FIVE COUNTRIES)

Country	Total	Cheese
FRANCE	96	37
ITALY	80	30
PORTUGAL	61	9
GREECE	60	20
GERMANY	45	4

Source: Barjolle and Sylvander, 2000, Annex 3, p. 50.

One striking difference with the USA is the economies of scale. Therefore, it is suggested to incorporate countries with many small and medium-sized enterprises (SMEs) and countries with world-leading enterprises. Countries with a relatively high share of SMEs are Italy and France. France and the Netherlands have three enterprises in the top-20 global enterprises, Germany two (Wijnands et al., 2007).

Based on these considerations, we propose to select the EU countries presented in Table 2.2, in order of preference. The given market share is based on the volume of cow-milk deliveries to the processing industry.

As indicated, the results of the competitiveness analysis will be benchmarked with several world dairy producers (selection criteria (e)). It is not yet clear whether EU food legislation induces a higher level of regulatory burdens than in benchmark countries. To assess this issue, analogous surveys should be carried out in benchmark countries. We tried to investigate the possibility of data gathering in the USA and Brazil. These are the first and second largest milk producing countries after the EU. The first five selected countries have 52 % of market share, the first six cover 73 %. Data gathering in Germany and Italy have been done in collaboration with the MoniQa 'Network of excellence' programme (Prof. G. Schiefer in Bonn and Prof. M. Mazzochini in Bologna). Data gathering in Brazil has been carried out by Prof. D. Zylbersztajn, Sao Paulo University, Brazil.

TABLE 2.2
SELECTION OF COUNTRIES FOR QUESTIONNAIRE

	Country	EU market share (%)	Selection criteria
1	ITALY	8	South European country, number of origin-labelled products, number of SMEs and strong competition
2	FRANCE	19	Number of origin-labelled products, number of SMEs and three top-20 firms
3	POLAND	6	Representative for new Member States
4	NETHERLANDS	8	Northern country and three top-20 firms
5	UNITED KINGDOM	11	Representative common law (Anglo-Saxon legislation)
6	GERMANY	21	Weak competition and two top-20 firms
7	USA		Benchmark country: largest non-EU producer (64 % of EU level)
8	BRAZIL		Benchmark country: second largest non-EU producer (14 % of EU level)

2.3. Methodology and databases

ADMINISTRATIVE BURDEN

The research on the administrative burdens in the dairy industry has been based on a desk study of the literature and a questionnaire.

A web-based electronic questionnaire was set up and sent out in spring 2008 with a letter by post to a large group of dairy companies in the countries given in Table 2.2, based on their address in the Amadeus database. Letters and questionnaires were in the national language. After about a month, the companies were phoned by students in their own language as a follow-up. For Germany this was done by the University of Bonn and in Italy by the University of Bologna, both in the framework of the MoniQa project. In Brazil the University of Sao Paulo did this work.

Notwithstanding this high input in the survey, the results were not very satisfactory. By mid-July we had only received 33 fully filled-in questionnaires from Europe. The distribution was rather equal for the European countries: Netherlands 12, France 6, Poland 1, UK 6, Italy 3 and Germany 5. It was therefore impossible to investigate differences between Member States.

FOOD PRODUCT ORIGIN MARKING

The research on the food product origin marking (reported in Chapter 4) has been based on a desk study of the literature. We paid extra attention to the structure of the food chain and the developments in the retail sector, as the discussion on origin labelling is very much a reaction to a change in the balance of power in the chain, where the food industry is losing market power to the supermarkets.

COMPETITIVE POSITION

The methodology used in the analysis of the competitive position of the dairy industry (Chapter 5) is the same as in the previous study (Wijnands et al., 2007). Based on international trade theory, it addresses the different aspects of competitiveness: competitive performance, competitive potential and competitive process. Five main indicators are used to assess competitiveness: the growth in real gross value added of the dairy industry in the food industry, the growth in revealed comparative advantage, the growth in world

market share, the labour productivity measured in real gross value added per worker, and the growth in real gross value added.

Main data sources come from official statistics: Eurostat, OECD, UN and FAO. Business dynamics analysis has been based on the Amadeus database. To explore future scenarios, the GTAP model (Hertel, and Keening, 2003) has been used. More information is given in Wijnands et al., 2007.

LEGISLATION

The research on the food law (reported in Chapter 6) has been set up as a classical legal study, with three case studies: one in the Alpeggio region in northern Italy (where traditional cheese-making is important), one on the French cheese sector and one regarding experiences with the novel food regulation.

IMPACT ASSESSMENT

The methodologies used for the impact assessment are the European guidelines (SEC(2005) 791), including the March 2006 update.

STAKEHOLDER INVOLVEMENT

A draft version of the report has been discussed with a group of experts, brought together by the European Dairy Association. This included experts from the Netherlands, France, Denmark, Finland and from Brussels. In addition, valuable input was received and findings were confirmed during a week of workgroups for the high-level group in Brussels, mid-July 2008.

3 Administrative burdens

3.1. Key findings

- 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. In particular, product innovative companies are dissatisfied with the content of food law. Time-to-market of new output is long, costs are relatively (compared with the USA) high, and procedures are not transparent.

- 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 USA) for the sake of food safety and quality. In other words, they will not choose a policy that reduces administrative burdens at the expense of food safety and quality.

- On the one side, companies in the dairy industry that foster product innovation will be negatively impacted by procedural obligations. On the other side, 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.

- 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, PDO/PGI and food safety and quality characteristics. Origin labelling (a 'made in the EU' label) has a counter-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.

- Despite the legal pressure to install HACCP ('Hazard analysis and critical control point') systems, food safety and quality systems are primarily provoked by clients' wishes rather than by legal obligations. So the costs which are connected to them would possibly have been made even if food legislation did 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. Technically there are high impediments if such transparency should be improved by means of labelling.

3.2. Introduction

Previous research (Wijnands et al., 2007) generated the following generic results on administrative burdens.

- Administrative burdens are connected to prevention measures.
- Administrative burdens impede the innovativeness of food companies.
- Administrative burdens are influenced by the content of law and by the predictability and clearness of regulations.

Built on these earlier findings, in this chapter the following sub-questions with respect to the association between administrative burdens and dairy industry competitiveness are investigated.

- What is the relationship between administrative burdens, innovation and competitiveness?
- What is the relationship between administrative burdens, food safety and 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?

3.3. Delineation of concepts of administrative burden

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 (regarding 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, but 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 consumers' 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 of 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 a company by exploiting its basic resources (a stream called the resource-based view; Barney, 1991).

Why should companies comply with burdensome public regulations? According to Cornelissen (2004b) the profit-seeking firm will comply with 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, etc.), the willingness to spend money on information procurement will be high. Since 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, administrative burdens increase transaction costs in the market and will therefore impede the competitiveness of food firms. It is not clear in advance whether administrative requirements are higher in a common law system (UK, USA) 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.

Administrative burden is a concept easily used in politics. But there are different definitions in use and it is not easy to be exact ([1]). 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 % (EUR 150 billion) in the mid-term (COM(2007) 23 (Gelauff and Lejour, 2005). For instance, for the Netherlands at the end of 2002 the administrative burdens were EUR 23 780 per firm (EUR 16.4 billion 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 EUR 3 billion lower, reducing the average burdens by EUR 4 500 per firm. However, it was also projected that large firms would benefit 13 times more than small firms. Small companies were projected to benefit EUR 3 560 (in total: 76 %), medium-sized companies EUR 7 327 and big companies EUR 45 735 (Suyver and Tom, 2004, Table 2). 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 the Confederation of the Food and Drink Industries of the European Union (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 3.1. 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 collected if such legal obligations did not exist.

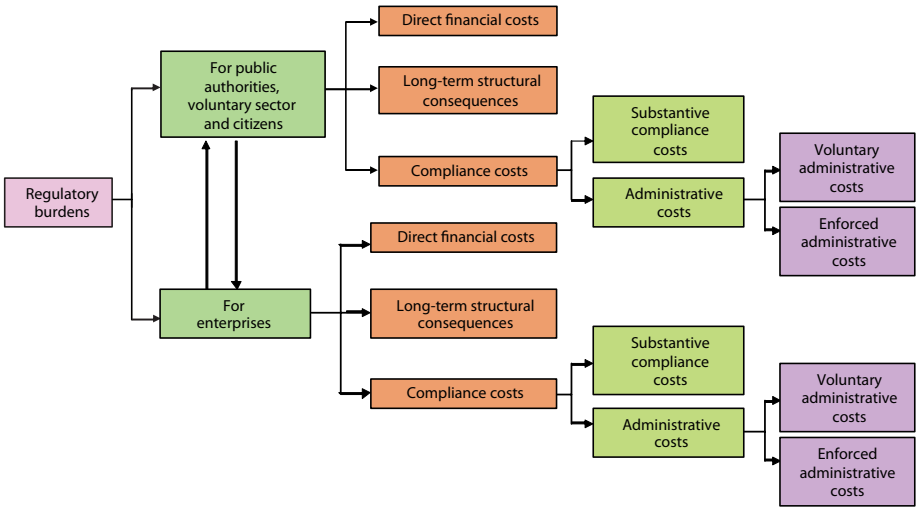
There is much diversity, however, in the vocabulary which is used to delineate regulatory — including 'administrative' — burdens. The UK Hampton report suggests that the costs of regulation can be split up in (Scrivens, 2007):

- 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 that forms and procedures should be simplified.

([1]) And language does not help. Administrative has in general the meaning of 'induced by the administration', where administration is used as, for example, 'US Administration', a synonym for government. In some languages (German, Dutch) 'administrative' is associated with accounting.

FIGURE 3.1
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 obligations to 'do or don't', and information obligations. According to the Dutch system, administrative burdens are costs to enterprises to come up with information obligations which result from regulation and legislation by the government.

Costs from self-regulation are not covered by the administrative burdens' 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 needed to reach information requirements are included in the administrative burdens' 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 which cause the burden.

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

Within this research, 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' (Figure 3.2). 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 costs, expressed in money terms, other than information costs are included). These we call 'level 2 costs'. An even more broadened view encompasses not only financial burdens, but also qualitative burdens (like environmental and social impacts). These are 'level 3 costs'. The investigation of such causal effects is of importance for the construction of an impact

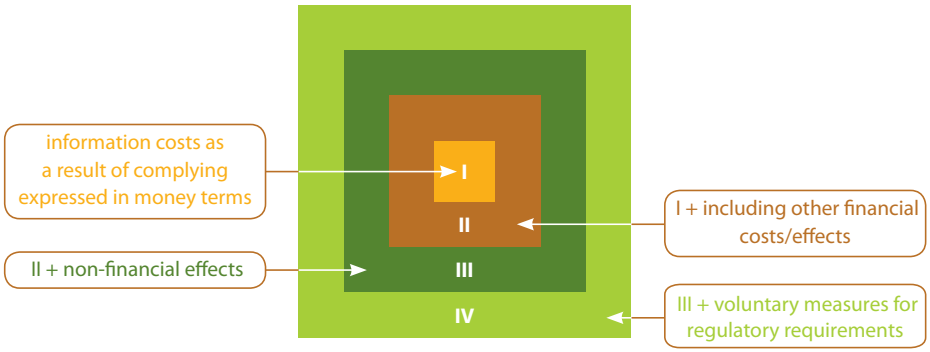
analysis. Last, also the voluntarily imposed burdens are included (like private ISO or HACCP systems which are installed to protect food safety, and the like). These are 'level 4 costs' in our analysis. We propose to depart from this broadened view. However, empirical results should be organised in such a way that also data on the different levels can be provided.

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 are those that raise costs in an unjustifiable way to economic operators, which lead to a 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 not necessary for achieving the aim of a piece of 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 is 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-year protection period are USD 5 687 in China, USD 10 480 in the EU and USD 4 344 in the USA (based on Louwaars et al., 2005, cited in Tripp et al., 2007).

The action programme (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 (EC) No 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/EC, governing the protection of privacy. The directive contains 72 considerations and 34 articles, while the Dutch implementation (WBP — Personal Data Protection Act) contains more than is required with a minimal implementation: 200 considerations and 83 articles (Cornelissen, 2004b).

FIGURE 3.2
A BROAD VIEW OF ADMINISTRATIVE BURDENS



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, etc.); 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, etc.). According to Cuijpers (2006), vague and open norms, complexity and uncertainty of interpretation, new procedures and burdens, dis-congruence with the privacy-understanding of citizens as well as the lack of stimuli for self-regulation are the result of excessive legal requirements. The extra costs to be considered in this respect are classified as mechanic costs (implementation of new prescriptions, handling and IT costs) as well as organisation costs (education, information, etc.), which accelerate costs of information processing.

Regulatory and administrative burdens will disproportionally affect competitiveness if:

1. 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;

2. growth and market shares are affected disproportionally;

3. innovativeness is obstructed more than necessary.

3.4. 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);
- the transaction cost framework (TCE).

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 the 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 (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, etc.). 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 the fact that prevention costs have to be weighted against failure costs.

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 regards 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 to improve information processing so that contracting is facilitated.

Within this research, the following combinations of the two theoretical viewpoints can be discerned (Figure 3.3).

FIGURE 3.3
TQM AND TCE

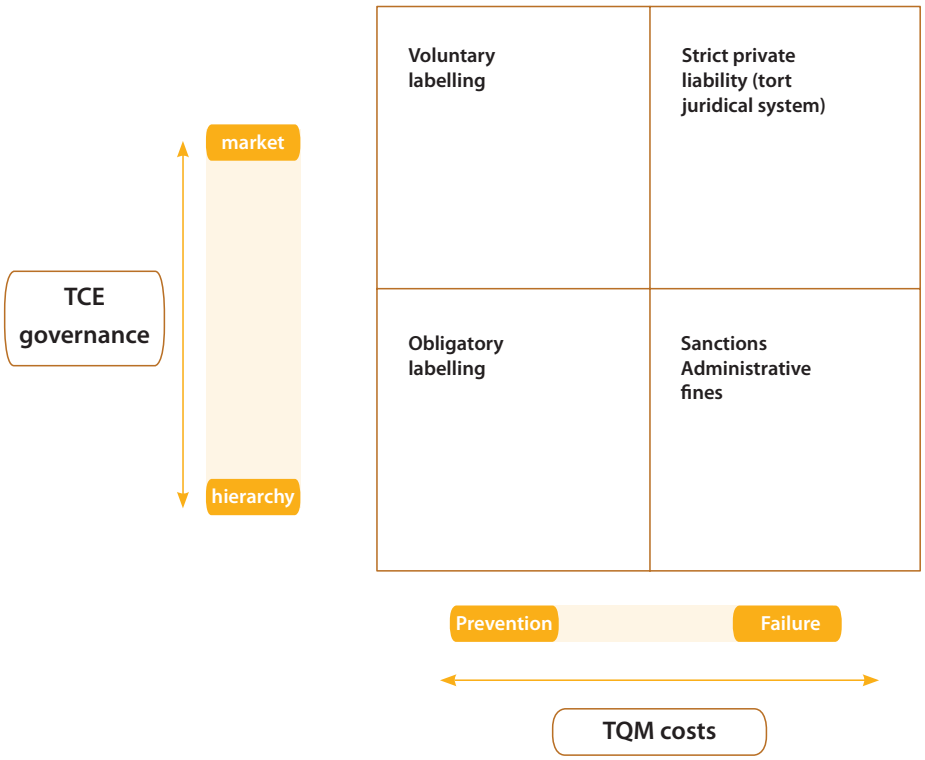


Figure 3.3 shows that labelling can be regarded as an instrument to promote market efficiency, or as an instrument to control firms. Both are directed at protecting buyers from inefficient purchase decisions. Perceptions on the usefulness of labelling information affects the opinion of whether or not mandatory nutritional labelling would be beneficial (Gracia et al., 2007). 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, extensive research by Loureiro and Umberger (2007) in the USA shows that USDA food safety inspection with respect to beef is preferred by US consumers over country-of-origin labelling. According to these authors, indication of origin makes 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 characteristics of a product or service. Labelling which is not governed by regulation and certification is possibly a 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 Regulation (EEC) No 880/92 and Eco-label II in Regulation (EC) No 1980/2000; Proto et al., 2007), variations in eco-labels are widespread and 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.

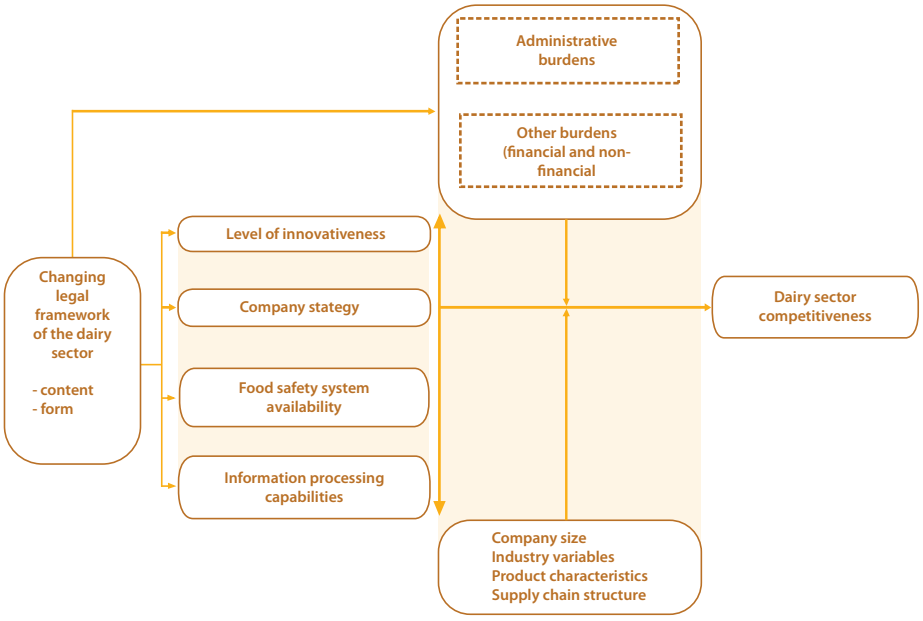
The overview presented in Figure 3.3 coincides to a large extent with Loader and Hobbs' (1999) options to reduce information costs for consumers:

1. product certification or labelling at the firm level;
2. legislative protection in the form of labelling regulations (also in: Unneveher and Jensen, 1996);
3. tort liability law (with the chance of market failure).

RESEARCH FRAMEWORK

Next, we propose 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, such as dairy (see Figure 3.4).

FIGURE 3.4
FRAMEWORK FOR THE ANALYSIS OF THE ADMINISTRATIVE BURDEN EFFECTS



Components of the research framework are addressed next.

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 incremental of a kind (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 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 of 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 earned. With respect to the dairy sector, it should be noted that many firms are highly innovative. Innovation in this sector is likely to be hampered by, among others (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 (Omega-3 for instance) and/or output (for instance, dairy products to which health claims will be attached).

FOOD SAFETY SYSTEM AVAILABILITY

Food safety systems can improve transparency and consumers' 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. SMEs in particular 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 and Thomson, 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 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 therefore 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 expect that dairy companies that already have certified food safety/quality systems at their disposal will implement regulatory changes with relative ease.

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 et al., 2006). Provision of information to the market, in the form of labels, brochures, etc. requires the organisation to be able to process information and to communicate in a structured way. Food labels can serve different purposes:

- information about a certain level of guaranteed food safety;
- conformation of a level of environmental conformity;
- conformation of a certain level of social adequateness of the processes behind the food products;
- confirmation of identity (origin);
- information about the composition of a product, i.e. its nutritional value (Council Directive 90/496/EEC on nutrition labelling for foodstuffs).

Mark-of-origin labelling guarantees that a certain product has: (1) passed through, or (2) been produced, or (3) carries the legal assurance, or (4) is to a certain level produced in a certain place, region or country.

In an economic sense, 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 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 Food and Drug Administration (FDA) in the USA or the European Food Safety Authority (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 does not happen overnight, but is a process which takes place in phases. As Hutter states, 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, etc.);

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.

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's definition in: Bergès-Sennou et al., 2004). 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. The more innovative the intermediary company is, the more disadvantageous this 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. 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), it 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. On the other hand, 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., 2004). This suggests that upstream producers of differentiated products will foster transparency of the supply chain to enhance their image for the end-user.

CONTROL VARIABLES: SIZE, NETWORK EMBEDDEDNESS AND PRODUCT CHARACTERISTICS

There are a number of firm characteristics (so-called control variables in the research framework in Figure 3.4) that influence the effect of the legal framework on competitiveness. 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 (Stel and Stunnenberg, 2007). Administrative burdens refer, among others, to the costs to be made to investigate changes in the legal system. According to Cornelissen (2004a), small firms — especially in biotechnology — do not necessarily have a limited knowledge and comprehension of the law. The research on the subject is not very up to date. Cornelissen (2004a) opposes the results of a study by Genn from 1993 (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.

Companies are, to a smaller or larger extent, embedded 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 buyer could solve this problem by performing checks themselves, which would lead to an increase of transaction costs (and thus loss of efficiency of markets). These extra costs could be exaggerated to an excessive level. End-consumers in particular experience food risks 'seemingly irrational and inconsistent' (Verbeke et al., 2007), exaggerating food risks (compared with 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.

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

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.

Summarising, Figure 3.4 depicts that changing legal requirements (its content and form, i.e. clearness, completeness, complexity, etc.), 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, i.e. what markets to enter, what products to produce, what consumers to focus on);
- the level of innovativeness; pre-market approvals, the possibility to claim health influences, the level of protection of new products, etc. — 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.

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, etc.).

3.5. Empirical results

Analysis of the data (54 cases of experts and companies in the food and drink industry) gathered in 2006, using partial least squares (PLS), reveals ([2]) the following insights regarding the interdependencies between legislation, information obligations (leading to administrative costs) and food safety requirements, innovativeness and competitive performance.

- Predictability and clearness of food legislation is significantly related to administrative costs.
- Predictability and clearness of food legislation is significantly related to the instalment of (mandatory) safety and private quality systems.
- Size is significantly related to the predictability and clearness of food legislation; in other words, larger companies are better informed than smaller. This proves the point that SMEs possibly have more problems in assessing the impact of legislative changes than large companies.
- The content of European food law is negatively related to its innovativeness; in other words, European food law obstructs innovativeness. Also the model proves that the quality of content of the law creates lower burdens to the companies (Bremmers et al., 2008).
- Administrative requirements are positively related to obligatory and private safety systems.
- Administrative requirements are negatively associated with export performance outside the EU, while it is also shown that systems improve such exporting capabilities.

It is revealed that administrative burdens are substantially caused by regulation in general, and specifically by systems deployed to satisfy 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, and vice versa (Bremmers et al., 2008, submitted).

WHAT IS THE RELATIONSHIP BETWEEN ADMINISTRATIVE BURDENS, INNOVATION AND COMPETITIVENESS?

The relationship between 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 satisfy to strict legal requirements.

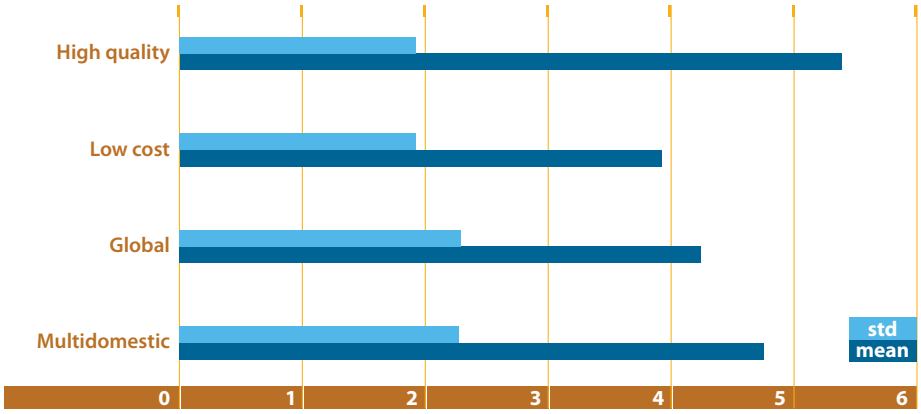
Process innovations are necessary to increase efficiency in a globalising market. For SMEs, innovation takes on the character of combining new impulses with existing skills and routines (Gielen et al., 2003).

The causes for existing administrative burdens and the drain of resources we refer to are vested in required systems to guard for food-related diseases and food quality. We argue that administrative burdens can impede innovation, since scarce resources are used to satisfy 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/consumed 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 investigating whether the product is adjusted to local taste (multi-domestic strategy) or whether a global strategy is used. Moreover, we wanted to identify the defenders (in line with a low cost strategy) from the prospectors (differentiation strategy, aiming at high quality).

([2]) These results have not been reported in the previous study and have been found recently, using the data gathered in 2006.

FIGURE 3.5
STRATEGIC ORIENTATION OF COMPANIES (7-POINT SCALE; N = 30) (*)



(*) 1 = low/not appropiate, 7 = high/appropiate. Footnote applies also to the survey results presentend 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. Concerning the kind of innovation that was applied, Figure 3.6 shows the categorisation of innovation from a Schumpeterian viewpoint.

It can be observed that process and 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 subsector?

FIGURE 3.6
INNOVATION CATEGORISATION (7-POINT SCALE; N = 18–25)

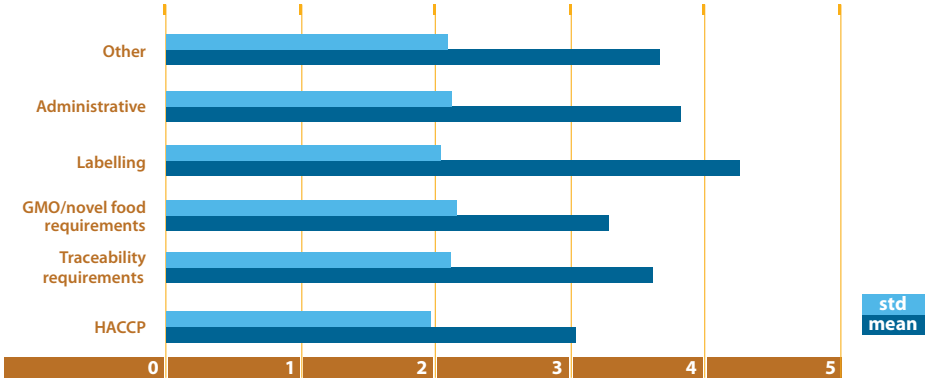


FIGURE 3.7
INNOVATION BARRIERS (7-POINT SCALE; N = 21–26)

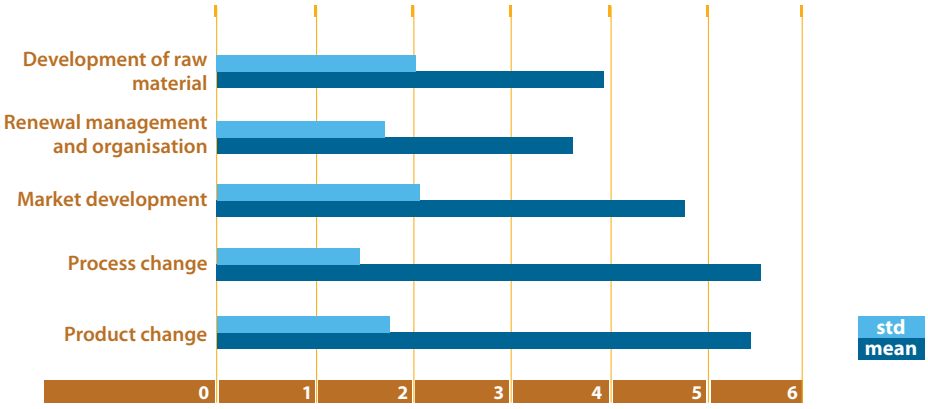


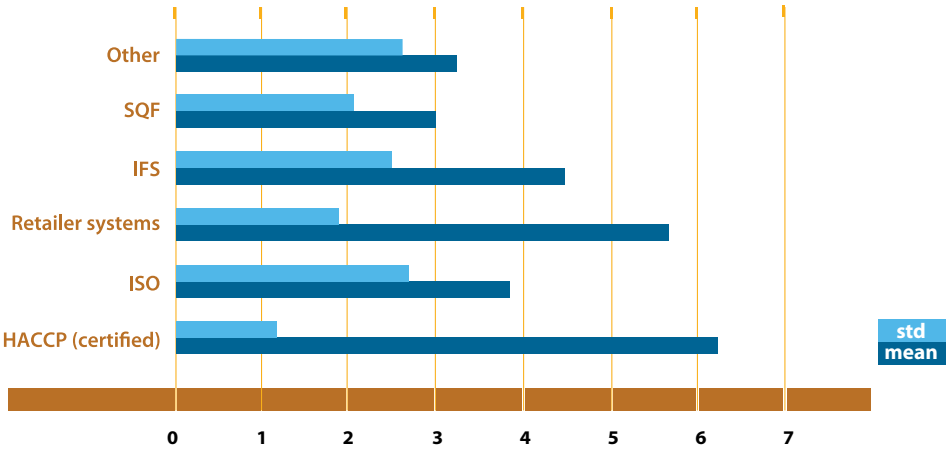
Figure 3.7 shows that labelling requirements are a serious threat to innovation, as well as (second) administrative requirements. This is in concordance with our theoretical analysis. Companies which are more innovative will be perceived as being hampered more by bureaucratic structures.

The introduction of private labels could have a negative effect on innovation. In 2005, in the United Kingdom and Italy the greatest share of household income was spent on private label products (ACNielsen, 2005, p. 24). Especially in refrigerated food (milk, yoghurt, butter/margarine, cheese, etc.), private label takes a major share of overall value. According to ACNielsens' Executive News Report, for milk the private label share in 2005 was 43 %, for cheese 33 %, for butter/margarine 21 % and for yoghurt 15 % (ACNielsen, 2005, p. 14), while the price differential between private label and manufacturer brands are big (between 10 % and 48 %).

WHAT IS THE RELATIONSHIP BETWEEN ADMINISTRATIVE BURDENS, FOOD SAFETY AND QUALITY DEPLOYMENT AND COMPETITIVENESS?

On average, the respondents have 3.1 FSQSs (food safety quality systems), of which an average of 2.2 are certified. This implicates a certification rate of 70 %.

FIGURE 3.8
LEVEL OF SUPPORT FOR COMPLIANCE (7-POINT SCALE; N = 17–23)



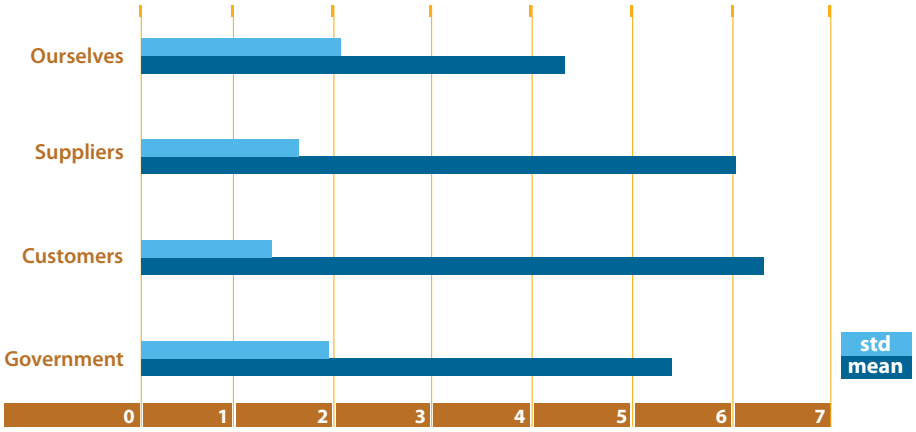
It appears that especially certified HACCP is considered of primary importance for compliance (Figure 3.8); this is not surprising, since HACCP is an obligatory system in the dairy industry. Also, retailer systems (like BRC) score high. This expresses the positive aspects of supply chain integration: it takes away responsibilities with respect to compliance from the (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? As already mentioned, level 4 administrative burdens encompass all effects of legal requirements on the costs of food companies:

- costs of obligatory information processing expressed in money terms;
- all costs, expressed in money terms, of compliance to regulatory requirements;
- non-financial measures which are enforced because of an obligation to comply;
- voluntarily measures taken as a response to a legal obligation.

The last-mentioned effect also encompasses food safety and quality systems which are installed without a legal obligation.

FIGURE 3.9
REASONS FOR INSTALLING FSQSS (7-POINT SCALE; N = 24–25)



Overriding arguments for installing food safety and quality systems are not governmental demands, but consumer wishes (Figure 3.9). This is in line with the own demands companies make towards their suppliers. However, some respondents commented on the great diversity of systems and standards between EU countries. This will, as a consequence, have a negative impact on export performance.

FIGURE 3.10
EFFECTS OF FOOD LEGISLATION (7-POINT SCALE; N = 30)

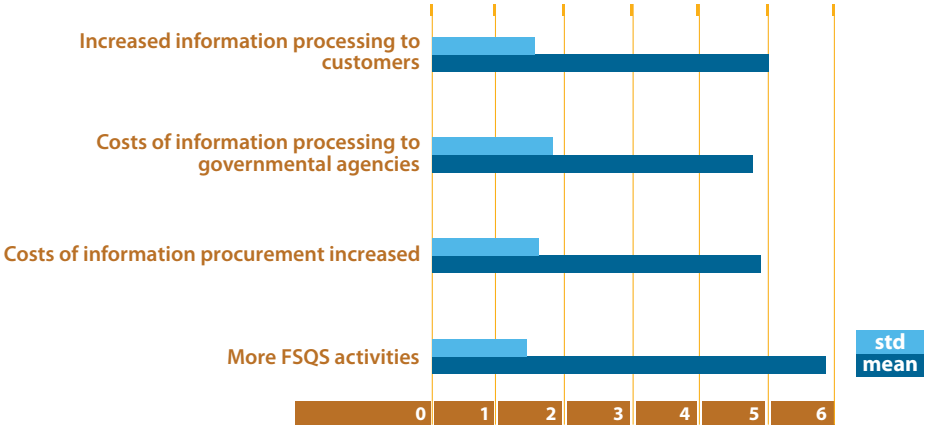


Figure 3.10 illustrates that, on the one side, administrative FSQS activities have increased, but, on the other, increased costs have to be made to provide the necessary documentation. The survey shows that FSQSs are provoked at least by two parties: demands from legislation and demands from customers (especially in business-to-business 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 requirements (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, etc.) 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.

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 ([3]).

- Product characteristics and improvements in general are transparent to the public, so that — depending on the willingness to pay — a premium on the price is harvested.
- On 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 for the consumer (problems to digest extra information on the package) and subsequently loss of effect, information-gathering costs with respect to form and content, etc.

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).

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 by 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 products 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. Golan et al. (2001) state:

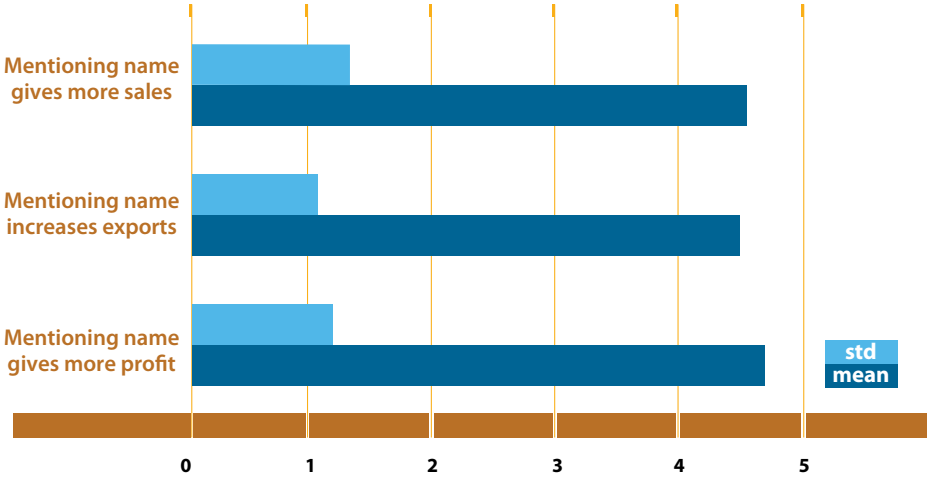
'Clearly, mandatory labelling will not be effective if it is not accompanied by consistent, achievable standards, testing services (or IP), certification services, and enforcement. In fact, labelling requirements in the absence of these services have more potential to disrupt the market than they do 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.'

Private labels and labels of producers' 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

([3]) For a detailed discussion on labelling and branding, see also Chapter 4.

package) is one of the possible options to create chain transparency. We investigated the level of transparency of producers to the customer. The visibility of the company name on the package of the final product is in average quite high, but with a wide spread. It depends on the position in the supply chain whether the company name is mentioned. The visibility of the raw materials included in the end-product was evaluated lower.

FIGURE 3.11
EFFECTS OF CO-LABELLING (7-POINT SCALE; N = 27–29)



It appears that the companies in the sample on average do not expect very strong positive effects of increased chain transparency (Figure 3.11). Standpoints will logically be very diverse, however. Retailers which already express their own company name on the package will oppose it, while producers upstream will possibly see the benefits of the system. Private label holders will clearly oppose it, because mentioning producer's brands on the package is contrary to the intentions of private labelling.

There are technical reasons for opposing a system of co-labelling.

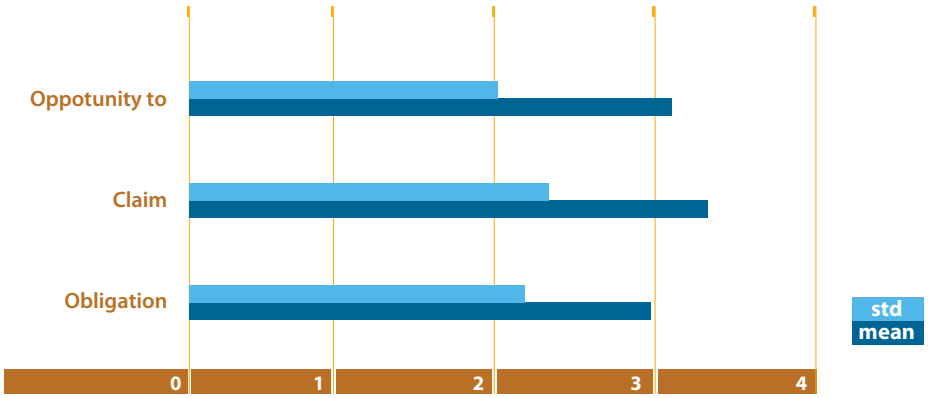
- Often there are many contributors to the end-product; if this is the case, increased transparency will lead progressively to information-processing costs.
- Under such circumstances, the costs of monitoring and control will be exorbitant.
- The delineation of which producers are mentioned on the label (defining the scope) will, under conditions of a multitude of 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 the possibility to claim that his name be put on the package;
- facilitating the possibility for the end-producer to mention the names of suppliers on the package.

Figure 3.12 shows the preferences of the respondents for the various options. 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 is 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 preference for a system that creates the obligation to print the name of producers upstream in the supply chain on the package.

FIGURE 3.12
OPTIONS FOR CO-LABELLING (7-POINT SCALE; N = 28–29)



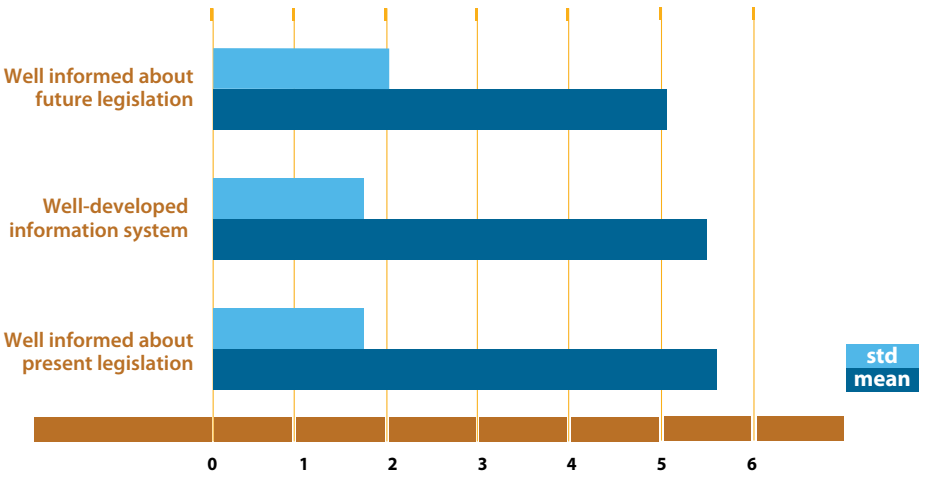
WHAT IS THE RELATIONSHIP BETWEEN ADMINISTRATIVE BURDENS, SUPPLY CHAIN TRANSPARENCY AND COMPETITIVENESS?

The questionnaire included 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.

In general, companies are well informed about the present and upcoming legislation that applies to their business unit (Figure 3.13). This result is in line with the outcomes of the competitiveness study of Wijnands et al. (2007). Companies indicate that they have a more than average developed information system, and are reasonably well able to predict future food regulation developments. The fact that they think they are informed does not prove they know the rules (see Chapter 6 for some contradicting results on this).

Transparency in the food chain concerns, among others, the relationship between retailer and producer. However, empirical work about producer–retailer relationships is rare (Bergès-Sennou et al., 2004). Lack of clearness and transparency will invoke SMEs to mimic 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 are better informed about the present state of regulatory requirements, and have more certified food safety and quality systems at their disposal.

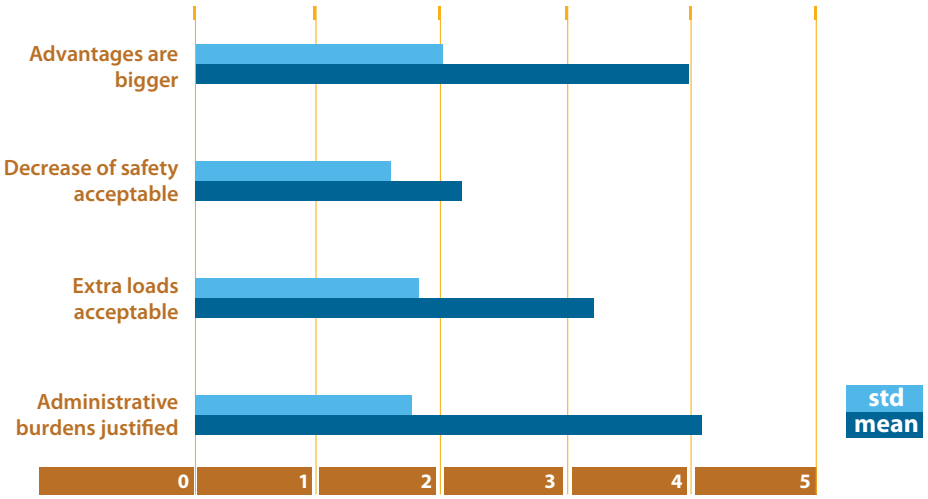
FIGURE 3.13
LEVEL OF INFORMEDNESS (7-POINT SCALE; N = 30)



The significance of this is that larger companies 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. The net effect on innovativeness is assessed below.

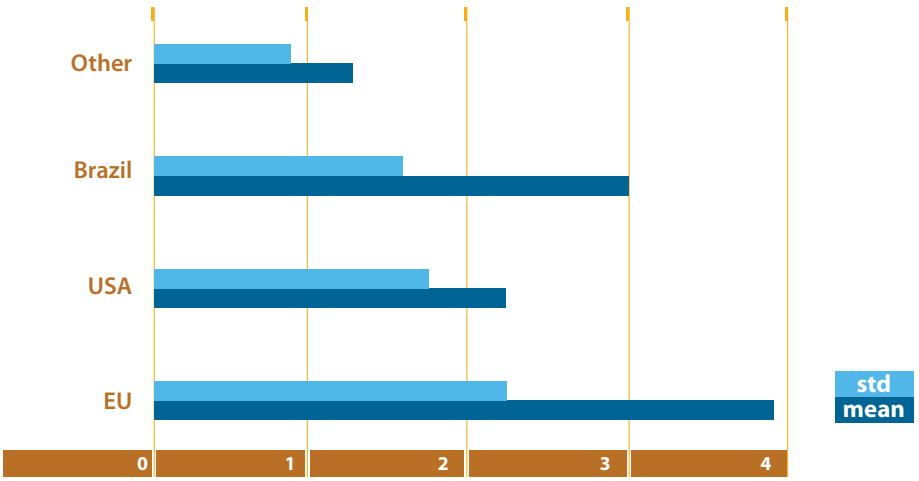
A distinction should be made between those organisations that are heavily embedded, i.e. will copy procedures and rely on safety systems to reduce liability and conform to market standards, and companies that act on a 'standalone' basis. Companies that already have systems like ISO or certified HACCP available will absorb new legal requirements with more ease than companies that do not have 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 flexibility as burdensome. In the USA, barriers to market entrance are lower because of a fundamentally different way of governing newly developed food and foodstuffs. As elaborated in Wijnands et al. (2007), the legal culture in the USA 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 USA is shifting gradually towards a more preventive system, the EU is holding its position and trying to reduce the extra (prevention) costs this takes at the same time.

FIGURE 3.14
SAFETY LEVEL AND ADMINISTRATIVE BURDENS (7-POINT SCALE; N = 28–30)



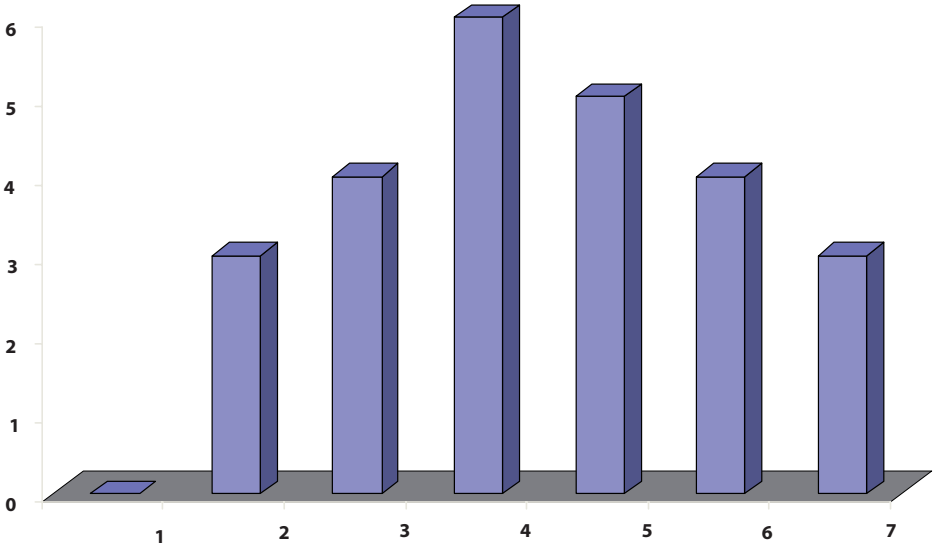
In line with the 2007 study on competitiveness in general of the food industry (Wijnands et al., 2007), the respondents to this survey also signalled that they oppose a further increase of administrative loads, but are not willing to sacrifice food safety to reduce compliance costs (Figure 3.14). European companies prefer the European legal environment above those of the USA (Figure 3.15).

FIGURE 3.15
PREFERENCE OF LEGAL SYSTEM OF EUROPEAN DAIRY COMPANIES (7-POINT SCALE; N = 22–24)



Regarding the question 'The food legislation which applies to our own company is good', EU food legislation scores on average 4.68 on a 7-point scale (Figure 3.16). That is in line with the positive picture of our previous report (Wijnands et al., 2007).

FIGURE 3.16
ASSESSMENT OF QUALITY OF EU FOOD LEGISLATION (7-POINT SCALE; N = 25)



3.6. Concluding remarks

This chapter investigated the administrative burden in the dairy industry, especially in the domain of food law. 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 ([4]) and competition law ([5]).

To improve competitiveness in the European market and abroad, the dairy industry will have to operate 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 in the translation of such regulations into knowledge at the firm level, in order to remain competitive. Possibilities to monitor the level of compliance are limited. Instruments to increase food safety should benefit the producer, so that voluntary compliance is reached. 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. Product innovative companies in particular are dissatisfied with the content of food law. Time-to-market of new output is long, costs are relatively (compared with the USA) high, and procedures are not transparent. 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 high administrative burdens (especially in comparison with the USA) for the sake of food safety and quality. In other words, they will not choose a policy that reduces administrative burdens at the expense of food safety and quality.

European food law with respect to the dairy industry is evaluated as being relatively good. On the one side, companies in the dairy industry that foster product innovation will be negatively impacted by procedural obligations. On the other, 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, in order 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 the 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, PDO/PGI and food safety and quality characteristics. Origin labelling (a 'made in the EU' label) can have a counter-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.

([4]) Achterbosch (2007) investigated the effect of sanitary requirements that go beyond international standards. He reports a long list of issues and problems; several of them overlap with issues discussed in this study in Chapter 6.

([5]) Competition authorities are said to prevent SMEs in PDO/PGI from intensive collaboration if competition authorities define a market very small. It was also suggested that some competition authorities in smaller Member States look too much to a national market instead of a European market.

Food safety and quality systems appeared to be provoked more by consumer wishes than by legal obligations. So the costs which are connected to them would possibly have occurred if food legislation did 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 may be very diverse. Technically there are high impediments if such transparency should be improved by means of labelling, the costs of monitoring and control by public agencies being one of them.

4 Food product origin marking schemes

4.1. Key findings

- The modern supermarket model is an accelerator of structural change towards vertical coordination of agrifood chains.
- Globalisation is a very strong trend that leads to increased concentration in the food industry and retail sector, in which European food industry clusters emerge.
- In many EU countries, the top-five supermarkets have a market share of at least two thirds. Italy is an exception with less concentration.
- There is an important difference between brands and labels and their value to businesses and consumers.
- Retailers increasingly market their brand by private labels. In many EU countries, private labels have a market share of a quarter to a third.
- Private labels often offer a 30 % lower price than manufacturing brands although retailers are also starting to introduce premium private labels.
- Origin marking is an intervention in food marking, dominated by brands and private labels.
- Origin labelling exists in the form of PDO/PGI labels, based on EU legislation. They provide in their effect to producers something akin to an intellectual property right.
- A country-of-origin effect exists (the so-called Schooler effect) although it is stronger is some European countries (like Germany or France) than in others (like the Netherlands).
- Experiences with origin labelling in food are mixed. Labels make sense if consumer preferences are diverse; a 'made in the EU' label hides quality differences between regions and brands instead of exposing them.

4.2. Introduction

This chapter reports on a desk study concerning the commercial value of food product labelling. The next section describes the main relevant trends in the agricultural supply chain and the retail sector. Extra attention has been given to the increasing market power of the retail sector. The shift in market power from the food industry to the retail sector is an important incentive to consider origin marking. It is therefore important to understand these trends, to be able to judge the pros and cons of a food marking scheme. Against this background, Section 4.3 discusses food marketing, labelling and branding. Section 4.4 reviews the literature that reports on experiences with food product origin marking, especially in Europe.

4.3. Trends in the agriculture supply chain and the retail sector

The food supply chain in an open economy has not only a domestic sector but also an import and an export sector. Between the farmer, as supplier of raw materials, and the consumer there are often at least three types of businesses active in the supply chain: food processors, wholesalers/distributors, and retailers. Often there are even more levels involved. Although the trend is towards shortening the supply chain, it is unusual for retailers to buy directly from large farms or for consumers to shop at the farm. There is a niche for farmers' markets and country shops that is currently benefiting from consumer interest in local products that are sometimes (and not always correctly) seen as environment friendly (food or carbon miles). In some cases of unprocessed food (especially in horticulture, where farm sizes are also larger), contract farming is introduced by retailers to source directly from (groups of) farmers.

However, the modern supermarket model is an accelerator of structural change towards vertical coordination of agrifood chains. European supermarkets have been at the forefront when it comes to applying principles of lean retailing (driven by cost reduction by delivering 'just in time', i.e. the need for fresh produce by demanding consumers and expensive shop floor space in older towns that prohibit hypermarkets and shopping malls at green sites out of town) and supply chain management to the food sector — even more than their American peers. This chain management includes the management of risk and the defence of quality, consistency and assurance to consumers, especially in support of private labels and hence the retail brand (Vorley, 2007).

The domestic sector imports products from foreign farmers (or cooperatives), exporters of raw materials, food processors and wholesalers. The EU food imports are about EUR 40 billion a year (from third countries, so excluding intra-trade). Exports are about EUR 35 billion a year. Foreign food processors, wholesalers and retailers are important clients of the European food industry. The EU food chain is clearly part of the global chain and compared with, for example, the USA this link is stronger. With — until recently — falling transport prices, an uptake in international demand and international specialisation as a result of previous GATT/WTO agreements (like the Uruguay Round), international trade is becoming more important. The current turmoil in the food markets makes predictions difficult, but most economists expect this trend will continue and advocate the opening up of international markets as a strategy to match good and bad harvests in different areas of the planet and to gain welfare. This all means that food marking efforts have to be judged in relation to trade patterns.

GLOBALISATION AND STRUCTURAL CHANGE

Structural change is nothing new. For the long view, Table 4.1 provides the essentials of the five industrial revolutions (for economists: Kondratieff waves) that the western world experienced. Globalisation is a very strong phenomenon as it is based on cheap (air) transport, a result of the fourth industrial revolution, and very cheap information transport and low transaction costs from the current wave. Mass production and economies of scale are still very strong drivers behind the structural change in the European food industry. This helps to catch up with the US industry: the USA has economies of scale in large companies that operate in a large common market (with one language and a national TV system).

The EU's common market project and the introduction of the euro helped to bring some of these benefits of economies of scale to Europe, but this also implies structural change. Some countries relied in the past also on currency devaluations to stay competitive and to offset inflexibilities in the economy. The introduction of the euro made these devaluations impossible and called for extra structural change in those countries. In some of these countries, there is a clear call for innovation. This also challenges SMEs.

Research in economic geography (Storper, 2000) suggests that the current soft form of globalisation with an intermediate level of transport costs means that a great deal of geographical spread is likely. Because in Europe the location pattern of industries was established as widespread before the lowering of trade barriers, the outcome of the restructuring is not necessarily one that resembles the USA's high concentration. Europe might become characterised by high levels of internal trade, high levels of international knowledge and idea flows, and a sustained relatively dispersed locational structure. Figure 4.2 explains the model behind this thinking. The horizontal axis shows the transport and transaction costs that are needed to ship a product to market. If these are low, one gets a few isolated plants close to the source of inputs that ship their goods around the world. If these costs are high, we get more production units, that each serve a (smaller) market area. This is the standard trade theory.

TABLE 4.1

LONG WAVES IN THE WESTERN ECONOMY

Name and technology	Breakthrough and location	Some fundamental changes
1. THE INDUSTRIAL REVOLUTION	1771: Arkwright's mill in Cromford (UK)	Factory production Mechanisation Productivity measurement
2. STEAM AND RAILWAYS	1829: Rocket Steam Engine Railway, Liverpool–Manchester (UK)	Economies of agglomeration: cities, national markets Scale as progress
3. STEEL, ELECTRICITY AND HEAVY ENGINEERING	1875: Carnegie Bessemer steel plant in Pittsburg (USA)	Economies of scale and vertical integration Science as a productive force
4. OIL, AUTOMOBILE AND MASS PRODUCTION	1908: T-Ford in Detroit (USA)	Mass production and mass markets
5. INFORMATION AND TELECOMMUNICATIONS	1971: Intel's first micro-processor in Santa Clara, California (USA)	Decentralised networks Knowledge as capital Heterogeneity, segmentation Globalisation

Source: Perez, 2002.

The other part of the location issue is how economic activities relate to each other. If an industry has a more complex division of labour (to reap the benefits of specialisation) there are more transactions needed to make the final product. For reasons of transactional efficiency, knowledge spillovers, externalities and the scale needed for certain activities in the chain, it can be attractive to cluster as an industry in a certain region, accepting higher transport costs to the market. This is the trade-off shown in Figure 4.1.

FIGURE 4.1

LOCATIONAL PATTERNS

		Transport and transactions to market		
		Low	**Medium**	**High**
TRANSACTION, EXTERNALITIES, KNOWLEDGE SPILLOVERS, SCALE	**LOW**	Isolated scattered plants		Market-area locations for isolated plants
	MEDIUM	Big scattered plants; big inter-connected clusters	Big interconnected plants	Big market-oriented plants
	HIGH	Interconnected clusters	Superclusters (metro economies)	Isolated clusters — market-area located

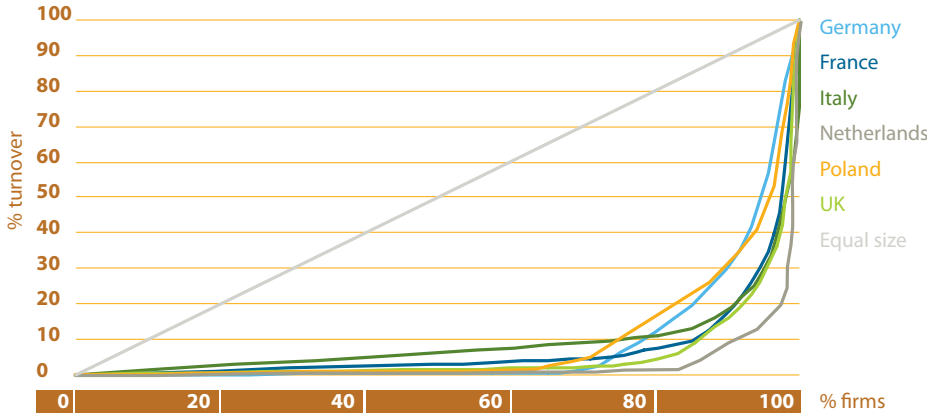
Source: Storper, 2000.

If transport costs are high, and there are not many incentives to cluster, the industry will be located in isolated market areas (top right in Figure 4.1). If transport and transaction costs fall (like in the EU food industry in the past 15 years), there will be a move to the left, resulting in isolated scattered plants (as some of the food multinationals realised for, for example, their margarine plants). However, if specialisation in an industry becomes complicated, thick labour markets for specialists are attractive and knowledge spillovers become more important, interconnected clusters (in the form of industrial districts) might be the result. With research, marketing, packaging and service aspects of food becoming more important this might be what is happening at the moment. Brasili and Maccarini (2001) confirm this empirically for the Italian meat sector. The trend is reflected in the policy interest in industrial zones, poles of competitiveness and food valleys.

There are many players involved in the food supply chain. At one end there are 500 million consumers in the EU; at the other, there are 15 million farmers. The last number is an exaggeration, as most of them (including 5 million in Romania and Bulgaria) are very small and hardly contribute to the commercial volume. But also between these two ends of the chain the numbers are large: nearly 300 000 food processors in the EU and nearly 800 000 retailers. This suggests that policy measures on food marking could best be applied at the processors' level, but that is not always the level where the marketing is done.

Like in farming, processing and the retail sector, there is a large concentration: very often 20 % of firms are responsible for 80 % of turnover. Sometimes it is even more skewed. Figure 4.2 illustrates this for the dairy processors and Table 4.2 shows the concentration in the retail sector.

FIGURE 4.2
LORENTZ CURVES OF CUMULATIVE SHARES OF DAIRY PROCESSORS IN TURNOVER FOR DIFFERENT COUNTRIES



These trends in the exploitation of economies of scale continue. Previous research (Wijnands et al., 2007) concluded that the EU is still lagging behind the USA in this respect. The accomplishment of the common market supports this structural change needed to improve competitiveness. Large European food processors take up this challenge. The expansion of, for example, Arla (dairy), Vion (meat) and the proposed merger (yet to be cleared by European competition authorities) of the Dutch dairy cooperatives Campina and Friesland Foods are some of the examples. Also in the retail sector, large international players (like Carrefour) are active. In most countries the five largest retailers now have two thirds and sometimes even nearly 80 % of the market. Italy and Greece are some of the exceptions with an unconcentrated market, implying a higher market share of smaller companies. But even in Italy this is changing now that Coop Italia has improved its market share to 12.5 % (Vorley, 2007). In addition to this concentration, some of them combine their sourcing activities in buying groups like AMS and EMD. Grievink (2003) estimated that, in western Europe, 85 % of the total retail food (excluding the growing segment of food service) is bought by just over 100 buying desks. It is clear that in such a market quantities count. SMEs are especially at risk from this structural change. They should redefine their business strategy to cope with these challenges.

TABLE 4.2

TRENDS IN MARKET SHARE OF THE TOP-FIVE SUPERMARKETS PER COUNTRY

Country	1993	1996	2000	2004
AUSTRIA	54	59	68	76
BELGIUM	60	62	66	77
DENMARK	54	59	76	76
GERMANY	45	45	61	65
FRANCE	48	51	61	69
GREECE	11	28	38	46
IRELAND	62	64	54	79
ITALY	11	12	25	41
NETHERLANDS	52	50	68	66
PORTUGAL	36	56	52	68
SPAIN	22	32	50	79
UNITED KINGDOM	70	73	80 (*)	54
USA		26	38	

(*) 1999 data.
Source: Bush and Bain, 2004; Planet retail 2004.

Food retailers now have much more market power than in the past. Market power is not necessarily abuse of market power, but discussions on that will continue. Supermarkets are now to the mass markets what the department stores were to affluent consumers at the beginning of the 20th century — the entry portal to everything a 'modern' person wants (Lang and Barling, 2007). But the supermarket model is not unchallenged; already new modes of shopping are emerging (Table 4.3).

TABLE 4.3

FEATURES OF THE OLD, CURRENT AND EMERGING MODES OF SHOPPING IN THE UNITED KINGDOM

Feature	'Old' mode of food shopping	'Current' mode of food shopping	'Emerging' mode of food shopping
PERIOD	Medieval to 1950s	1950–2000	21st century
SITE	Local near domestic homes or town centre	Distant (shopping mall at town edge)	Both out of town (majority of sales) and local (time poor)
SOURCE OF FOOD	Local and colonies	European and some international	Global
FORMAT	Small shops and markets (streets and special covered buildings)	Supermarket or hypermarket	Giant hypermarket with smaller convenience stores
RANGE	Diversity of shops with separate bakers, fish, grocery, butchers, newsagents	One-stop-shop	Domination by a few chains
SERVICE	Counter personnel with some home delivery	Self-service	Self-service, home delivery and Internet ordering
LABOUR IN THE SHOP	Most staff in front of shop serving customers	Staff at checkout or serving shelves	Mixed presence
SHOPPING TRIPS	Daily or multiple trips each week	One-stop-shop weekly or fortnightly	Internet plus local 'top-up'
MODE OF ACCESS	Walking, bicycle or bus	Car	Car
CORPORATE ETHOS	Service	Value for money/cheapness	Ethics

Source: Lang and Barling, 2007 (adapted).

CAPGemini (Jacobs, 2007) studied the future value chain for the supermarket, in which moving to a home-direct model around 2016 could be a reality. They identified six critical areas for improved performance of the retail sector:

- shopper dialogue, linking the store and the home with emerging in-house and consumer technology;
- information sharing with suppliers free of charge;
- synchronised production based on full integration with upstream suppliers of raw materials, ingredients and packaging with distributed manufacturing and a final assembly model based on lean production ideas;
- integrated logistics and home fulfilment with a move from retailer brand-centric logistics to geographic-centric logistics;
- sustainability with emphasis on reducing poverty, protecting natural resources and creating sustainable production and consumption;
- company cultural/behavioural changes that include more open information sharing and organisational development.

This list indicates that the current retail model is not the end of innovation and change in market power. In addition to fights on market power in the supply chain, co-innovation on these topics might be another strategy.

4.4. Food marketing, labelling and branding

Food processors and retailers like to distinguish themselves in the marketplace and they want to guarantee the consumer a certain quality. Food has to be safe. Safety is often a credence attribute: the consumer cannot directly observe the safeness of the food, even after consuming it. This merits public intervention, including the rule that retailers are held responsible for selling safe products. Public standards are set for the quality of products and this will create a level playing field for all producers.

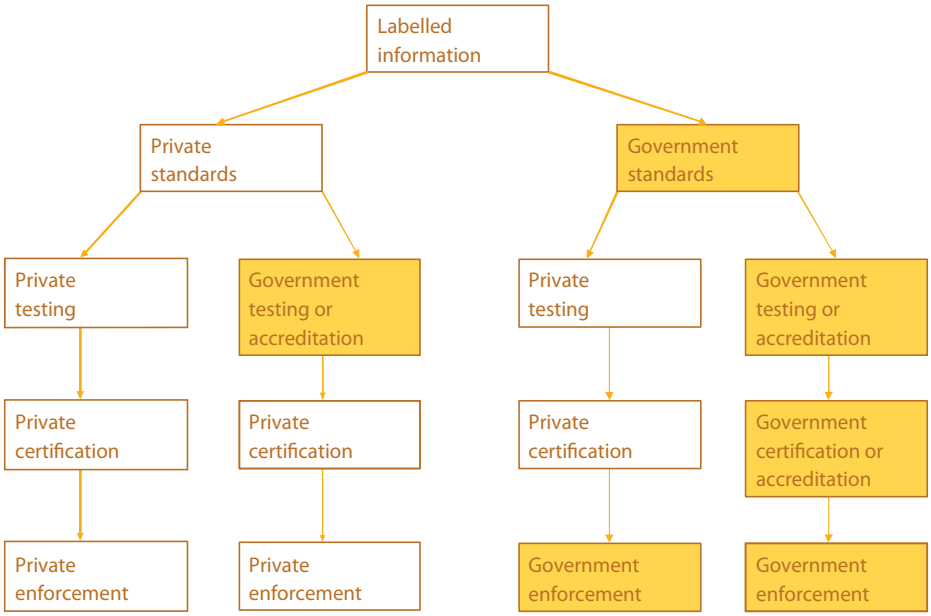
However, safety, being a result of risk management, is a relative aspect. Retailers and food processors can state extra safety claims and minimise potential hazards by imposing additional requirements on their suppliers. German discounters, for instance, demand food with safety standards below the public maximum residue levels (MRLs) as defined by EU law. The 'food scandals' of the 1990s made quality guarantees of major importance and some companies found it attractive to do more than the sharpened laws asked them to do. Such extra quality guarantees can be communicated to consumers by labels, but this is not necessarily the case. So branding the name of the retailer is another option. However, in both cases it means that an EU food origin marking does not necessarily add commercial value in the food marketing.

The attention to food safety (or, more generally, food quality) guarantees has led to several private standards, like BRC, EUREPgap, GLOBALGAP, Q+S, etc. Most of these schemes include tracing and tracking as well as inspection and auditing schemes for food safety/quality. They have a business-to-business character. They reduce transaction costs in the chain rather than adding a commercial value in business-to-consumer transactions. Such schemes are not size-indifferent. The costs for large companies to safeguard the standards are relatively lower than for SMEs, not only due to efficiencies of scale but also as larger companies have in-house specialists to deal with such schemes and have a more formal type of management (that such schemes rely upon) than the management-by-walking-around of many SMEs. There are company complaints about the need to comply with many different schemes and being inspected too much — which can lead to adopting the most restricting standard (or no standard at all). Such schemes can also influence the market itself and make it more heterogeneous, as they compete with each other. For instance, a safety label for feed by the five largest farm feed suppliers that finds recognition with dairy processors and its supplying farmers will drive out smaller companies and induce them to set up their own label. In the case where these labels are communicated to consumers, this can lead to confusion and a race to the cheapest label with the smartest marketing but not necessarily high-quality standards.

Some of these schemes interact with or even rely on specific public law. For instance, private certification schemes like MSC in the fish industry guarantee the effectiveness of public stock management. Organic labels depend on the EU regulation that defines organic products and their auditing scheme.

The value of labels depends on the credibility and reputation of the certification services. Services that are trusted and well known by a large number of consumers will be most successful in reducing search and information costs, facilitating market transactions and increasing market efficiency. Golan et al. (2000) provide a labelling tree (Figure 4.3), which indicates the possible and mandatory roles of the government in guaranteeing and enforcing labels. Properly designed and implemented standard setting, testing, certification and enforcement will increase the value of labels, by a higher credibility and reliability. Trust is important. 'Informal unwritten guarantees are preconditions for trade and production. Where these guarantees are indefinite, business will suffer'(Akerlof, 1970).

FIGURE 4.3
LABELLING TREE



Source: Golan et al., 2000.

As global companies tend to adopt the most demanding system of standards, a certain level of competition between standard-setting bodies exists. An example is REACH with its precautionary principle. It turns out that the standard-setting in the pharmaceutical industry shifted from the US Toxic Substances Control Act to REACH. In 2004, the US Safe Cosmetics Campaign asked firms to comply with the EU's cosmetics directive (Anonymous, 2007; Schapiro, 2004).

LABELS

In the consumer market, labels have several functions. They are first of all the technical device to provide consumers with information on the physical content of the product. This function is in line with the legal definition of a label: a 'label' in a legal sense means any tag, brand, mark, pictorial or other descriptive matter written, printed, stencilled, marked, embossed or impressed on, or attached to, a container of food.

Second, products get a label of ownership: a name, term, symbol with a certain design, showing the name of the product and/or the supplier. This goes back to the formation of regional and national markets in food processing, where commodities were no longer supplied in bulk to the local shop or simply produced by the local miller or bakery. Many of these labels developed into brands that have a much broader meaning for people. Brands help people not only to quickly make a detailed choice, they also engage consumers; they enable them to define their aspiration levels.

Aaker (1991) elaborated extensively on the branding of consumer goods. Consumers perceive brands to have functional, emotional and self-expressive benefits. A brand is defined as some combination of attributes, application, a user group or other distinguishing characteristics perceived by the customer (Aaker, 2004). The key aspects of branding for firms are name awareness, reputation and purchase loyalty (Table 4.4).

TABLE 4.4
VALUE OF BRANDING FOR CONSUMERS AND FIRMS

Provides value to customer by enhancing customer's:	Provides value to firm by enhancing:
• interpretation/processing information; • confidence in the purchase decision (comfort, security); • user satisfaction.	• efficiency and effectiveness of marketing programmes; • brand loyalty; • prices/margins; • brand extensions; • trade leverage; • competitive advantage.

Source: Aaker, 1991.

It is clear from Table 4.4 that branding can have advantages for both the consumers and the producers. Brands reduce information asymmetry by the real and perceived attributes. These attributes can be identified by:

1. observing these before purchasing; this results in lower information and search; resources need to be allocated to communicate these attributes to the consumers;

2. experiencing the attributes after purchase;

3. having confidence in the credence attributes; credence attributes cannot be verified by the consumer, such as organically produced products, country of origin or environmentally friendly products (Fernández-Barcela et al., 2006).

Brand has a signal function in this respect. Brand has a value (a premium price) as the consumer can trust the producer, which means that quality is suitable and consistent over time. Repeated purchases are an indicator of whether the consumer values a product as a brand.

Powerful brands are the companies' most valuable assets; the value of some (marketing) companies is very much dependent on the value of their brand(s). Such brands cost large amounts of money in promotion efforts to maintain. In economic terms the brand is a method to try to create imperfect competition or even a monopoly. Brands make use of intellectual property regimes like laws on copyright, patents, trademarks, etc.

BUSINESS-TO-BUSINESS

The advantages of consumer branding — higher financial performance and a better competitive position in the long run — attracted the attention of business-to-business (B2B) marketers (Mudambi, 2002). The idea of B2B marketing has slowly taken hold and is enjoying attention as possibilities to improve the supply chain performance increase.

The idea from the business-to-consumer market that brands have an emotional value and are perhaps irrational implies that brands have little significance for corporate entities, as their buying decisions are made on a very rational basis (Bendixen et al., 2004).

Mudambi (2002) gives, in her literature review of branding, a comprehensive overview of the differences between consumer and industrial branding (Table 4.5). However, can food products be compared with

industrial products? Marescotti (2000) states: 'The evolution of the agro-food system tends to lead to production process industrialisation and product characteristics standardisation'. The economies of scale and the increase of the scales of operation on farm, wholesale and retailer levels underline the industrialisation process. Retailers demand large quantities of standardised products, because of their large numbers of outlets. Large dairy processors can provide these standardised quantities.

TABLE 4.5
CHARACTERISTICS OF CONSUMER AND INDUSTRIAL MARKETS

Consumer markets	Industrial markets
Emphasis on the tangible product and intangibles in the purchase decisions	Emphasis on the tangible product and augmented services in the purchase decisions
Standardised products	Customised products and services
Impersonal relationships between buyer and selling company	Personal relationships between buyer and sales person
Relatively unsophisticated products	Highly complex products
Buyers growing in sophistication	Sophisticated buyers
Reliance on mass market advertising	Reliance on personal selling

Source: Mudambi, 2002.

As shown in Table 4.5, personal relationships and services are becoming of major importance in B2B marketing. In B2B marketing, firm (corporate) loyalty is what brand loyalty is in business-to-consumer marketing. However, Bendixen et al. (2004) show for electrical equipment with standardised product attributes that B2B marketing with a strong brand leads to price premium where quality is the main brand-equity variable. That means first that the quality has to be on an indisputable level and second that the marketers have to translate quality into perceived quality.

The values of brands for the chain partners are summarised in Table 4.6. On each level of a chain, benefits of brands can be identified. Despite the fact that Webster (2000) is focused on the consumer, his analysis can also be used for business-to-business brands. One of his recommendations is: 'We must better understand the reseller's definition of brands as strategic resources'.

Emphasis should be given to strategic cooperation. Wholesalers can support retailers with private labels. In the USA there are more private labels than national brands. A higher share of private labels results in higher profits in European supermarkets (Quelch and Harding, 1996). The high investments needed to establish a store label can be split over the chain partners if different links in the chain are strategically cooperating. The importance of private labels (brands) and retailers as a brand for consumers suggests opportunities for business-to-business labels (see below).

Food brands (like Coca-Cola, Danone, Unilever's Bertolli or Evian in water and Heineken in beer) do make use of business-to-business labels, but have nothing to gain from origin marking. Sometimes they are associated with Europe or one of its regions or they suggest so (Bertolli is suggestively Italian without claiming this), but it is unlikely that a food origin marking will contribute to their success.

TABLE 4.6
VALUE OF BRANDS TO CHAIN PARTNERS

	Manufacturer	Wholesaler	Retailer	Consumer
BENEFITS	Higher sales volume Lower production costs Easier new product introduction Relationship of trust with consumer More control over resellers	Pre-established demand Lower selling costs Higher sales volume Better inventory turnover, use of warehouse space	Pre-established demand Image enhancement for retailer with consumer Manufacturer's commitment to promote the product Relationship of trust and credibility with customer Lower selling costs	Implicit quality guarantee Lower perceived risk Lower retail price with higher volumes Prestige with brand image
COSTS	Higher costs of advertising Higher sales promotion costs associated with interbrand competition	Costs of selling and stocking multiple brands in the same category	Less control over relationship with consumer Difficulty of allocating shelf space among multiple brands Lower margins than on store brands	Higher retail prices associated with advertising and promotion activities

Source: Webster, 2000.

RETAIL AND PRIVATE LABELS

Twenty-five years ago the large, multinational food companies with their 'A brands' were seen by many as having too much power in the food chain. In the last 10 years, Europe has become the site of a conflict for market power between supermarkets and the food industry. In 2005, 18 of the global top-30 grocery retailers were European and the top-eight European retailers all had significant proportions of their floor space and sales outside their home markets. In this fight for market power, Europe has led the world in the development of quality 'own brand' (private label) products and the application of private standards, discussed above (Vorley, 2007). Consumers like to see the retailers as a gatekeeper and retailers develop private labels, partly based on their knowledge of their clients, to support their brand name. This has also been the basis for a love/hate relationship of civil society with the supermarkets. A variety of non-governmental organisations exploit the 'gatekeeper' role to drive their agendas: protesting in front of a supermarket chain is likely to have more media exposure and effect than in front of the local butcher (Vorley, 2007).

Private label products are products manufactured by one company for offer under another company's (mostly the retailer's) brand name. They are not only available in food, but also in, for example, cosmetics or web hosting. Essentially it is outsourcing production by the brand owner, although in food it started by retailers who asked 'A label' food processors to use their excess capacity for a cheaper version under the retailer's brand or as an unbranded product. This gave private labels the image of cheap copies. Private label ('own brand') owners tried to mimic the original 'A brand' as much as possible. This led to juridical fights on copyrights in design. But, in the meantime, some retailers have also developed upmarket private labels. Ahold, for instance, has an Excellence label and the BioSelect label to brand its organic products.

The existence of private labels has been one of the competitive factors that improved the market power of retailers (Wrigley and Lowe, 2002; Vorley, 2007). In Europe they command 23 % of the market, according to ACNielsen. They grow at 4 % a year, especially in the new Member States and with hard discounters (Table 4.7). Own brands have a growing acceptance with consumers and retailers use them to realise market differentiation and to strengthen customer loyalty, especially in the face of strong competition from discounters (Vorley, 2007).

TABLE 4.7

RETAILER PRIVATE LABELS' MARKET SHARE IN EUROPE

Global rank	Country	Share of private labels (%)
1	SWITZERLAND	45
2	GERMANY	30
3	UNITED KINGDOM	28
4	SPAIN	26
5	BELGIUM	25
6	FRANCE	24
7	NETHERLANDS	22
9	DENMARK	17
11	SWEDEN	14
12	AUSTRIA	14
14	ITALY	11
15	PORTUGAL	11
16	HUNGARY	10
17	SLOVAKIA	10
18	FINLAND	10

NB: Only global positions 8, 10 and 13 are non-European countries.
Source: ACNielsen, 2005.

The UK Competition Commission performed several investigations in the sector. In one of its reports (2000, cited in Vorley, 2007), it reported purchase savings of nearly 30 % on private label products, mostly due to a lower supplier margin. Two thirds of these savings were passed to the consumer in a lower selling price; one third allowed a higher retail margin. These are strong economic driving forces. Table 4.8 provides information on price differences between private labels and manufacturer brands per country.

TABLE 4.8

PRICE DIFFERENTIAL BETWEEN PRIVATE LABELS AND MANUFACTURER BRANDS BY COUNTRY

Country	Private label price differential (%)	Country	Private label price differential (%)
GREECE	– 48	PHILIPPINES	– 32
AUSTRALIA	– 47	SOUTH KOREA	– 31
GERMANY	– 46	MEXICO	– 28
BELGIUM	– 45	SOUTH AFRICA	– 28
CZECH REPUBLIC	– 44	USA	– 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
UNITED KINGDOM	– 36	COLOMBIA	– 19
ARGENTINA	– 35	SINGAPORE	– 13
NORWAY	– 34	HONG KONG	– 10
NEW ZEALAND	– 33	THAILAND	– 10

Source ACNielsen, 2005, p. 17.

It also explains why the conflict over market dominance leads to discussion on buying power and investigations from competition authorities. Buying power can affect the functioning of markets and hurt consumer welfare. Labels and standards can act as barriers to entry. Misuse of buying power has been reported from time to time. Several authors (e.g. Dobson, 2001, 2003) argue that dependency relationships are likely to be exploited also in the future. Economic dependency laws like in France and Germany have proved generally to be ineffective to protect suppliers against opportunistic behaviour by powerful retailers.

It should be no surprise that producers and suppliers that feel marginalised or even excluded protest. In the dairy industry this has become a regular phenomenon: 2005 saw protests as did, more recently, 2008. Some farmers and SMEs have a strategy for niche products sold at a regional level or in the out-of-home market. Others invest heavily in their cooperatives to co-own a part of the supply chain. But overall, as Vorley (2007) notes: 'Farmers in Europe have yet to find their voice in the new politics of agrifood in the face of their declining political influence, lack of media interest in their struggle, widespread citizen support for the supermarket model and the dominant policy priorities of low inflation and job creation'. Many SMEs seem to be in the same category as farmers.

The branding of the retail chains by their private labels, using their supply chain management systems with business-to-business labels, is a hostile area for the introduction of a food origin marking scheme. It is hard to see how retail chains would benefit from it, and it is also not in their interest to have the position of the producers strengthened. Neither will it easily help to shift the market dominance back to the producers.

4.5. Origin labelling

Besides brands, labels and private labels there are a number of other trademarks and labels of origin that play a role in food marking. One is certification marks (like ISO 9000). These are not very different from business-to-business labels but add the label and trademark of a certifying body that provides extra legal assurance to the buyer. Another one is collective trademarks. These are trademarks owned by a group of producers. They are mentioned here as they can serve as 'badges of origin' and sometimes have a geographical link. The Dutch dairy sector, for instance, used the Frau Antje concept in the German market. However, such arrangements are on the way out, as concentration in the industry increases and companies have more interest in promoting their own brand than the generic product.

Country-of-origin labelling is used to differentiate the product of a country from its competitors. Research shows that such labelling has some effect. Aaker (2004, p. 179) provides several examples in which a country or region has a brand that provides interests and differentiation to the target brand. For example, Chanel and L'Oreal stand for Paris and Buitoni for Italy. A country or brand can provide also emotional and self-expressive benefits. Connecting a brand to the West has for decades created self-expressive benefits within the Japanese market (Aaker, 2004, p. 179).

The seminal paper of Schooler (1965) investigated the country-of-origin effect. Schooler tested juice from only one producer, who guaranteed exactly the same quality. He divided his sample in four groups and added to each group a label with the name of a country. 'Significant differences in the evaluation of products, identical in all respects except the name of the country appearing on the label, were found…' (Schooler, 1965).

Country of origin is an extrinsic cue like price, brand and retailer reputation and such cues act as a signal for product quality (Verlegh and Steenkamp, 1999). Verlagh and Steenkamp provide an overview of the mechanism of country-of-origin label, summarised in Table 4.9.

TABLE 4.9
MECHANISMS FOR COUNTRY-OF-ORIGIN EFFECTS

Mechanism	Description	Major findings
COGNITIVE	Country of origin is a cue for product quality.	Country of origin is used as a 'signal' for overall product quality and quality attributes, such as reliability and durability.
AFFECTIVE	Country of origin has a symbolic and emotional value to consumers.	Country of origin is an image attribute that links the product to symbolic and emotional benefits, including social status and national pride.
NORMATIVE	Consumers hold social and personal norms related to country of origin.	Purchasing domestic product may be regarded as a 'right way of conduct' because it supports the domestic economy. By the same token, consumers may refrain from buying goods from countries with objectionable activities or regimes.

Source: Verlagh and Steenkamp, 1999, p. 524.

Opponents argue that consumers seem to have little interest in country-of-origin labelling; otherwise it would have developed spontaneously. It increases costs of labelling, record-keeping and procedures necessary to support the requirements, and thus decreases food choice (Krissoff et al., 2004).

Previous LEI research (Van Horne et al., 2006) on country-of-origin labelling in the meat sector shows that Dutch consumers hardly differentiate between meat products originating in the Netherlands or other west European countries. However, they consider these superior to meat products from east European or third countries. For this reason retailers chose the latter products for the types of preparation that have no obligation to label the origin of beef. In general, Dutch country-of-origin requirements have not had an influence on consumer demand. German and French consumers, however, exhibit a preference for national products.

This even applies to regional products. In the BSE-troubled meat market, Herrmann et al. (2002) found different consumer behaviour in Bavaria than in the rest of Germany. Bavarian consumers reduced beef demand less than consumers in the rest of Germany under the influence of the BSE crisis which they attribute to the (state-financed generic promotion) programme 'Quality from Bavaria — Guaranteed origin'. Bavarian consumers showed a higher willingness to pay for beef and a more price-inelastic behaviour compared with other German consumers. They report a clearly positive effect of the programme on Bavarian beef demand. An aggregated market model of the Bavarian beef market showed that the labelling programme resulted in a 4.6 % higher consumption, although this was offset by a 6.9 % decline in consumption due to information and public awareness of the BSE crisis. In addition, secular declines in consumption due to preference changes away from beef amounted to 15.2 %.

This example suggests that using a country-of-origin marking on a Member State or even a regional level works probably better than a 'made in the EU' label. One should also be aware that producers can apply tactics with ambiguous markings like 'made in Europe' (that is, a much wider concept than the EU) or even 'made for Europe' that might mislead consumers who are not proficient in English.

Within the EU there is a legal basis for the protection of geographical indications: protected designation of origin (PDO) or protected geographical indication (PGI). To qualify for a PDO label, the product must have qualities and characteristics which are essentially due to the region of its production. The requirements for a PGI label are a bit less strict: a good reputation from a given regions (instead of objectively different characteristics) is enough. PDO and PGI work as a collective trademark. Consumer interests, like the provision of clear information and the risk of quality products being driven from the market by cheap imitations, are sometimes stated as a goal of such protection, but the effect and often also the stated goal of such intellectual property rights is to increase the income of the right holders. In the PDO/PGI case, this is also linked to the issue of depopulation of rural areas.

Research into the success of regional products (Broekhuisen and Tacken, 2004) identified a long list of conditions that have to be met to make a regional brand a success. These conditions include a supportive institutional environment, strategic alliance with chain partners, willingness to invest in a shared enterprise, mobilising investment capital for scaling up, good anticipation by the business partners on the implications

of scaling up, a visionary and capable leader, building a strong brand, existence of regional marketing as basic security, and regional embedding of the marketing strategy and/or promotion of regional identity.

Origin labelling, just like any kind of economic labelling or branding, will be preferable if consumer preferences 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.

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 system by increasing 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–USA and many other OECD countries;
- EU–third countries (except USA/OECD).

It can be stated that, only with respect to the third category, an improved competitive advantage can be expected. While intra-communally a 'made in the EU' label hides differences in quality and safety levels and therefore is possibly counterproductive, in the EU and the USA/OECD a level playing field is being established by the development of global instead of regional standards for food safety.

A 'made in the EU' label would only have a positive effect if the product (in the eyes of the consumer) is seen as superior in comparison with other countries.

4.6. Experiences with origin labelling in food

A non-exhaustive overview of empirical literature on labelling is summarised in Tables 4.10 and 4.11. Several issues are of importance. The first question is whether country-of-origin or other attributes differentiate products. The main line of the results shows that country-of-origin labels provide information to consumers and can have an impact on consumers' buying behaviour. 'Domestically produced' is positively valued in several cases. In other cases, the country-of-origin effects should have another cue, as is summarised in Table 4.9. If positive associations are available from the country of origin, it helps branding. Some others stress that adding labels without a certain brand equity is not adding value or might even confuse the consumer (McEachern and Warnaby, 2004; Meeusen and Deneux, 2002; Meixner et al., 2007). 'Today's consumers are faced with a plethora of food labels concerning safety, nutrition, characteristics, geographic origin, and organic status, just to name a few' (Crespi and Marette, 2003). For example, the large number of wine appellations means that consumers cannot distinguish one appellation from another, which resulted in the various French appellations having difficulties in entering new export markets (Berthomeau, 2002).

A second issue is whether labels increase the welfare in total. In addition, what is the distribution between consumers and producers? Most studies do not quantify the economic benefits of labels or brands. In some studies a premium price is observed and related to consumer attributes. Most studies are based on marketing theories. Two papers are based on partial equilibrium models (Lusk and Anderson, 2006; Rude and Brewin, 2006). Rude and Brewin conclude that there is a decrease in surpluses for most of the chain partners. Lusk and Anderson conclude that the demand should increase by 2 to 3 %, to prevent welfare losses. The estimates are built on several assumptions regarding the cost of labelling. Costs and benefits of the US country-of-origin labelling programme are discussed, without reaching decisive conclusions (VanSickle et al., 2003).

The industrial organisation theory provides evidence that by differentiating products the welfare will increase. However, the differentiation should be perceived and trusted by consumers. Table 4.11 suggests that the empirical work is largely lacking. Theory is not yet elaborated far enough for applied research. The value of the theory is to get a clear idea about the issues to tackle in product differentiation. More applications of marketing theories could be beneficial.

Then there is the question of how challenging label requirements should be. This is a policy issue. Low demanding labels will have no influence. Requirements that are too demanding will encounter little enthusiasm from the food industry. Zago (1999) shows that producers' organisation choice on quality levels depends on the opinion of the majority. The quality level provided by the group of food companies is higher with a high-quality producers' majority and lower with a low-quality producers' majority. If standard setting is a private (self-regulation) task of the food industry, one should keep this outcome in mind and compare the outcome with the objective of food labelling (Zago, 1999).

TABLE 4.10
REVIEW OF (SELECTED) EMPIRICAL LITERATURE ON DIFFERENTIATED PRODUCTS

Author	Objective	Product	Country	Differentiation	Standard	Research method	Findings
AGRAWAL AND KAMAKURA, 1999	Is COOL (*) a competitive advantage?	Electronics	USA	Country of origin	—	Hedonic pricing method regression	Price premiums are explained by quality rather the country of origin
AHMED ET AL., 2004	COOL effect on low-involvement products	Bread and coffee	Singapore	Country of origin = country of manufacturing	—	Anova comparing means	Brand and price is of more importance than COOL; brand dilutes impact of negative COOL; domestic is preferred above foreign
BALABANIS AND DIAMANTO-POULUS, 2004	Preferences of UK buyers for domestic products	Food and seven other products	UK and five other countries	Country of origin	—	Unfolding approach; ordered logit analysis	Preference for domestic food (toys and do-it-yourself tools); however, for five other products, other countries are preferred; cultural difference (nearness) does influence outcome
BERNUÉS ET AL., 2003	Identifying information consumers want on label	Beef and lamb	England, Scotland, France, Italy, Spain	Seven variables	—	Large consumer survey, principal components method	Important cues are: 1. deadline of consumption; 2. origin of the meat
CARTER ET AL., 2006	Highlighting conditions for successful geographical branding	USA COOL	Canada/USA	Onions: taste (p. 519); Washington apples: none; Florida orange juice: none	Onions: brand legally protected; apples: none; juice: monopolist	Case studies	Onions: controlled supply and price premium Apples could not maintain the distance to substitutes Juice: new entrants and price deterioration COOL is viable
EKELUND ET AL., 2007	Preference for domestic, organic and foreign vegetables	Vegetables	Sweden	COOL (Swedish-Dutch) or organically grown	—	Conjoint analysis	Preference for domestic products; organic important to some consumers
FERNÁNDEZ-BARCELA AND GONZÁLEZ-DÍAZ, 2006	Explain factors determining brand equity	Fruit and vegetable brands	France, UK, Spain, Italy, Germany, Netherlands	Individual and collective brands	—	Case study: observed price premium on wholesale and consumers' level	Brand is valuable if it provides substantial additional information: B2B are in general better informed than consumers Brand equity is higher with external and independent control systems
GOLAN ET AL., 2000, PP. 19–21	Cost–benefit nutrition labels; need for governmental intervention	Food	USA	Information on health issues	National Labelling and Education Act (NLEA)	Case study	Consumers changed buying behaviour; producers developed new products

Author	Objective	Product	Country	Differentiation	Standard	Research method	Findings
GOLAN ET AL., 2000, PP. 22–25	Labelling to protect tuna	Tuna	USA	Tuna safe fishing method	International Dolphin Protection Agreement	Case study	Important role for government in establishing and verifying (mandatory) label; lower consumption of tuna
GOLAN ET AL., 2000, P. 26	Establishing governmental standards instead of private	Food	USA	Organically produced	Organic Food Production Act	Case study	Impact on sector unclear
ITTERSUM ET AL., 2003	How the image of a region influences the perceptions and preferences for products	Beer and potatoes	Netherlands	Dutch region	—	Multivariate analysis Lisrel	Direct influence of attitude towards region on product preference only for potatoes and not for beer
LUSK AND ANDERSON, 2006	Effects on producers and consumers by COOL	Meat	USA	COOL	US COOL Farm Security and Rural Investment Act	Partial equilibrium model, with trade and three supply chain actors	Costs are shifted form producer to processor and consumer. If less than 2–3 % demand increases, the welfare is negative
MCEACHERN AND WARNABY, 2004	Identifying meat purchasing behaviour	Meat	United Kingdom	20 quality label assurances	UK quality and farm assured system	Surveys; factor analysis	Sell to date is most important; labels are perceived as better quality, but also scepticism on retailer-led assurance systems
MEIXNER ET AL., 2007	Evaluation of quality labels	Meat	Austria	Several levels of quality; origin or organic labels	—	Survey, conjoint analysis	Price level is most important attribute; Austrian label is most recognised; labels lead to irritation and confusion; maintaining labels needs resources for long periods
NILSSON ET AL., 2002	Credibility of labels	Food	EU	58 food labels, organic, farm quality assured, retailer or regional	Different	Desk (literature and Internet) research	Lack of knowledge or lack of credibility of assurance system; no independent third party; no clear values or objectives
RUDE AND BREWIN, 2006	Impact of US mandatory labelling on Canadian pork	Pork	Canada	COOL	US COOL Farm Security and Rural Investment Act	Partial equilibrium, US–Canada trade model	Lower welfare for all chain participants except Canadian consumers and processors
SCHAEFER, 1997	Evaluating COOL	Beer	South-east England	Brand and country of origin	—	Survey and correlation	Country of origin supports brands

(*) COOL: country-of-origin labelling.

And then there is the question regarding which role the government should play. The credibility of labels can be enhanced by government or independent control systems (Figure 4.3). The (theoretical) conclusion of Roe and Sheldon (2007), based on the industrial organisation theory, is not decisive as to whether public or private control is preferable. It is clear that the European Commission will be involved if an EU label is implemented as is shown by Golan et al. (2000) and summarised in Figure 4.3. A leading role for the Commission would at least involve standard setting and enforcement of the standards. Testing, accreditation and certification might be by private as well as public services. The reviewed papers do not provide a hint regarding what the perception of the private sector on this issue is.

There could also be a role in the communication support of labels. Brands spend considerable amounts of money to maintain and enhance the brand equity. This is also a policy decision: which resources are available for supporting the perception of labels?

TABLE 4.11
REVIEW OF (SELECTED) LITERATURE ON DIFFERENTIATED PRODUCTS BASED ON THE THEORY OF INDUSTRIAL ORGANISATION

Author	Objective	Product	Findings
ANANIA AND NISTICÒ, 2004	Implications of the degree of credibility for producers and consumers	Product differentiation: one high and one low quality	Producers of low quality gain in obtaining imperfect regulations
EATON ET AL., 2006	Preferential treatment to imports of sustainable animal products	Vertically differentiated products	Tentative EU should start internally with standard setting, before negotiations in WTO
FULTON AND GIANNAKAS, 2004	The system-wide effects of GM products with and without labelling	Three vertically differentiated products	Consumer welfare is reduced if aversions against GM and segregation costs are high Producer welfare is reduced if consumer welfare is high and seeds companies charge optimal prices
LENCE ET AL., 2007	Welfare effects of alternative producer organisations	GDAPs (geographically differentiated agricultural products)	Stronger property rights are an incentive to develop GDAP and supply control is necessary if the fixed costs are high; otherwise, innovation is not enhanced
ROE AND SHELDON, 2007	Impact of different labelling policies: disclosure of quality information	Vertically differentiated credence goods	Continuous quality labelling or voluntary labelling are non-distorting Exclusive (mandatory) governmental labelling risks pushing out high quality if the standard is too high or too low Producers prefer private labels; consumers prefer mandatory, discrete labels

4.7. Conclusions

The main conclusions concerning origin marking schemes are outlined below.

- Origin marking is an intervention in food marketing.
- Food marketing is changing as a result of changes in the industry.
- Food marketing is dominated by large processors, on the one hand, and especially large retail chains that dominate the food chain with their private labels and supply chain management, on the other.
- PDO/PGI labels have some effect and provide an intellectual property right for the owners.
- Country-of-origin labelling has some effect on sales, but this effect differs between countries.
- However, it is hard to see how a 'made in the EU' label could add something for SMEs in their struggle to be competitive.

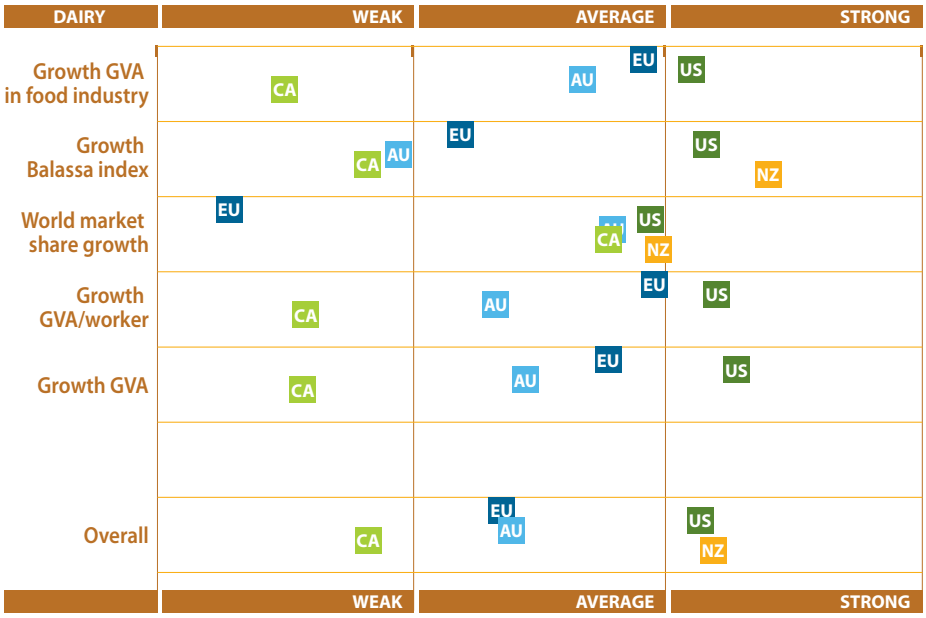
5 Competitiveness of the dairy industry

5.1. Key findings

The key findings from the data analysis, desk research and modelling on the competitiveness of the dairy industry are outlined below.

- The EU dairy industry is dominant in the world market, but quickly losing market share.
- The internal EU market is characterised by a fairly stable milk market and increasing demand for cheese.
- In Poland and Italy, the dairy industry is becoming more important in the trade balance.
- There are many new product placements in the market, with packaging and ingredient firms clearly contributing to innovation.
- Controversy exists regarding the innovativeness in the UK market: trade journals suggest this market is innovative (with special roles for retail, foreign firms, packaging and ingredient firms) whereas experts and financial information sources contradict these findings.
- The majority of dairy companies are very small but in most countries the industry is heavily concentrated.
- Raw materials (cow milk) are an important cost item. In most countries dairy farms become more productive, linked to structural change, but the trend in labour productivity in Germany at farm level is problematic.
- The sector has a number of large global players. However, the competitive position of the sector is just below average, mainly due to the loss in world market share.
- The world market is growing faster than European exports.
- Compared with the previous report (Wijnands et al., 2007), the improvement in labour productivity and the growth in value added compensate for the significant loss in market share. New Zealand performs well because of the high increase in world market share.

FIGURE 5.1
OVERALL COMPETITIVENESS OF THE DAIRY SECTOR



It is unlikely that this situation will improve much in the future. Removing the quota system would increase the volume of production as the sector is less restricted in the supply of raw materials. However, full liberalisation would make some dairy farming uncompetitive and the production volume would decrease. Employment in the sector would fall by about 3 %. But it would generate welfare. The analysis shows that the size of the sector is also very dependent on total GDP and the size of the population.

5.2. Introduction

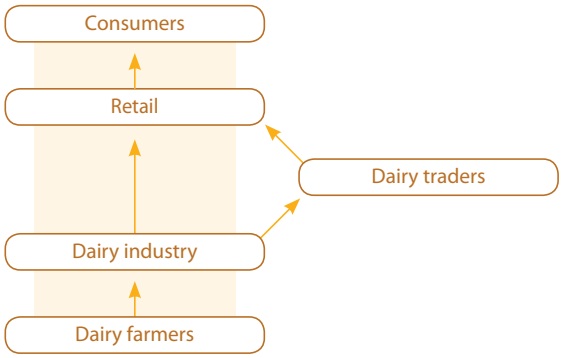
This chapter aims to identify the strengths and weaknesses of the European dairy industry. The next section describes the dairy supply chain and trends in consumption. This is followed by an analysis of international trade in order to analyse innovation and business dynamics. Section 5.7 describes competitiveness at country level. The chapter concludes with an outlook based on a scenario analysis.

5.3. The dairy chain and consumption trends

The main products that are made of cow milk are: fresh milk, cheese, yoghurts, butter and milk powder. These dairy products are partly produced for the local market, due to the relative short shelf life of some dairy products like fresh milk, yoghurt and (fresh) cheese. Next to that, several products are 'cross continentally' traded, like butter, cheese and milk powder. Figure 5.2 shows the main types of players in the dairy chain.

The EU dairy industry is dominant in the world market. The EU-25 exports for EUR 21 billion to other countries, while Oceania exports for EUR 3.8 billion and NAFTA for EUR 1.1 billion. The EU-27 is responsible for 72 % of total international trade when intra-EU trade is included. In relation to the exports of 2002–04 (Wijnands et al., 2007) this is again a decrease. When intra-EU trade is excluded, the EU is still the largest trader in the world and responsible for 14 % of world trade. But Oceania is catching up to the EU very fast.

FIGURE 5.2
DAIRY CHAIN



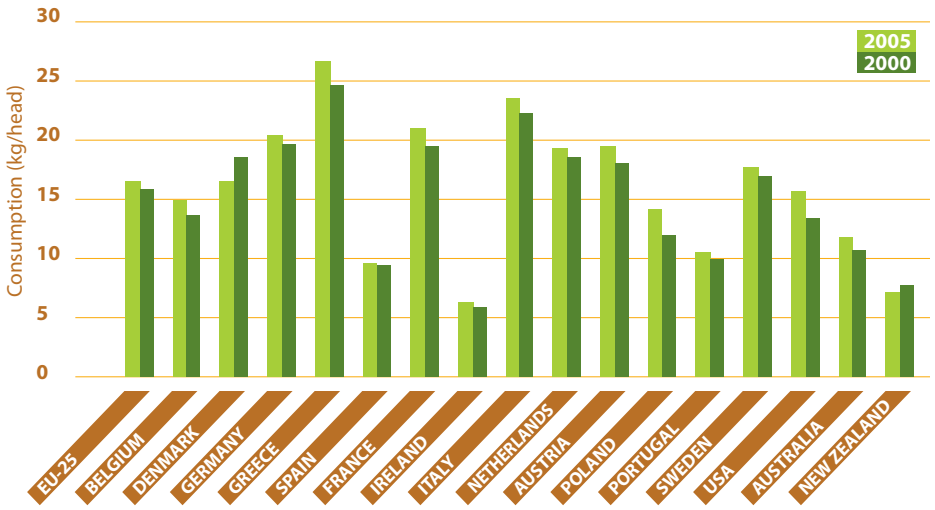
CONSUMPTION

The EU dairy industry, in the first instance, produces for the home market. This home market is an increasing market for cheese and a fairly stable market for milk.

Milk consumption in the EU-27 was 71 kg/head on average in 2006. In most countries, milk consumption is stable or slightly going down, while in a few countries demand is rising. In 2000, EU-27 milk consumption was still 73 kg /head, while in 2005 milk consumption was 71 kg/head. The diversity in milk consumption is also very high (see Figure 5.4).

Cheese consumption is going up in most countries. Average cheese consumption in the EU-25 was 15.9 kg/head in 2000 and 16.6 kg in 2005. Cheese consumption has risen most in the USA and in Poland.

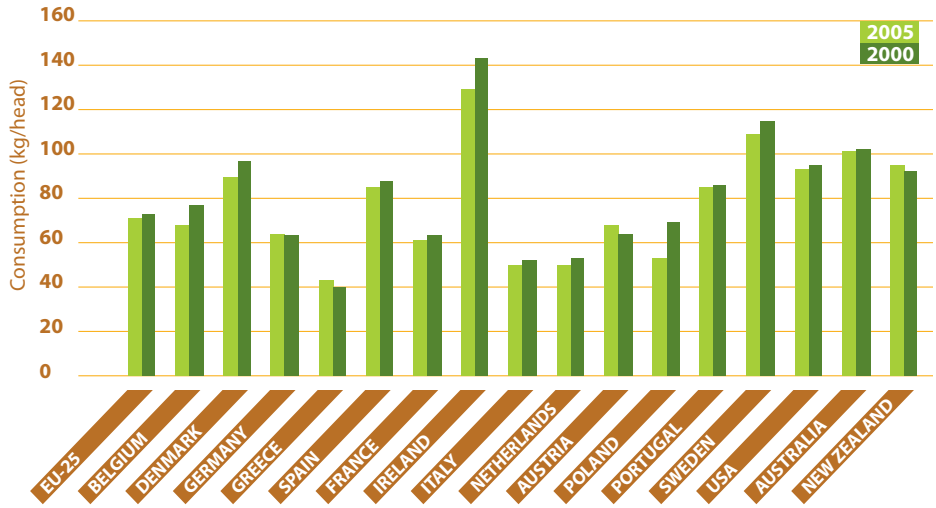
FIGURE 5.3
CHEESE (BASED ON COW MILK) CONSUMPTION (KG/HEAD) IN MAJOR EU AND BENCHMARK COUNTRIES



Source: Dutch Dairy Board; data can differ from Eurostat data.

FIGURE 5.4

MILK CONSUMPTION (KG/HEAD) IN MAJOR EU AND BENCHMARK COUNTRIES



Source: Dutch Dairy Board; data can differ from Eurostat data.

SELF-SUFFICIENCY

Regarding self-sufficiency, there are large differences between milk and cheese. In milk most countries have a self-sufficiency of near 100 (a score of 100 means self-sufficient) while in cheese some countries are not self-sufficient while others are more than self-sufficient.

Most EU countries had a higher self-sufficiency for cheese in 2005 than in 2000, except the Netherlands, Poland, Portugal and Sweden. The self-sufficiency of New Zealand increased to more than 1000 in 2005 (meaning that only 10 % of the production is consumed in the country). The local consumption in New Zealand is very low, which makes self-sufficiency automatically high.

The annual growth figures of the dairy industry and the food industry show that the 12 new EU Member States have the highest growth in real value added in the dairy industry. In the southern European countries, except Portugal, the share of the dairy industry in the total food industry has decreased. In the new Member States of the EU the share of the dairy industry in the food industry increased above average as well. The USA shows a small growth compared with the EU (Figure 5.5).

FIGURE 5.5
ANNUAL GROWTH OF THE REAL VALUE ADDED OF THE DAIRY INDUSTRY IN RELATION TO THE TOTAL FOOD INDUSTRY (RELATIVE STRENGTH)

(*) EU-n10 refers to 10 of the 12 new Member States (excluding Cyprus and Malta).

Source: Eurostat.

5.4. International trade

The EU is the biggest exporter of dairy products in the world and the export value increases; however, the market share of the EU-27 in the world market is decreasing very rapidly. In the mid-1990s the EU had a market share in international exports of 79 % while in 2004–06 only 72 % remained. If only extra-EU trade is included trade decreased from 18 % to 14 % of world trade. In 2002–04, extra-EU trade was still 16 % of world trade. So, demand on the world market is increasing more than the exports from European countries can meet. The new EU Member States in particular and developing countries outside the EU are able to increase their market share on the dairy export market.

The European dairy companies shifted their production from milk powder to cheese from 2000 to 2005, while New Zealand mainly increased milk powder production and did not expand cheese production further. This trend was not found to be so strong in the previous study (Wijnands et al., 2007).

In cheese production every continent has its own specialty products and the consumers in those countries also prefer specific cheeses. Within continents the favourite types are a commodity, which has implications for tradability and prices.

New Zealand increased production of milk powder from 2000 until 2006 and is therefore improving its market position very rapidly. In skimmed milk powder products, the EU-27 count for 41 % of international trade (EU intra-trade included) and New Zealand for 28 % of trade. The production of New Zealand has nearly reached the level of the EU-27 altogether. Imports from outside the EU came in 2006 mainly from New Zealand to the EU-15. Since 2000, imports are, however, fluctuating a lot. Australia, New Zealand and the USA are competing strongly on this product for the European market.

Fresh milk and yoghurts are mainly produced for local markets. Fresh milk is mainly locally produced and consumed. As far as it is traded between countries, this trade is within a continent.

Germany and France are the most important producers of yoghurt. The Netherlands are third, at a distance. Poland is fourth in production and growing very strongly.

COMPETITION: BALASSA INDEX AND SHARE VALUE ADDED

The performance of an industry on the international market can be measured firstly by the Balassa index (revealed comparative advantage) and secondly by the growth of the real value added of the industry compared with the rest of the industry. The Balassa index indicates the specialisation degree of the export portfolio: the competitive position of a product improves if it becomes more important in the export portfolio of a country.

TABLE 5.1
MAJOR EXPORTING COUNTRIES IN DAIRY PRODUCTS

Region/country	Export share			Import share		
	1995–97	2004–06	Difference	1995–97	2004–06	Difference
EU-27	79	72	– 6.2	68	64	– 4.0
EU-15	75	67	– 8.7	66	61	– 5.3
EU NEW MEMBER STATES	3	6	2.5	1	3	1.3
EU-15 <> NON-EU-15	18	14	– 3.5	3	5	1.7
GERMANY	17	15	– 2.0	14	12	– 1.8
FRANCE	15	12	– 3.0	8	6	– 1.4
NETHERLANDS	14	11	– 3.4	9	6	– 2.6
NEW ZEALAND	8	8	0.9	0	0	0.0
BELGIUM/LUXEMBOURG	8	7	– 1.0	9	7	– 1.5
DENMARK	6	4	– 1.1	1	1	0.5
AUSTRALIA	4	4	– 0.2	1	1	0.2
ITALY	3	4	0.7	11	9	– 2.3
IRELAND	5	3	– 1.5	1	1	0.3
UNITED KINGDOM	4	3	– 1.0	6	7	1.0
USA	2	3	0.7	3	4	1.1
POLAND	1	2	1.3	0	0	0.1
AUSTRIA	1	2	1.1	1	1	0.5
SPAIN	1	2	0.6	3	5	1.1
ARGENTINA	1	1	0.5	0	0	– 0.2
CANADA	1	1	– 0.3	1	1	0.3
BRAZIL	0	0	0.2	2	0	– 1.8

Source: UNSD Comtrade.

In line with the loss of world market share, the Balassa index shows that dairy products have become a less important export product for the EU. New Zealand and the USA became more dependent on dairy products, but in the case of the USA are still on a very low level. Within the EU, Poland and Italy experienced an increased importance of dairy on their trade balance. Ireland shows the opposite trend (Table 5.2).

TABLE 5.2
REVEALED COMPARATIVE ADVANTAGE (BALASSA INDEX) AND GROWTH RATE FROM 1995–97 TO 2004–06

Region/country	1995–97	2004–06	Annual growth (%)
EU-27	1.81	1.79	– 0.1
EU-15	1.82	1.81	– 0.0
EU NEW MEMBER STATES	1.67	1.56	– 0.8
EU-15 < > NON-EU	1.12	0.97	– 1.6
GERMANY	1.65	1.53	– 0.9
FRANCE	2.67	2.79	0.5
NETHERLANDS	3.94	3.32	– 1.9
NEW ZEALAND	26.38	39.13	4.5
BELGIUM/LUXEMBOURG	2.23	1.89	– 1.8
DENMARK (*)	5.48	5.31	– 0.3
AUSTRALIA	3.70	3.94	0.7
ITALY	0.70	1.09	5.0
IRELAND	4.81	2.94	– 5.3
UNITED KINGDOM	0.78	0.76	– 0.3
USA	0.16	0.30	7.1
POLAND	1.99	2.45	2.4
AUSTRIA	0.87	1.76	8.1
SPAIN	0.68	0.99	4.2
ARGENTINA	2.01	3.55	6.6
CANADA	0.20	0.15	– 2.8
BRAZIL	0.04	0.24	21.2

(*) 1995–96 and 2005–06.

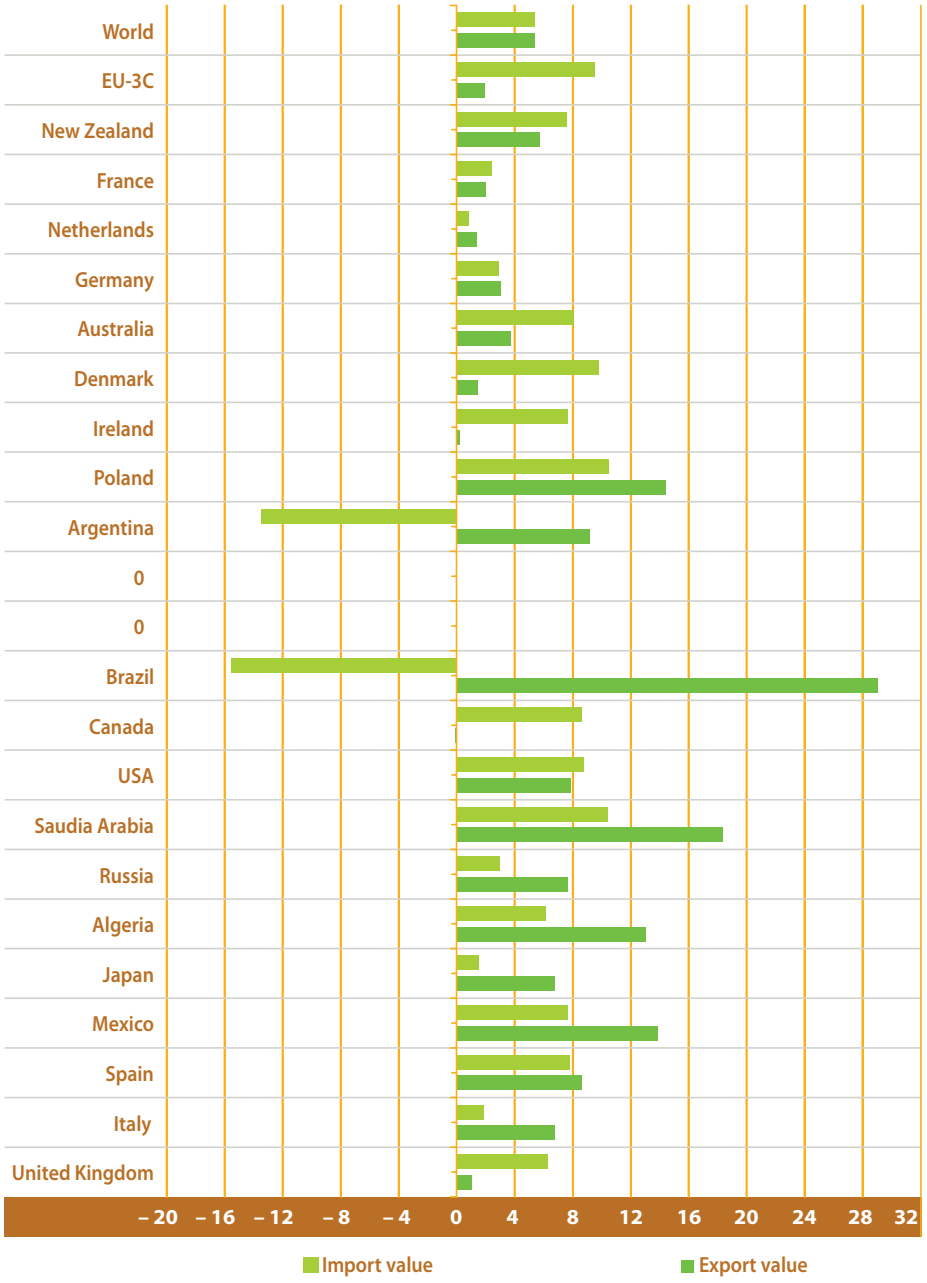
Source: UNSD Comtrade, LEI calculations.

Germany and the USA are the most striking countries, with (very) high imports and also (high) exports. These countries' trade results are even more striking given the fact that the average import price is higher than the average export price. Australia and Poland have the same pattern; only the value of imports is much lower than the value of exports in both countries. Regarding price relationships, Italy has the best dairy trade balance from the value viewpoint: Italy imports low-value dairy products and exports high-value products. From the global viewpoint, in which EU-15 dairy production is much more expensive than dairy production elsewhere, specialisation in products with the highest added value is therefore most effective for a country with low self-sufficiency.

The annual growth rates show clearly that the developing countries are gaining world market share. The southern American countries in particular grew very strongly. Next to that, this figure makes clear that the growth of the EU imports are higher than the growth of exports. This is a direct effect of the EU common agricultural policy (CAP) that makes it impossible for countries to increase production in a situation of growing demand in the world market.

FIGURE 5.6

ANNUAL GROWTH RATE IN TRADE IN DAIRY PRODUCTS (VALUE) FROM 1995–97 TO 2004–06 (%)



Source: UNSD Comtrade.

5.5. Innovation

Innovation is an 'implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations' (OECD, 2005).

According to Joseph Schumpeter, the five types of innovation are (see OECD, 1997, p. 16):

1. **product innovation** — the introduction of a new good (or service), i.e. one with which consumers are not yet familiar, or of a new quality of a good;
2. **process innovation** — the introduction of a new method of production, which need by no means be founded upon a scientifically new discovery, and can also exist in a new way of handling a commodity commercially;
3. **marketing innovation** — the opening of a new market that is a market into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market has existed before;
4. **organisational innovation** — the introduction of an adapted organisation, like cooperation with customers, suppliers or knowledge centres;
5. **the conquest for a new source of supply of raw materials or half-manufactured goods** — again irrespective of whether this source already exists or whether it has first to be created (element not mentioned in the OECD's typology).

Based on the trade journals *Dairy Innovation* (a magazine that covers all innovation in the dairy industry) and *Food Navigator* (a publicly available e-newsletter), Table 5.3 provides an overview of innovations.

TABLE 5.3
OVERVIEW OF TYPES OF INNOVATIONS

Type of innovation	*Dairy Innovation*	*Food Navigator*	Total
PRODUCT	44	34	42
PROCESS	9	9	9
MARKETING	26	35	28
ORGANISATIONAL	19	18	18
NEW SOURCE OF MATERIALS/GOODS	2	5	3
TOTAL	100	100	100

Product innovation is the main type of innovation on the basis of our sources and the survey we carried out. In the functional foods market in particular, dairy industry products are very active and are the biggest group next to fruit or vegetables/beverages. The dairy industry offers a wide range of products, from raw milk to specialist products aimed at special markets or consumers and ingredients for other industries.

Experts from the dairy industry suggested in a workshop regarding this project, however, that many process innovations in the industry, especially the use of water or energy, might go unreported in such trade journals. This could also be the issue with product innovations in the business-to-business market that are sometimes not even patented. In that sense our sources could give a distorted picture.

Consumers are rather conservative and cautious in entirely accepting new food products; rather they look for new benefits in more or less familiar products (Jongen and Meulenberg, 2005). Due to this fact, innovation is more successful in applying new technologies, or new products' formulations, that fulfil consumer needs rather than radically new products. This is reflected in the collected data (Table 5.4). Innovation activities within the dairy industry focus on finding new product varieties (45 %) and applying

new ingredients to add a new functionality (22 %). This statement suggests that dairy companies from this research have more often represented a defender's or analyst's organisational strategy rather than a prospector's strategy.

TABLE 5.4
PRODUCT INNOVATIONS

Subcategory of product innovation	Number	%
NEW BACTERIA/SPREAD	9	2
NEW PROPERTIES OF INGREDIENTS (WAY OF USE)	71	12
NEW INGREDIENT (FUNCTIONALITY)	129	22
NEW PRODUCT VARIETY	262	45
NEW FINAL PRODUCT	22	4
PACKAGING	88	15
TOTAL	581	100

Since the offer of dairy products is becoming wider, producers need to develop new ways to attract consumers: increasing importance of packaging innovation. Consumers demand not only healthy and tasty products but also convenient, complex and creative solutions. Packaging fulfils partly those requirements, reflected as the third most important subgroup of product innovations, with a share of 15 % in total innovations (Table 5.4).

Hall (2007) reported in an industry report on the current trends in new product development in the dairy industry, as well as on the key trends in the industry.

- Milk, non-dairy milk and yoghurt drinks had the largest share (one third) in product releases in 2006, more than other dairy categories.
- New product development in milk concentrated on healthier milks addressing fat and cholesterol; organic milk with low fat varieties, new flavourings and single serve products were also important.
- In cheese the orientation of innovation was on health and convenience (functional cheese, individually wrapped portions, new blends, long-life packaging, table-ready packaging).
- New yoghurt products are mainly new flavours (wintery flavours like plum, cinnamon, American heritage flavours and exotic fruits); there is also intense competition to differentiate with regard to health benefits.
- The most innovative category of 2006 was margarine, butter and spreads with new flavourings, more convenient packaging, long-life and healthier butters.
- Strawberry remains the most common flavour and mango was the fastest growing.
- The role of functional foods is increasing, now that they are also becoming incorporated in more indulgent categories; the three key trends of ethics, health and indulgence are more and more combined in one product.
- Emphasis on brain health is gaining momentum (Omega-3).
- 'Natural' is an important trend for the future with lower tolerance for artificial preservatives, sweeteners and flavourings.
- Low fat and wellbeing products are becoming an upmarket trend.
- Premium trends are on the rise, particularly foods which have a strong regional or local identity.

- Gourmet is becoming a mass market with real gourmet producers having to innovate to find even more unusual flavourings (Italian/French cooking flavours such as truffles, spicy Indian or Hispanic flavours).

- The convenience trend is likely to expand, with several innovations in the area of portability, based on new technology that makes a longer period of un-refrigeration possible.

Process innovation counts for 9 % of the total observed innovations. New production technology seems dominant (Table 5.5).

TABLE 5.5
PROCESS INNOVATIONS

Type of innovation	Number	%
WAY OF PRODUCTION	42	33
PRODUCTION EQUIPMENT AND TECHNOLOGY	86	67
TOTAL	128	100

Marketing innovation (28 % of total innovations) is mainly focused on reaching new groups of consumers by promotion activities or addressing special target groups (Table 5.6). Development of new markets is rather low.

TABLE 5.6
MARKETING INNOVATION

Type of innovation	Number	%
NEW MARKET	55	14
SPECIAL TARGET GROUP	170	43
PROMOTION ACTIVITY	170	43
TOTAL	395	100

The collected data allow one to conclude that companies find benefits in cooperation with others or with research institutes (Table 5.7). It suggests that companies have a positive approach towards cooperation for innovations.

TABLE 5.7
ORGANISATIONAL INNOVATION

Type of innovation	Number	%
COOPERATION	118	46
PATENTING	6	2
LICENCE	34	13
MARKET POSITION	100	39
TOTAL	258	100

Most of the innovations are general. Given the cultural differences in Europe, a higher level of local innovation had been expected (exploiting the cultural difference).

TABLE 5.8
NEW TO THE MARKET OR COMPANY

Type of innovation	Number	%
GENERAL	168	72
LOCAL	67	28
TOTAL	235	100

Table 5.9 presents the number of innovations by region and country. The UK is just ahead of the USA. Our experts had severe doubts on the results for the UK. Experts in the industry do not see UK dairy companies as very innovative. They refer to the fact that the UK is hardly able to use its full milk quota and the fact that the financial situation of a large part of the industry is problematic (Plimsoll, reported in *Dairy Industry Newsletter*, 1 July 2008). However, in a benchmark report KPMG LLP (2007) reports that the competitiveness of the UK dairy industry is rather favourable, based on high labour productivity.

There is coherence between our findings and the experts on the fact that certainly in the UK innovation is led by the retail sector (sometimes directly in combination with farm groups) and by related industries like packaging and ingredients. This view can contribute to the impression that the dairy companies themselves are not the most innovative. Also KPMG LLP (2007) reports lower levels of revenue per unit of milk processed in the UK, probably due to lower overall investment in R & D and it recommends investment in innovation. In our analysis reported on the next pages, we are not able to link innovation in the UK to higher economic results, which also raised questions. So for the meantime the conclusion should be drawn that the dairy industry at large in the UK is under pressure from the retail sector, which is perhaps more innovative than the companies' factories and profits suggest, but not as innovative as our analysis of trade journals suggests.

The EU accounts for over 60 % of all innovations. The results correspond more or less with the national dairy companies' presence on the international market. It should be recognised that New Zealand has almost two thirds of the level of innovations compared with Denmark or Germany and half compared with France. Most other benchmark countries are rather low in the number of innovations.

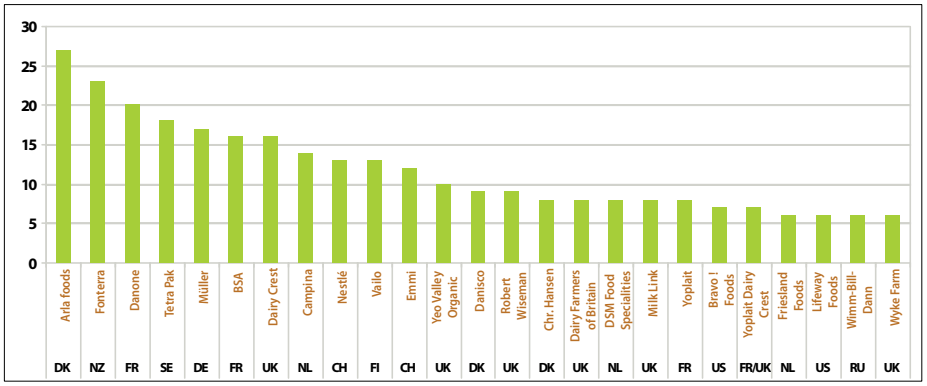
TABLE 5.9
NUMBER OF INNOVATIONS CLASSIFIED IN THE BENCHMARK COUNTRIES

Region/country	Number	%
EU-27	449	61
USA	142	19
NEW ZEALAND	29	4
CANADA	16	2
AUSTRALIA	12	2
BRAZIL	1	0
SWITZERLAND	30	4
JAPAN	10	1
OTHER COUNTRIES	50	7
TOTAL	739	100

The innovation database has been used to classify the leading innovative firms. In the database, 311 different companies or organisations (i.e. research institutes) have at least one innovation. The top 25 is presented in Figure 5.7. The leading innovative companies are not only dairy processors but also packaging (Tetra Pak) and suppliers of ingredients (Danisco, Chr. Hansen and DSM). The position of Fonterra (second) illustrates its leading position. This company combines an abundance of raw materials with innovativeness. The position of Valio in this list is impressive, seeing the size of the company. A company official thinks its position is

even underreported as several business-to-business innovations go unreported in trade journals. Eight of the companies in Figure 5.7 are listed in the top 20 global dairy companies.

FIGURE 5.7
TOP-25 INNOVATIVE COMPANIES IN THE INNOVATION DATABASE



Recently, Business Insights, a consultancy (Hall, 2007), asked industry executives to name innovative manufacturers in the dairy industry. This resulted in a list (Table 5.10) that confirms our findings on Danone and Arla. Danone is very active in functional foods and recently introduced a so-called 'cosmeceutical' ('Essensis'), a beauty product that claims to feed the skin from within. Nestlé scores high on this list as it is well known for its adaptation to local needs especially in emerging markets. The survey by Business Insights also confirms the reputation of Valio and Campina in innovation.

TABLE 5.10
TOP-10 INNOVATIVE DAIRY MANUFACTURERS ACCORDING TO INDUSTRY EXECUTIVES

Company	% of respondents
DANONE	25
NESTLÉ	15
ARLA	5
DEAN FOODS	5
VALIO	4
INNOCENT	3
KRAFT	3
CAMPINA	2
F & N DAIRIES	2
GLAMBIA	2

Source: Business Insights — Hall (2007).

The link of innovation to the economic performance of the company or the country is hard to assess. Based on the data from the innovation database and the business performance as provided in the Amadeus database, these linkages have been studied for three countries: the UK, Germany and France.

The UK is the third raw milk producer in the EU, after Germany and France. In total, 203 innovations are classified on 93 different dairy processors, suppliers to or buyers from the dairies. Figure 5.8 presents the top-10 dairy processors with the highest number of innovations. These 10 processors represent 46 % of all innovations. In the top five, Müller and Arla Foods are foreign investors. The top 10 does not include packaging or ingredients' suppliers.

FIGURE 5.8
TOP-10 INNOVATIVE DAIRY COMPANIES IN THE UNITED KINGDOM

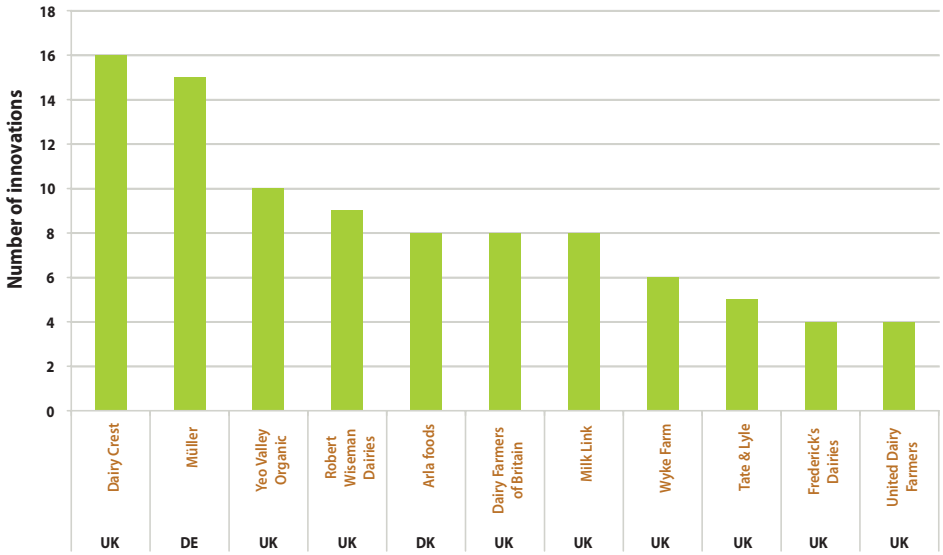


TABLE 5.11
KEY FIGURES OF THE UK DAIRY INDUSTRY

		Micro-firms	SMEs	Large firms	All firms
FIRMS	NUMBER	349	168	17	534
	SHARE (%)	65	31	3	100
TURNOVER	MILLION EUR	182	3 400	6 315	9 896
	SHARE (%)	2	34	64	100
EMPLOYEES	NUMBER	1 164	9 846	17 897	28 907
	SHARE (%)	4	34	62	100
INNOVATIONS	NUMBER	4	32	47	83
	SHARE	5	39	57	100

Sources: Eurostat SBS data 2005; Innovation own database linked to Amadeus.

Small and medium-sized enterprises (SMEs) are frequently mentioned as a main source for innovations. In our research, we linked the innovative firms with business data from Amadeus. We selected in total 265 specialised dairy processors (NACE da155); from 21 of them we registered innovations. Almost half of the large firms (2 % of all firms) are innovative, with over 50 % of registered innovations of all firms (Table 5.12). Of the SMEs, 20 % (13 out of 65) are innovative. The large firms have on average 9.4 innovations per firm, and SMEs 2.5. In this respect, the largest firms contribute most to innovations.

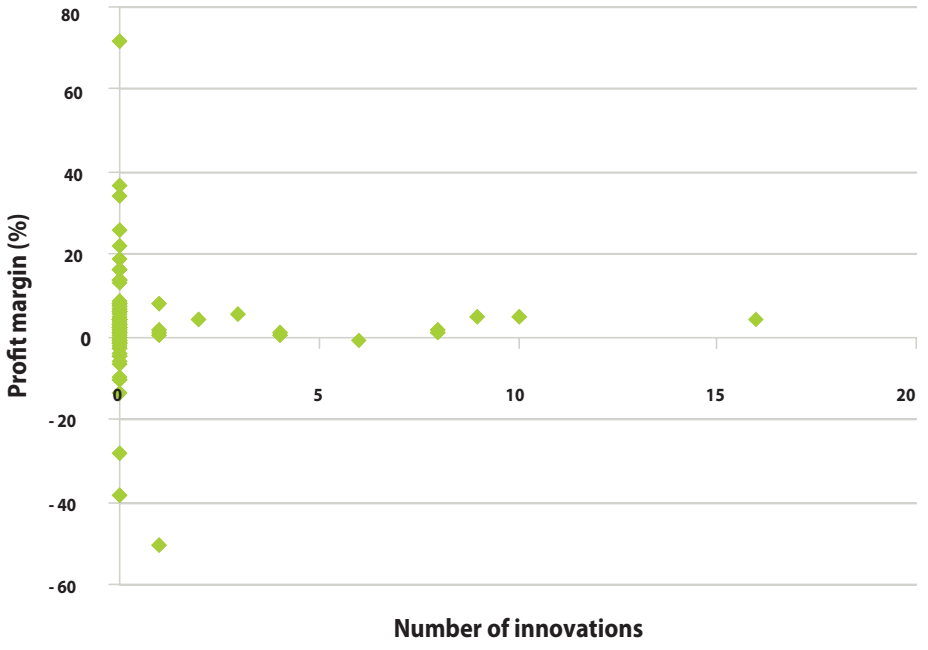
TABLE 5.12
INNOVATION AND PERFORMANCE

Firm category	Micro		SME		Large		Total	
INNOVATIVE	YES	NO	YES	NO	YES	NO	YES	NO
FIRMS	3	186	13	52	5	6	21	244
INNOVATIONS	4	—	32	—	47	—	83	—

Source: Innovation own database and profit margin from Amadeus.

Despite the a priori expectations, no clear relation between the number of innovations and the profit margin can be found. Figure 5.9 shows a large distribution of the profit margin of non-innovative firms. A reason might be the impact of cooperatives that often report a low profitability. Cooperatives have as a goal to reach the best possible results for their members, i.e. a high price paid to farmers for their raw milk. An alternative explanation might be that in the highly competitive UK market the benefits of innovation are quickly transferred to retailers and consumers. This would mean that innovation is first of all a licence to supply the retail sector.

FIGURE 5.9
PROFIT MARGIN AND NUMBER OF INNOVATIONS



INNOVATIONS AND BUSINESS PERFORMANCE: THE GERMAN CASE

Germany is the largest raw milk producer in the EU. Table 5.13 shows that the share of the number of large firms is 3 % in total, with a share in turnover and employees of over 60 % in 2005. The German dairy industry is not leading in innovation in relation to the size of its dairy industry: it ranks number 4 in the list of EU countries. The number of innovations is more or less in line with the turnover or number of employees: 65 % of the turnover is realised by the large companies and they count for 68 % of the innovations. The micro-firms have a relatively large share in the total innovations (5 %) compared with the turnover (0.3 %) but not compared with the share of employees (3 %).

TABLE 5.13
KEY FIGURES OF THE GERMAN DAIRY INDUSTRY

		Micro-firms	SMEs	Large firms	All firms
FIRMS	NUMBER	261	155	37	453
	SHARE (%)	58	34	8	100
TURNOVER	MILLION EUR	77	8 051	14 901	23 028
	SHARE (%)	0.3	35	65	100
EMPLOYEES	NUMBER	741	11 929	26 177	38 847
	SHARE (%)	2	31	67	100
INNOVATIONS	NUMBER	1	6	15	22
	SHARE (%)	5	27	68	100

Sources: Eurostat SBS data 2005; Innovation own database linked to Amadeus.

In total, 14 innovative firms could be linked to their economic performance data. This is about 8 % of the selected 221 firms, almost at the same level as in the UK. The financial analysis gives a similar picture as in the UK.

INNOVATIONS AND BUSINESS PERFORMANCE: THE FRENCH CASE

The French dairy industry differs just slightly from the other cases. Despite a relatively low share of large firms, 60 % of turnover is generated by these firms (Table 5.14). What is remarkable is that only large firms could be linked to the classified innovations. The pattern of the number of innovations and the profit margin resembles the UK situation.

TABLE 5.14
KEY FIGURES OF THE FRENCH DAIRY INDUSTRY

		Micro-firms	SMEs	Large firms	All firms
FIRMS	NUMBER	1 041	369	52	1 462
	SHARE (%)	71	25	4	100
TURNOVER	MILLION EUR	1 131	8 451	14 447	24 059
	SHARE (%)	5	34	60	100
EMPLOYEES	NUMBER	1 740	21 944	36 485	60 169
	SHARE (%)	3	37	61	100
INNOVATIONS	NUMBER	0	0	39	39
	SHARE (%)	0	0	100	100

Sources: Eurostat SBS data 2005; Innovation own database linked to Amadeus.

The EU-15 is more innovative than the main competitors outside the EU. Also within Europe a comparison between indicators for competitiveness (Wijnands et al., 2007) and innovation suggests a weak relation.

5.6. Business dynamics

Based on Eurostat data, this section provides a demographic picture of dairy processing companies in selected countries. The population of enterprises in each country is indexed based on 1996 data, except for Germany, which is indexed based on 1999 due to an absence of data.

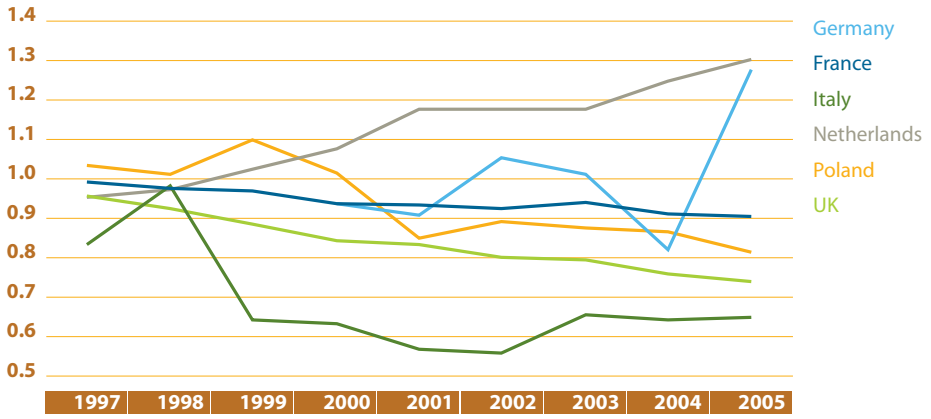
TABLE 5.15
NUMBER OF SELECTED FIRMS AND THEIR SHARE IN THE TOTAL TURNOVER

Country	Number of firms	Share (%) in total turnover in 2005	Firm entry 1996–2005 (number)	Firm exit 1996–2005 (number)	C4 ratio (NL CR3) in 2005
FRANCE	579	41	159	30	43
GERMANY	92	48	13	—	43
ITALY	1 427	41	458	99	12
NETHERLANDS	50	94	14	—	77
UNITED KINGDOM	299	91	18	27	n.a.
POLAND	188	66	144	16	27
TOTAL	2 635		806	172	

Source: Amadeus, share of turnover of selected firms in % of numbers in Eurostat SBS database.

As shown in Figure 5.10, the population of firms is substantially declining for Italy, the UK and Poland, while the change for France is only slight. On the contrary, the number of firms in the Netherlands is increasing. For Germany, it is difficult to determine the trend but it is increasing if we smooth out the fluctuations.

FIGURE 5.10
FIRM POPULATION TREND PER COUNTRY



Source: Constructed from Eurostat SBS database.

Age is measured by deducting the date of incorporation from the year under analysis so that it reflects increase in age as the panel year increases. For example, firms that enter the industry in 1996 have an age of one year in 1997, an age of two years in 1998, and an age of 10 years by 2006. The age of the sample firms ranges between 1 and 136. The oldest company is in Germany and among large size classes. The mean age is 26 years and the mean age is higher for SMEs.

Firm entry to the industry is traced from 'date of incorporation' of the firm. On average, about 81 firms enter the industry every year. The higher entry was in 2002 and 2003 when 115 and 111 firms entered the industry respectively. The highest entry numbers are registered in Italy and France, which is not surprising considering that the high total population of firms in these countries. The rate of entry does not show any

increasing or decreasing trend over time. The average size of entrant firms is high in the UK and Germany. The lowest average size of new entrants is in Italy and France. The Netherlands and Poland are between these two groups of countries. In general the new entrant firms have 112 employees, EUR 17 million turnovers and EUR 8 million total assets on average.

According to the Amadeus database, firms exit because of bankruptcy, a merger, liquidation and receivership. Between 2002 and 2006, a total of 172 firms became inactive in the six countries. The Netherlands and Germany have not shown any type of exit in the sample. This means there is no high rate of exit in the population as well. Italy has high firm entry and exit. France and the UK are in second place with nearly the same exit number. This result can be attributed to the high competition in these countries where SMEs dominate compared with other countries (except for Poland, which looks concentrated due to data biases).

INDUSTRY CONCENTRATION

To analyse industry concentration, we use four-firm concentration ratios (CR4) for France, Germany, Italy and Poland. A three-firm concentration ratio (CR3) is used for the Netherlands due to data limitation and compared with the Eurostat totals. For the UK, no concentration ratio could be calculated due to lack of sales data for the UK. As can be seen from Table 5.16, the Netherlands has the highest concentration among the five countries. However, the concentration ratio is declining. This can be attributed to the increasing number of firms as already shown under firm demography. Germany and France are in the second and third position, respectively. The lowest concentrated dairy processing industry is found in Italy. Poland is between France and Italy.

TABLE 5.16
FOUR-FIRM SALES CONCENTRATION IN DAIRY PROCESSING INDUSTRY OF FIVE EU COUNTRIES

Country	1996	1997	1998	1999	2000	2001	2002	2004	2005
FRANCE	40	37	38	39	40	40	40	40	43
GERMANY	48	47	49	51	56	47	43	42	43
ITALY	15	14	14	13	13	12	12	12	12
NETHERLANDS	92	94	94	95	90	90	89	78	77
POLAND	64	64	61	26	24	24	23	25	27

The Amadeus database sets a minimum size for the company to be registered in the database. The minimum size to be entered in the database is a EUR 1.5 million turnover. This biases the sample mean upward to some extent. The sizes of the companies in the Netherlands are large by all size measures except total assets. The second largest size is in the UK, where the average total assets even surpass the Netherlands. Italy is endowed with a small size of firms considering all size measures. France only ranked fourth in value added as opposed to the Eurostat database which puts France in the first place.

PROFITABILITY

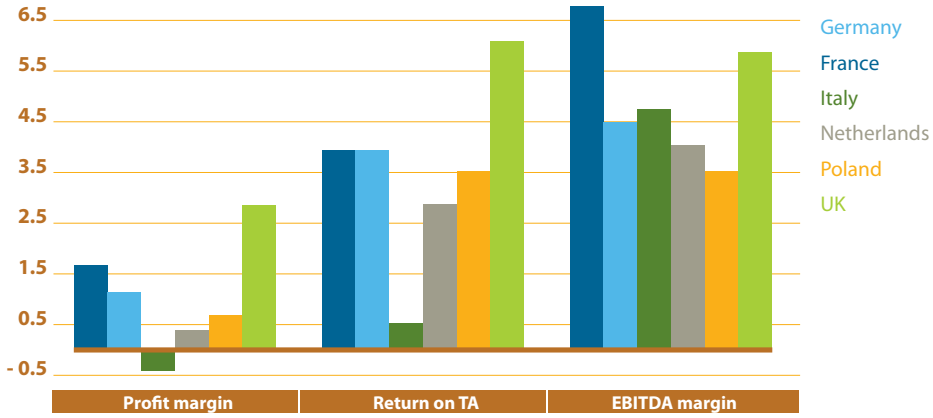
The most often used profitability ratios are rate of return on total assets (ROTA), profit margin, and earnings before interest, taxes, depreciation and amortisation margin (EBITDA). Figure 5.11 depicts the mean profitability difference among dairy processing enterprises operating in different EU member countries.

Profit margin reflects cost of production and/or output price. In terms of profit margin, companies operating in the UK are earning the highest profit while companies operating in Italy are losing. France, Germany, the Netherlands and Poland follow in decreasing order. The reason for Poland to be in a better position than Italy might be the impact of foreign direct investment (FDI) accompanied by cheap labour. FDI induces capital and technology, which increases processing and marketing efficiency, while cheap labour reduces the cost of production. For Italy the milk price is 20 % higher than the EU average (Plowman et al., 2005),

which makes the production cost higher and suppresses the profit margin of dairy processors. Companies operating in the UK pay lower taxes than other EU countries, which has the advantage of creating high profit. This makes comparison difficult between countries that have different tax, inflation rate, capital price and labour costs.

Return on total assets (ROTA) measures a company's ability to generate profit net of expenses. It also measures the ability of the manager to generate profit using company resources. Based on this measure, the UK, France, Germany, the Netherlands and Poland are ranked one to five respectively. Italy remains the least profitable country in this regard. ROTA can give a biased picture due to different tax and capital structure effects. The EBITDA margin (a kind of cash flow as a ratio of sales) offsets this problem. Measuring profitability in the EBITDA margin, French dairy firms are the most profitable, followed by the those from the UK. Italy, Germany and the Netherlands follow with a more or less similar EBITDA margin. Polish dairy processors have the lowest EBITDA margin.

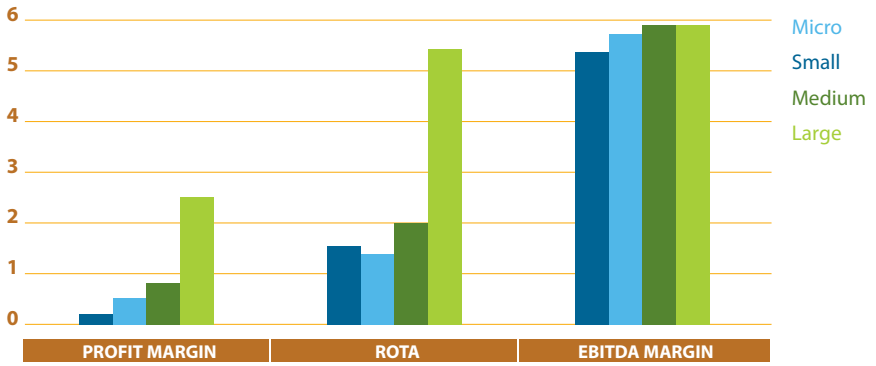
FIGURE 5.11
MEAN PROFITABILITY (%) OF DAIRY PROCESSING ENTERPRISES OPERATING IN SIX EU COUNTRIES



Profitability may directly be related to size due to the cost-scale effect. Therefore, it is not surprising that profitability increases from micro- to large enterprises: as the scale of production increases, the production cost goes down. This can be observed from profit margins (Figure 5.12). The gap in profit margin between large and medium-sized enterprises is bigger than the gap between other size classes (medium-sized and small or small and micro-enterprises). This implies that the scale effect is more important when a company size grows from medium to large. Looking at ROTA, large companies obtain very high returns from assets compared with micro-, small and medium-sized enterprises.

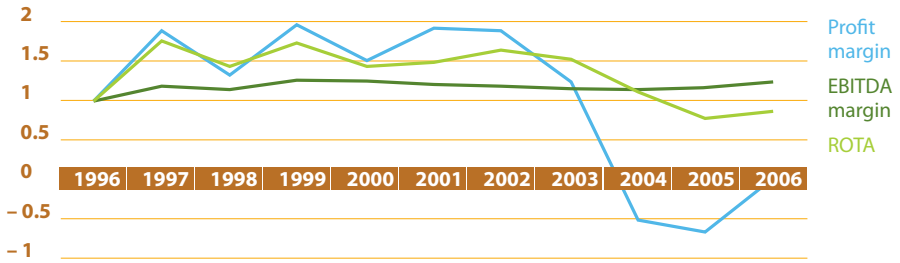
The EBITDA margin shows the capability of the companies to generate cash income. The margin shows that larger sized enterprises have slightly higher profits than small-sized enterprises but there is not much difference between the different size classes.

FIGURE 5.12
PROFITABILITY DIFFERENCES AMONG SIZE CLASSES OF FIRMS



Calculating mean profitability of all sample firms per year for a 10-year period provides a clue about the profitability trend of the industry. The numbers in Figure 5.13 are indexed based on 1996 data. The mean profitability of firms in the industry dropped in 2004 and 2005. In particular, profit margin was negative during this period. The negative profit margin, in particular, among Italian firms during this period influenced this result.

FIGURE 5.13
MEAN PROFITABILITY TREND OF TOTAL SAMPLE



5.7. Competitiveness at country level

In this section the dairy industry of the selected (groups of) countries is compared. The selected indicators to quantify the competitiveness of the industry are:

- growth of real value added for a specific industry in the total food industry; this reflects the competition for product factors between different industries within a country;
- growth of Balassa index; this reflects the export specialisation level in one category of goods from one country;
- growth of the export share (absolute deviation) on the world market; this reflects the outcome of the competitive process;
- growth of the real labour productivity; this affects the unit labour costs and thus the relative prices;
- growth of real value added; this reflects the industrial dynamism.

Table 5.17 provides basic data on the dairy industry in the countries analysed. In all countries, employment in the dairy companies has decreased. The number of companies has, however, increased in the southern European countries, the new Member States and Canada. Given the low increase of the production value, these new entrants in the market are mainly small companies.

The production value is growing in the three largest dairy countries: Germany, France and Italy (Figure 5.14). The production value in the United Kingdom has decreased. This decrease is mainly caused by a decrease in milk powder production (skimmed and non-skimmed) and in condensed milk. The production value has nearly doubled in Poland where it has overtaken the production value of Denmark and Belgium.

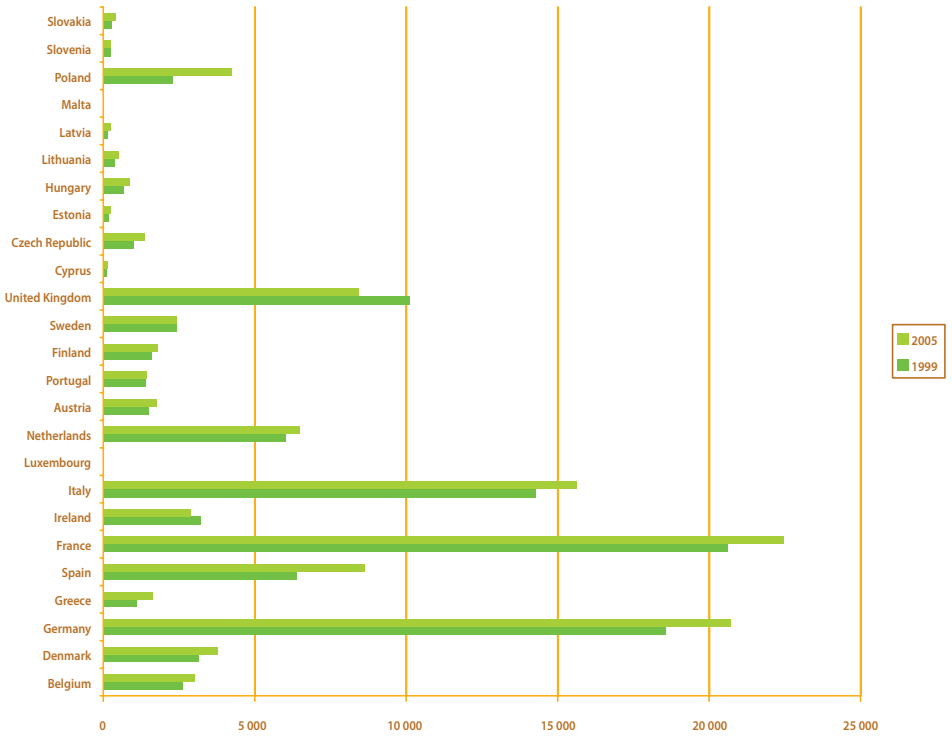
On average, the value added of the EU-25 has decreased, while the value added of the EU-n10 has increased (Figure 5.15). The EU-n10 have shifted their production to higher value products. The decrease in value added of the EU-25 is mainly caused by Ireland, the United Kingdom and Slovenia. Lithuania, Cyprus and Austria are the largest growers in value added.

TABLE 5.17
KEY CHARACTERISTICS OF THE DAIRY INDUSTRY

	EU-15		EU-25		USA		Australia		Canada	
	1999	2005	1999	2005	1999	2005	2001	2005	1997	2002
NUMBER OF ENTERPRISES	9 232	10 570	10 835	12 091	1 770	1 592	n.a.	n.a.	243	436
PRODUCTION VALUE (MILLION EUR)	93 030	101 111	98 390	109 452	57 914	47 136	5 256	5 769	5 556	6 537
VALUE ADDED AT FACTOR COST (MILLION EUR)	15 158	16 249	16 085	17 568	17 519	20 397	1 074	1 154	2 164	1 685
PURCHASES	87 742	95 049	93 082	103 168	40 455	41 618	3 274	4 057	6 203	5 661
PERSONNEL COSTS (MILLION EUR)	9 545	9 937	10 140	10 681	4 120	4 273	490	625	613	522
NUMBER OF EMPLOYEES	294 528	261 530	403 843	350 135	131 865	128 374	19 100	18 500	20 992	19 534

Source: Eurostat.

FIGURE 5.14
PRODUCTION VALUE OF THE DAIRY SECTOR (MILLION EUR), 1999 AND 2005

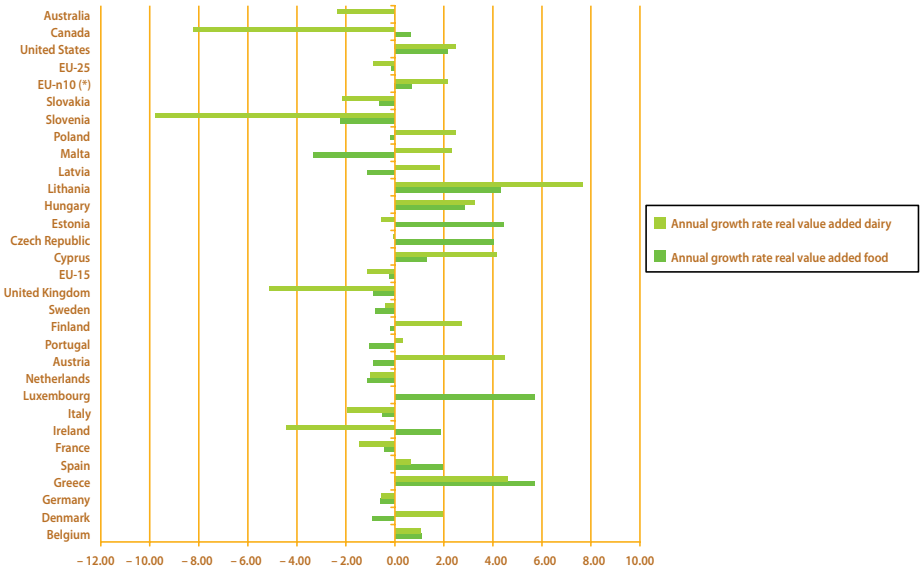


Source: Eurostat.

On average, labour productivity has increased within the EU. The decrease in Slovenia, France and Italy is partly caused by the decrease in value added, which has not been followed up by a decrease in the number of employees yet. In France and Slovenia, labour productivity in the total food industry has decreased as well, which may indicate that innovation in production methods is not implemented as quickly in those countries as elsewhere. In all other countries, labour productivity has increased in total food production, despite the decrease in the dairy sector.

FIGURE 5.15

GROWTH OF REAL VALUE ADDED (%) OF THE DAIRY INDUSTRY, 1999–2005



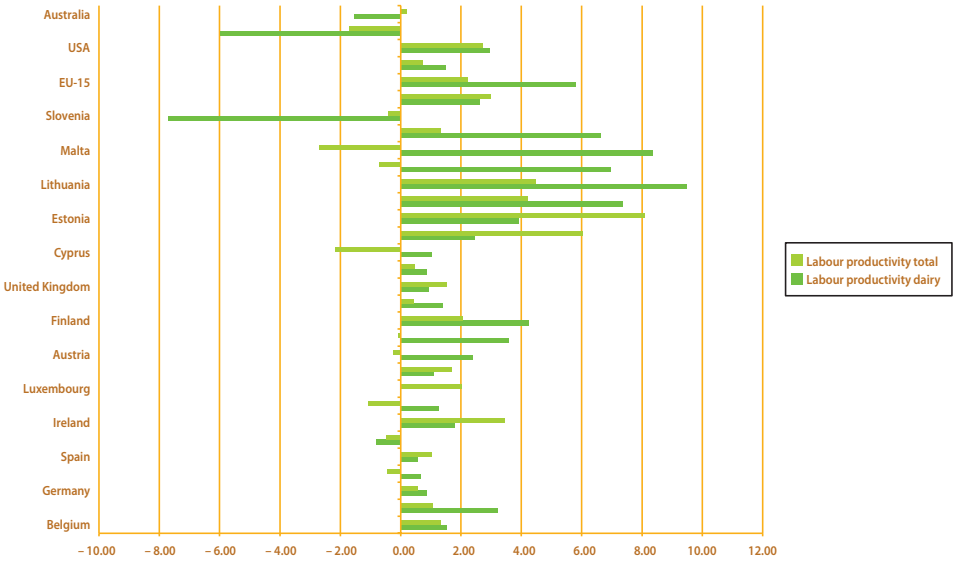
(*) EU-n10 refers to 10 of the 12 new Member States (excluding Cyprus and Malta).

Source: Eurostat.

The largest dairy companies in the EU dairy industry are in the western European countries except Parmalat in Italy (Table 5.18). In comparison to 2004, most large dairy companies increased their turnover or maintained their turnover. Only at Arla, Unilever, Bongrain and Nordmilch the turnover decreased. Bongrain seems to have lost market share to medium-sized companies that have bundled their activities while Nordmilch seems to have lost market share to small entrants in the market.

FIGURE 5.16

GROWTH OF LABOUR PRODUCTIVITY (%) IN THE DAIRY INDUSTRY, 1999–2005



Source: Eurostat.

Large companies dominate the industry (Table 5.18). They are responsible for a large share of production value in the dairy industry. In France, Italy and Spain, companies with less than 20 employees have a substantial position in the market, but in all other countries the production value of companies with under 50 employees is negligible.

In Germany, France, Italy, Spain and the UK medium-sized companies have a substantial part of the market.

TABLE 5.18
TOP-10 EUROPEAN DAIRY COMPANIES, BY TURNOVER (BILLION EUR), 2004–06

	2004	2005	2006
NESTLÉ	14.9	15.0	15.8
LACTALIS	n.a.	n.a.	9.6
DANONE	6.9	7.2	7.9
ARLA FOODS	6.4	6.2	6.1
FRIESLAND FOODS (*)	4.4	4.4	4.7
UNILEVER	4.6	4.5	4.5
CAMPINA (*)	3.6	3.6	3.6
PARMALAT	n.a.	n.a.	3.4
BONGRAIN	4.1	3.3	3.3
MÜLLER	2.0	2.1	n.a.
NORDMILCH	2.1	2.0	2.0
SODIAAL	1.9	2.0	2.0
DAIRY CREST	1.8	1.9	2.0

(*) Friesland Foods and Campina are merging in 2008. After the merger their total turnover will be EUR 9.1 billion.

Source: Amadeus and company annual reports.

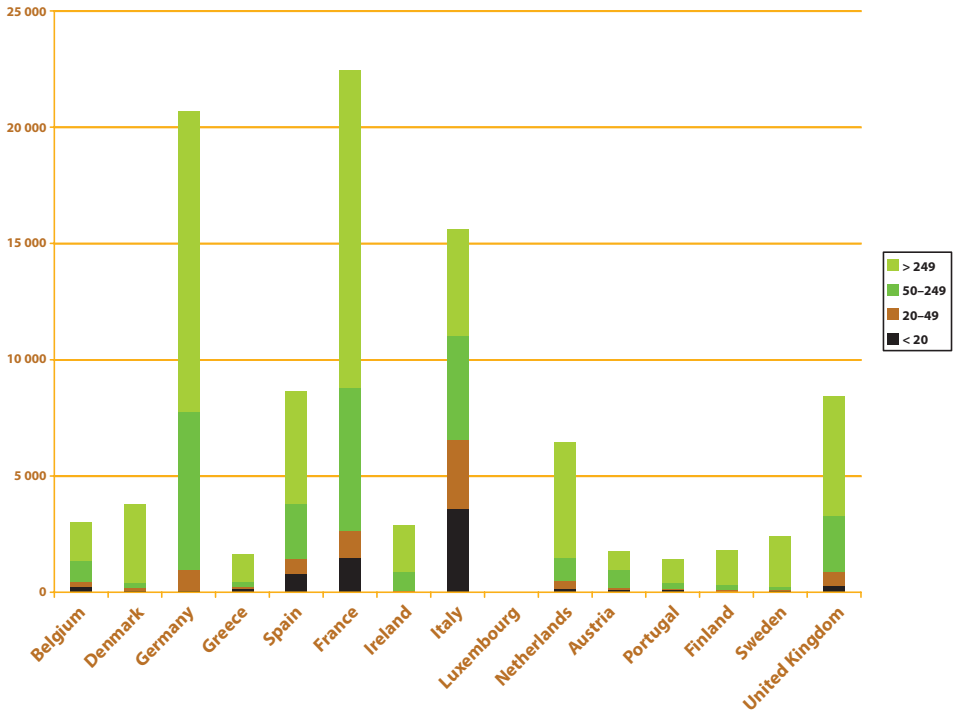
In Germany, Spain, Italy and the Netherlands, the number of companies with less than 20 employees increased between 1999 and 2005. In Belgium, some small companies seem to have made the step to 20 to 49 employees. In Spain and the Netherlands, the number of companies between 50 and 250 increased. In Spain, the number of large companies decreased so this could mean that they have been competed out of the market by others. The overall picture is, however, that in general the dairy industry in the EU is dominated by large companies (Figure 5.17).

TABLE 5.19

NUMBER OF DAIRY ENTERPRISES PER SIZE CLASS MEASURED IN NUMBER OF PERSONNEL

		< 20	20–49	50–249	> 249	Total
BELGIUM	1999	406	10	16	8	440
	2005	343	14	15	8	380
DENMARK	1999	47	11	6	5	69
	2005	50	10	8	3	71
GERMANY	1999	164	51	102	38	355
	2005	296	37	83	37	453
GREECE	1999	32	18	9	7	66
	2005	750	19	9	9	787
SPAIN	1999	842	82	42	22	988
	2005	1 353	82	49	18	1 502
FRANCE	1999	1 236	155	131	47	1 569
	2005	1 150	130	130	52	1 462
IRELAND	1999	21	8	25	8	62
	2005	15	6	13	8	42
ITALY	1999	3 948	223	103	12	4 286
	2005	3 986	219	114	20	4 339
LUXEMBOURG	1998	5	1	1	0	7
	2005	4	1	1	1	7
NETHERLANDS	1999	180	10	7	5	202
	2005	220	10	25	5	260
AUSTRIA	1999	88	9	18	2	117
	2005	139	8	18	4	169
PORTUGAL	1999	230	25	16	4	275
	2005	344	30	15	4	393
FINLAND	1999	35	10	12	2	59
	2005	42	2	8	3	55
SWEDEN	1999	86	2	7	6	101
	2005	100	6	6	5	117
UNITED KINGDOM	1999	482	59	62	34	637
	2005	404	53	60	17	534
EU-15	2005	9 196	626	554	194	10 570

FIGURE 5.17
PRODUCTION VALUE OF DAIRY COMPANIES TO SIZE CLASS IN FULL-TIME EQUIVALENT, 2005



Source: Eurostat.

The economic performance between companies varies (Table 5.20). The multinationals have the highest return on investment and margin measured in added value, while the more locally oriented companies perform worse. This difference in economic performance between dairy companies is partly caused by their branding policy. The firms with the highest share of added value in turnover are brand oriented. Nestlé and Danone rank in the top 100 of best global brands. In addition, the data could be influenced by the fact that some of the companies are cooperatives, which pay out their margin in higher milk prices.

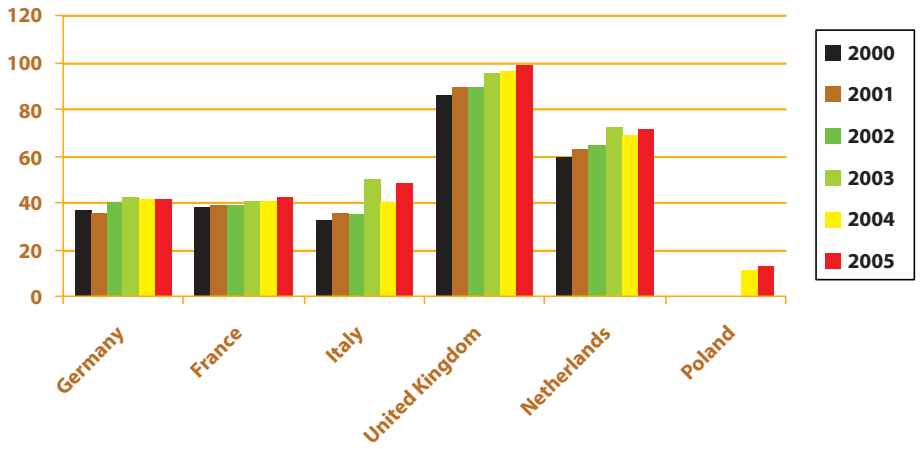
TABLE 5.20
ECONOMIC PERFORMANCE OF THE TOP-10 DAIRY COMPANIES (AVERAGES 2004–06)

Return on equity (%)		Share added value in turnover (%)	
UNILEVER	47.9	NESTLÉ	29.5
DANONE	30.1	UNILEVER	28.1
NESTLÉ	23.7	DANONE	27.6
FRIESLAND FOODS	20.9	DAIRY CREST	22.6
DAIRY CREST	19.8	BONGRAIN	21.5
MÜLLER	16.3	PARMALAT	20.1
ARLA FOODS	13.8	ARLA FOODS	17.6
BONGRAIN	13.7	MÜLLER	17.3
PARMALAT	11.2	FRIESLAND FOODS	14.1
NORDMILCH	8.7	CAMPINA	11.3
CAMPINA	4.0	NORDMILCH	8.9
SODIAAL	– 3.9	SODIAAL	6.5

Source: Amadeus.

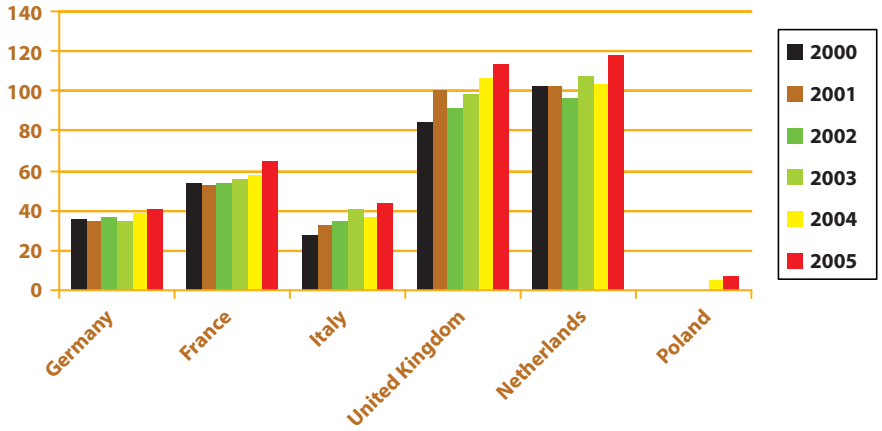
In the previous study (Wijnands et al., 2007), it was shown that the cost of raw materials and productivity at farm level are important factors for the competitiveness of the food industry. The scale of the specialised dairy farms has increased since 2000, especially in Italy, the United Kingdom and the Netherlands (Figure 5.18), suggesting that an improvement in the economies of scale has been realised.

FIGURE 5.18
AVERAGE NUMBER OF COWS IN SPECIALISED DAIRY FARMS



Source: EU-FADN, calculation by LEI.

FIGURE 5.19
ADDED VALUE PER EMPLOYEE AT SPECIALISED DAIRY FARMS



Source: EU-FADN, calculation by LEI.

The added value per employee has risen most in the countries where farms increased in size. In Germany in particular the trend in labour productivity at farm level is problematic. Farm size in Poland is still small, but results from the IFCN network (Ramanovich and Hemme, 2006) confirm that a majority of (typical) farms in the central and east European countries produce milk at competitive prices. The lower production costs are based on cheaper resources: lower labour and land costs.

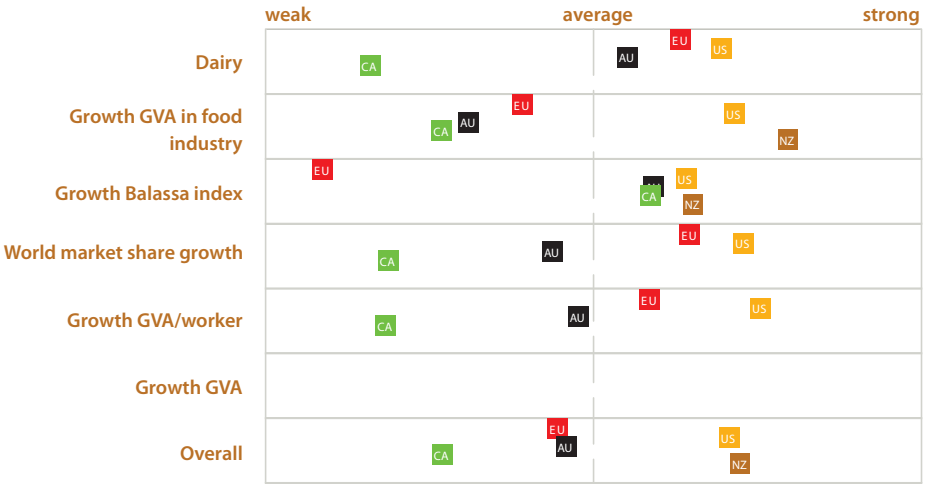
The cost price at farm level per litre of milk in the EU is higher than in other parts of the world. This is mainly due to the small farm size (a historic fact but also conserved by the quota system), in some countries the costs of the milk quota itself, and the relatively high costs of land and labour.

Cost prices are lowest in New Zealand, Australia and the South American countries like Brazil and Argentina. Their cost price is fairly below the cost price in the EU. Within the EU, the cost price is highest in mountain areas, like the Alps. From a global perspective the cost price is comparable between the UK, France, Denmark and the Netherlands.

COMPETITIVE POSITION

In Figure 5.20, the international comparison of Wijnands et al. (2007) is updated. The EU dairy sector performs just below average, despite the loss in world market share. Compared with the previous report (Wijnands et al., 2007) the improvement in labour productivity and the growth in value added compensated for the loss in market share. New Zealand performs well because of the high increase in world market share. The USA has a high score on all indicators, despite the fact that the companies do not specialise. Compared with the previous benchmark, Australia improved its position (thanks to more value added) and Canada loses on all indicators.

FIGURE 5.20
OVERALL COMPETITIVENESS OF THE DAIRY SECTOR

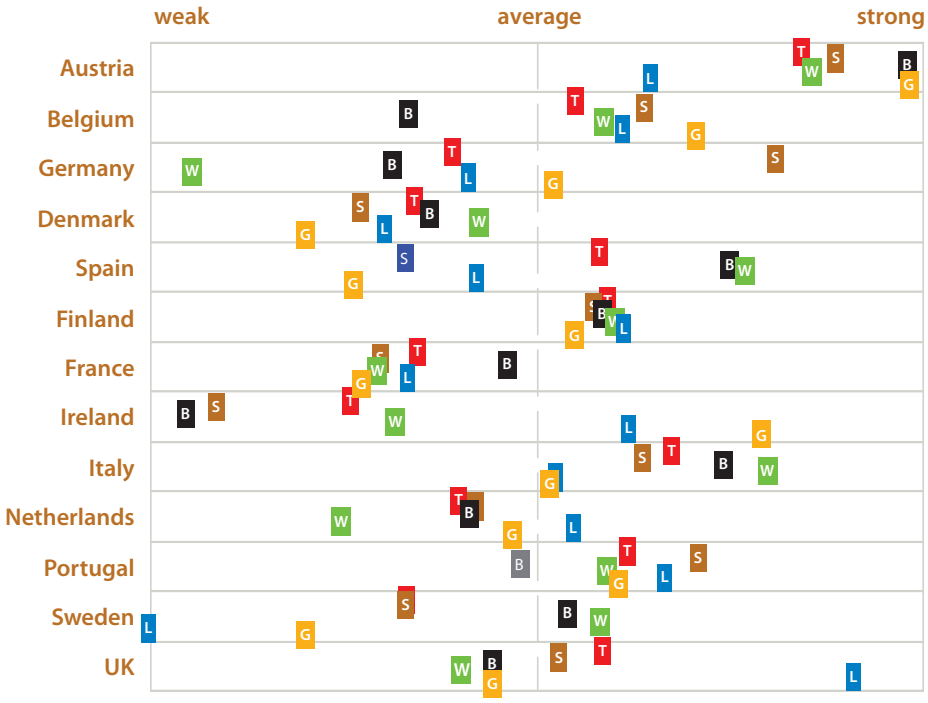


In Figure 5.21, the country comparison of Wijnands et al. (2007) is updated. The main conclusions are that Germany, France, Denmark, Ireland, the Netherlands and Sweden are rating below average. This is mainly caused by the loss of market share on the world market. This is striking because especially those countries have dairy multinationals that operate on the world market. This indicates that these companies have an incentive for decreasing exports and expanding in countries in which they sell (or source their raw materials in those countries from elsewhere, such as New Zealand).

This summary of the country level shows that, overall, the situation has not changed much since the analysis in Wijnands et al. (2007).

FIGURE 5.21
COMPETITIVENESS OF THE DAIRY INDUSTRY IN EU COUNTRIES

T = total; S = growth value added food industry;
B = growth Balassa; W = growth world share;
L = labour productivity; G = growth value added dairy



5.8. Outlook: policy developments and scenarios

The EU's common agricultural policy (CAP) is changing and WTO negotiations on the DOHA Round are still pending. As the cost of raw materials and the quota system have an important influence on the competitiveness of the dairy industry, this section provides some future projections that are made with GTAP for the dairy sector — and the food industry in total — of the EU. The current setting of the EU CAP is the starting-point of this study (excluding proposed policy changes of the health check). In the second scenario, the consequences of abolition of quotas is described. As proposed under the health check, the price support (i.e. export subsidies and import tariffs) for milk and dairy products is kept unchanged relative to their 2007 levels. In the third scenario a full liberalisation is described.

Apart from alternative policy settings, the performance of the European dairy sector depends on productivity changes in the agricultural sector and the dairy sector itself. The next two scenarios analyse the impact of productivity growth on the milk processing sectors. The two scenarios analysing higher productivity growth rates for milk processors in Europe — 'High productivity European dairy' (HPDairy) — and the high productivity growth rates for milk producers in the developing countries — 'High productivity milk' (HPMilk) — are based on the 'Full liberalisation' (Lib) scenario which assumes full market access to European dairy markets.

Apart from different developments in technologies in agriculture and milk processing, the growth of population and income at global level determines the performance of European food industries. To investigate the effects of population and income growth, the very hypothetical scenario 'EqualGr' assumes equal growth rates in population and GDP for all countries (Table 5.21).

TABLE 5.21
OUTLINE OF POLICY SCENARIOS

	Acronym	Scenarios	Description
1	BASE	Baseline: 2001–15	Update of policy measures and EU accession of 12 new Member States; implementation of 2003 CAP reform with a continuation of current (2007) CAP
2	QUOTA	Abolition of milk quota	As scenario 1 but abolition of milk quota only
3	LIB	Full liberalisation	As scenario 2 plus full cut in price support of milk and dairy products
3A	HPDAIRY	High productivity European dairy	As scenario 3 plus enhanced growth rates in technical progress in European dairy industries (100 % higher compared with scenario 3)
3B	HPMILK	High productivity milk	As scenario 3 plus enhanced growth rates in technical progress in developing countries' milk production (100 % higher compared with scenario 3)
3C	EQUALGR	Equal growth rates in population	As scenario 3 plus equal growth rates of population across all countries with same growth rates in GDP per capita as under base

The scenarios presented above focus on the policy changes implemented by the EU. Within the framework of this study, WTO proposals such as those from the EU, USA, G10 and G20 are not analysed. More information on assumptions, the model GTAP used in this study and the data is given in the background report (Tacken et al., 2008).

RESULTS

The production of the aggregated food industry is not very affected by the different policy scenarios (Figure 5.22). Only for the liberalisation scenario (and the subsequent scenarios), the volume of food production strongly increases in New Zealand and Australia. In these countries the dairy industry plays a dominant role amongst the different food processing sectors.

For the European dairy industry, the abolition of the milk quota regime will lead to an expansion of the output, while under full liberalisation the output of dairy industries declines (see 'Lib' scenario; Figure 5.23). Higher rates of productivity in the dairy sector will have a positive effect on the output level in the EU.

FIGURE 5.22

FOOD PRODUCTION VOLUME OF SELECTED REGIONS UNDER DIFFERENT SCENARIOS, 2015 (INITIAL LEVEL IN 2001 = 100)

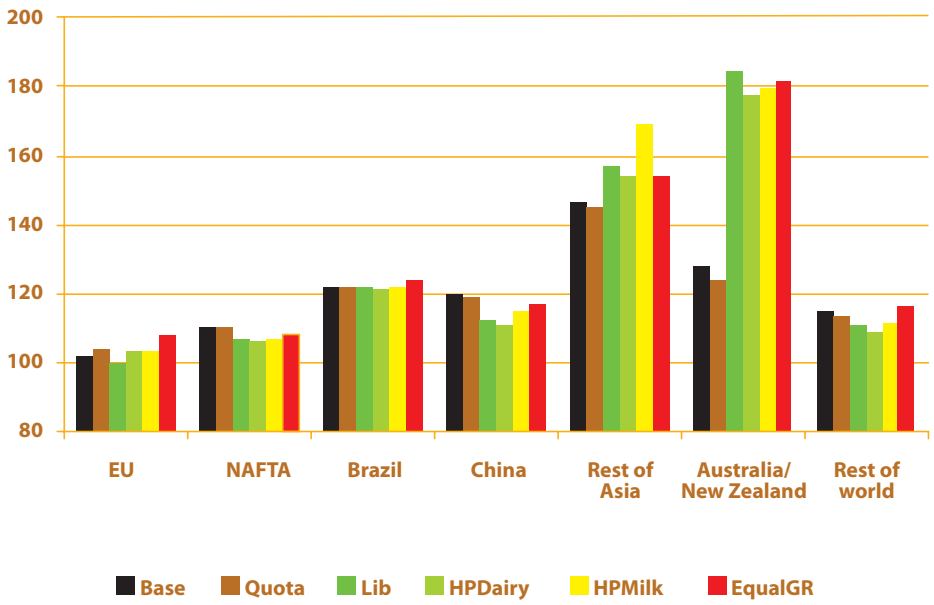
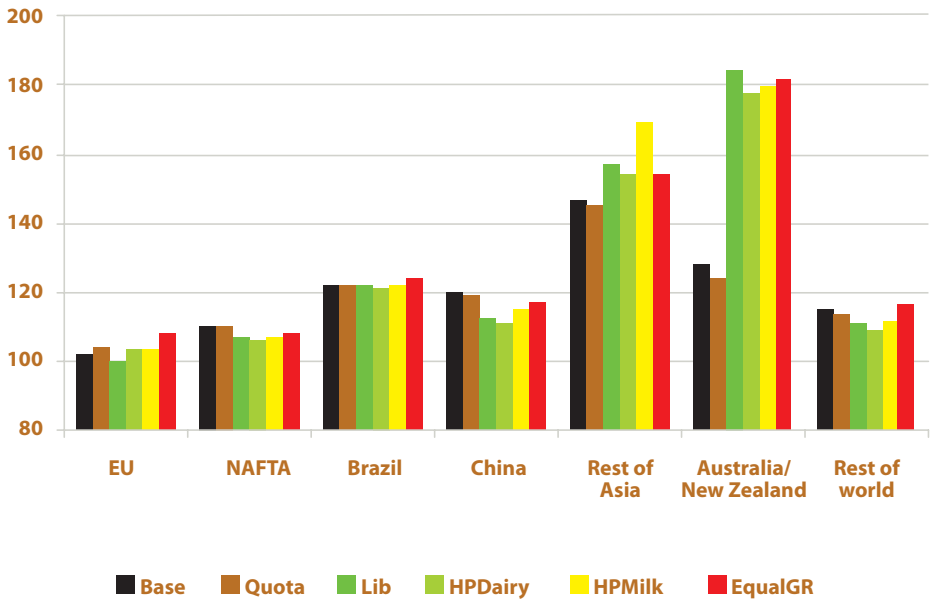


FIGURE 5.23

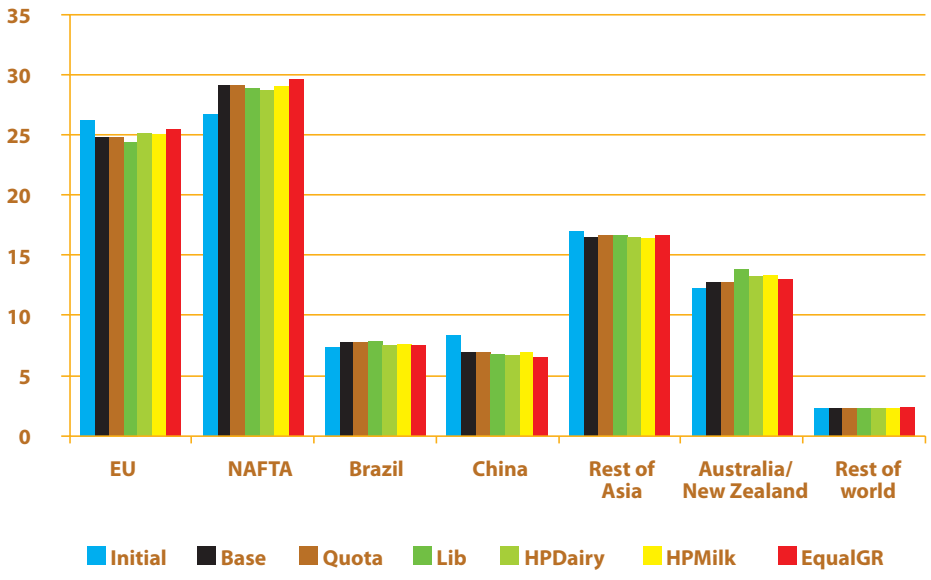
DAIRY PRODUCTION VOLUME OF SELECTED REGIONS UNDER DIFFERENT SCENARIOS, 2015 (INITIAL LEVEL IN 2001 = 100)



The policy scenarios all show a decline in the competitiveness of European food processing industries both at the international level and at a national level (Figure 5.24). Under the initial 2001 situation ('Initial'), the EU has a food export share of more than 25 %. It should be mentioned that under all scenarios calculated for this study the EU remains, together with the NAFTA region, one of the largest exporters of processed foods. However, the declining export shares between 2001 and 2015 indicate a loss in international competitiveness. This decline is due to the consequences of the decline in agricultural support as a consequence of the implementation of the CAP reform between 2001 and 2007. The CAP instruments also affect the prices of processed food prices. As a consequence, production in agrifood sectors decline in the EU-15 and excess supply disappears. In this scenario, other regions in the world gain export shares: highest relative increases are in the NAFTA region and Brazil. Strongly growing economies such as China also lose export share in world food markets, which is mainly due to a strong growth in domestic demand that reduces the excess supply available for exports.

An enhanced productivity growth in European dairy industries ('HPDairy' scenario) will compensate for the abovementioned decline in European share of food products in world total food exports. It is assumed that productivity growth rates in the other regions and sectors are as high as under the 'Base' scenario. The higher productivity growth will reduce costs in production in Europe relative to other competitors in world markets. In the 'HPDairy' and 'HPMilk' scenarios, enhanced productivity growth is assumed to take place at dairy farm and at dairy processing level. Under these scenarios, European export shares in the world market will increase significantly. In line with the previous study (Wijnands et al., 2007), the research shows that the declining costs of raw materials (due to higher productivity at farm level) is a very important factor for the industry's competitiveness.

FIGURE 5.24
FOOD EXPORT SHARES (% OF WORLD FOOD EXPORT) OF SELECTED REGIONS UNDER DIFFERENT SCENARIOS, 2015 (INITIAL: 2001)



Full liberalisation, which also includes full market access for foreign competitors on European dairy markets, will lead to a dramatic drop in the export share of EU agrifood products in total food exports. Under this 'Lib' scenario, all domestic support to farmers is also withdrawn, for example phasing out of coupled and decoupled direct payments. This cut in agricultural support together with full trade liberalisation will lead to a reduced agricultural output and an increased domestic consumption in agrifood products as a consequence of declining food prices. This effect also contributes to the decline in food exports. In relative terms Brazil and Australia/New Zealand benefit most under the liberalisation scenario with an increase in the food export share of 3 % and 8 %, respectively.

The changes in agricultural policies are also reflected in the specialisation level in different commodities amongst the trading partners. Here the Balassa index shows the share of a product in total national exports relative to the share of all exports of this product in the sum of world exports (Table 5.22).

The quantitative results of this study indicate that, in the near future in the EU, like other industrialised countries presented in this analysis, the contribution of dairy industries continues to fall and the share of other activities, e.g. services, continues to increase. This reflects a growth in GDP. The dairy industry currently generates over 0.4 % of total GDP and this will fall to a bit below 0.4 %. Full liberalisation will have a significant negative impact on European milk processing. The share in food industries' value added continues to decline under this scenario. In the other countries, however, this share increases. In Australia/New Zealand the contribution to total national income is even higher compared with the initial situation.

To evaluate these results, it should be stated that these projections reflect the long-term effect of the policy reforms analysed here. Regions with high shares of agriculture and industries may be vulnerable to this process with regard to employment and income growth, as the structural change process is often characterised by adjustment processes and related costs. It takes time for people to adjust their skills, for industries to grow, etc. Even in Brazil the sectoral share in value added will tend to decline. Food industries in these countries can participate only partly in high income growth. This development is due to the fact that income elasticities for services and manufactures are higher than for agricultural and food products.

The impact of different policy scenarios on employment is described in Table 5.23. Developments in the value added of the European food processing industries are mirrored by the development of employment. 'Full liberalisation' shows the biggest effects and will lead to a decline in sectoral employment by around 3.2 % in EU milk processing, also due to the fact that labour in dairy industries is substituted by capital.

TABLE 5.22
DEVELOPMENT OF THE BALASSA INDEX UNDER DIFFERENT SCENARIOS IN FOOD PROCESSING INDUSTRIES

	EU	NAFTA	Brazil	China	Rest of Asia	Australia/ New Zealand
Baseline						
MEAT	0.95	1.32	0.37	0.10	0.17	23.05
OILS AND FATS	0.84	0.43	0.47	0.09	3.73	0.83
DAIRY	2.01	0.23	0.01	0.01	0.17	14.00
SUGAR	0.01	0.01	10.30	0.00	0.02	0.81
OTHER FOOD	1.14	0.89	0.27	0.56	1.46	1.77
Quota abolition						
MEAT	0.96	1.34	0.32	0.10	0.17	23.78
OILS AND FATS	0.85	0.44	0.40	0.09	3.80	0.85
DAIRY	2.17	0.21	0.01	0.01	0.16	12.89
SUGAR	0.00	0.01	8.87	0.00	0.02	0.64
OTHER FOOD	1.16	0.91	0.23	0.57	1.49	1.82
Full liberalisation						
MEAT	0.99	1.40	0.33	0.11	0.18	22.16
OILS AND FATS	0.85	0.44	0.40	0.09	3.80	0.81
DAIRY	1.68	0.29	0.01	0.02	0.46	19.37
SUGAR	0.00	0.01	8.93	0.00	0.02	0.59
OTHER FOOD	1.16	0.91	0.23	0.57	1.49	1.71
High productivity European dairy sector						
MEAT	0.99	1.39	0.33	0.11	0.18	22.35
OILS AND FATS	0.85	0.44	0.40	0.09	3.80	0.81
DAIRY	1.81	0.26	0.01	0.02	0.42	17.89
SUGAR	0.00	0.01	8.91	0.00	0.02	0.59
OTHER FOOD	1.16	0.91	0.23	0.57	1.49	1.73
High productivity developing countries' milk production						
MEAT	0.99	1.39	0.33	0.11	0.17	22.26
OILS AND FATS	0.85	0.44	0.40	0.09	3.78	0.81
DAIRY	1.74	0.28	0.01	0.02	0.57	18.88
SUGAR	0.00	0.01	8.91	0.00	0.02	0.59
OTHER FOOD	1.16	0.91	0.23	0.57	1.48	1.72

TABLE 5.23

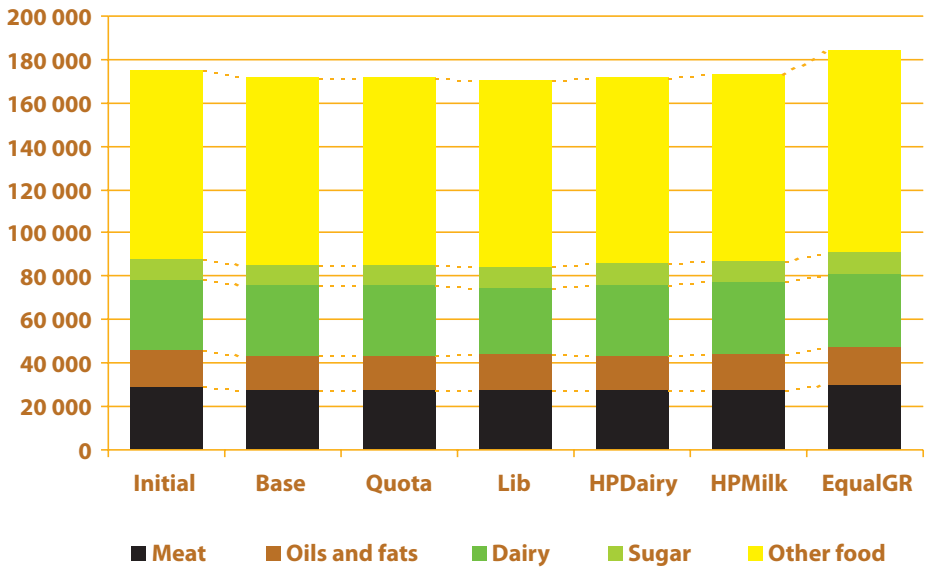
IMPACT OF POLICY SCENARIOS ON EMPLOYMENT IN MILK PROCESSING INDUSTRIES UNDER DIFFERENT SCENARIOS, 2015 (BASE = 100)

	EU	NAFTA	Brazil	China	Australia/ New Zealand	Rest of Asia
BASE	100.00	100.00	100.00	100.00	100.00	100.00
QUOTA	100.91	99.81	99.90	98.94	96.76	99.18
LIB	96.80	96.91	99.69	93.67	143.92	107.16
HPDAIRY	95.78	96.44	99.47	92.17	138.44	105.57
HPMILK	96.10	96.68	99.64	95.85	140.19	115.98
EQUALGR	105.79	98.50	101.78	97.95	141.71	104.72

Figure 5.25 concludes this analysis with the composition and the development of the value added in food processing industries in the EU, and some competing regions. Under the scenarios with enhanced productivity growth rates in the European dairy farming and processing, the EU value added in the European food processing sector gains in total terms. The strongest effect in terms of total sectoral income, however, is due to the macroeconomic drivers, i.e. population and income growth. This shows how strongly the developments in the industry are driven by macroeconomic forces and population trends. Part of the decline of the European food industry is not driven by policy or even productivity, but by macroeconomic developments.

FIGURE 5.25

DEVELOPMENT OF THE COMPOSITION OF THE VALUE ADDED FOOD INDUSTRY IN THE EU-15 UNDER DIFFERENT SCENARIOS, IN MILLION USD, 2001 (INITIAL) AND 2015



5.9. Conclusions

There are innovative and global players, but the industry is losing market share. That is the main conclusion of the research on the competitiveness of the European dairy industry. The industry is clearly innovative, with differences between countries. SMEs as well as large companies, including the packaging and ingredients industry, all contribute to innovation. The sector is also dynamic and has a number of large global players.

However, the competitive position is just below average, mainly due to the loss in world market share. The world market is growing faster than European exports. New Zealand performs well because of the high increase in world market share. Compared with the previous report (Wijnands et al., 2007) the improvement in labour productivity and the growth in value added in recent years compensate for the loss in market share by the European dairy industry.

6 Reconciling food law to competitiveness

6.1. Key findings

From a food sector competitiveness point of view, several major shortcomings in EU food legislation present themselves. Most of these shortcomings can be resolved by improved compliance with the EC Treaty and the general principles of food law by both the legislator and the administrative authorities.

- Food legislation has been designed to pursue a limited number of objectives. Among these the objective envisaged in Article 157 of the EC Treaty, to ensure conditions for competitiveness, is missing.
- Food legislation has become too complicated to reach its target audience. Food inspectors and private schemes hold the potential to bridge the gap.
- Pre-market approval schemes impede innovation. They should be applied only if science-based risk analysis shows reasons to suspect that a category of food may pose a health risk.
- Practices in the application of pre-market approval schemes contribute little to maturing the system.
- Zero-tolerance norms should, from both the scientific and competitiveness point of view, be applied as provisional measures only and, on the basis of further risk assessment, be replaced by more specific levels.
- Technically the hygiene package holds sufficient flexibility to accommodate traditional small-scale production. Member States' authorities, and food businesses are insufficiently aware of the available possibilities.
- The proposed overhaul of labelling legislation requires substantive reorientation by food businesses. Such burden seems only justifiable if the project goes substantially further towards solving problems and simplifying legislation than is currently envisaged.
- Good administrative practices to enhance food business competitiveness consist of: compliance assistance, deadline discipline, transparency, compliance with legislation addressing administrative authorities and improved compliance with the duty to give reasons (Article 253 of the EC Treaty; Article 41(2) of the EU Charter of Fundamental Rights).

6.2. Introduction

This chapter indicates opportunities for the EU legislator and executive to remove avoidable obstacles for the food industry as a means to reduce regulatory burdens and/or enhance competitiveness. This research has been conducted applying legal systematic research methodologies. These methodologies take a set of assumptions as their starting-point. A factual assumption is that the different elements of the legal system are connected by the system and mutually influence each other and the system as a whole. Normative assumptions are that the system should respect and apply its own norms and principles and that legislation should be such that it can exercise its intended influence in society. A condition for the fulfilment of the latter assumption is that the relevant elements of the legal system can directly or indirectly be grasped by the addressees.

The unit of analysis of the current research is the system level of EU food law subdivided in sub-units of analysis: quality of the system, novel foods' pre-market approval schemes, food safety targets, food hygiene and controls, and food labelling.

More information on the data gathered and the case studies — one in the Italian Alps (Alpeggio) on traditional dairy products, one on the hygiene package in French cheese production, one on the first 10 years of the novel foods regulation, and one on private regulation of the Dutch dairy net chain — is given in the background report (Van der Meulen, 2008).

6.3. Competitiveness and food law

Competitiveness is a key issue of EU law, defined in Article 157(1) of the Treaty establishing the European Community. But it is not among the objectives of EU food law. Food law is defined in a broad sense. Article 3(1) of Regulation (EC) No 178/2002 (hereafter: General Food Law or GFL) gives the following definition:

> 'The laws, regulations and administrative provisions governing food in general, and food safety in particular, whether at Community or national level; it covers any stage of production, processing and distribution of food, and also of feed produced for, or fed to, food producing animals.'

Apparently this concept encompasses all legislation (and related case-law) relevant to food. Article 5 gives the objectives of food law.

'1. food law shall pursue one or more of the general objectives of a high level of protection of human life and health and the protection of consumers' interests, including fair practices in food trade, taking account of, where appropriate, the protection of animal health and welfare, plant health and the environment;

2. food law shall aim to achieve the free movement in the Community of food and feed manufactured or marketed according to the general principles and requirements in this chapter.'

The absence in Article 5 of the GFL of any mention of the interests of food businesses or of the sector as such is striking. While food legislation in the vast majority of cases addresses food business operators, it is not supposed to serve their interests, nor to take their interests into account. This situation is understandable from history. The food crisis of the 1990s meant that the regaining of consumers' trust and confidence was the overall priority, also in the interest of the commercial sector. It seems likely that after being blamed for putting the market above health, the Commission wished to dissociate itself from the commercial sector. In hindsight, this may have been somewhat overdone.

The consequences may be bigger for food law at Member State level than at EU level. National food legislation cannot legally depart from Article 5 of the GFL, while EU legislation — being of the same hierarchy — has this option.

Business interests in food law are protected through the principle of proportionality. The Court of Justice of the European Communities established case-law in this domain. Proportionality requires restrictive measures to be science based.

In practice, the burden of proof for this has been reversed. An ever increasing body of EU food legislation requires food businesses to provide in advance scientific proof that the product they wish to bring to the market does not have adverse effects on health. The European Commission has taken the position that these limitations to proportionality as a result of a shift of the burden of scientific proof to businesses can be justified on the basis of the precautionary principle.

6.4. Accessibility to food law

Food businesses' knowledge of the law is limited, although enterprises often think otherwise. The previous competitiveness study (Wijnands et al., 2007) indicated that food business operators feel rather confident about being aware of food legislation as far as is relevant for their activities. Experts, on the other hand, expressed the opinion that the quantity and complexity of EU food legislation has become such that it is next to impossible to acquire adequate understanding without focused education. In the French cheese case study and the Alpeggio case study, we paid specific attention to interviewees' knowledge of EU food law as applicable to their activities. Generally the picture was confirmed that business operators believe they are well informed. They had, however, great difficulty in answering control questions. Most interviewees, for example, seem to believe that food hygiene is specifically about cleanliness.

One third of the interviewees in the Alpeggio case study had not noticed the transition from directives based on national law to the hygiene package, consisting of regulations at EU level. Half of the interviewees did not seem to have rudimentary knowledge regarding the principles of HACCP. Nevertheless, the majority of the respondents felt sufficiently informed on the relevant hygiene requisites (by the officials). In the French cheese case study, eight interviewees (out of 26) could give details on hygiene requirements spontaneously.

In three of the case studies, interviewees' understanding of what is required of them turns out to be based in the first place on customer demands, in the second place on feedback from inspectors, and in the third place on information available in the sector, often at a 'hearsay' level of precision. Sometimes training is available, mainly about food hygiene.

Informedness varies with business size. Only the biggest companies apply food law as a tool in their business strategies. Such businesses often have an office or at least a staff member responsible for regulatory affairs. In situations where regulatory affairs are part of the responsibilities of a quality assurance manager, the level of knowledge seems adequate for compliance but not sufficient for proactive strategies. In both situations it occurs that account is taken of actual legal texts. This seems less common in smaller businesses.

The lack of official consolidated texts of EU food legislation does not help businesses to take account of actual legal texts (Wijnands et al., 2007). Currently official texts usually only indicate changes to be made, leaving the onus to the user and/or (commercial) editors to actually apply these changes to the original text. From such editors the information was received that this task is far from self-evident and often requires choices in interpretation. The EU website EUR-Lex provides consolidated versions, disclaiming, however, their correctness. The text used most in this chapter — the novel foods regulation (Regulation (EC) No 258/97) — shows some clear shortcomings in consolidation. This reinforces our recommendation that, like the US legislator, the EU should accept the administrative burdens to consolidate the law in official binding texts.

CONTROLS AND SELF-REGULATION

The understanding of law is greatly influenced by the feedback from inspectors. For small businesses in particular, as the Alpeggio case demonstrated, 'the law' and 'inspectors' opinions' are the same thing. Enforcement officers' different approaches and understanding contributes to a certain extent to the continued heterogeneous use of traditional methods in the territory covered by the Alpeggio case study. It is understandable that inspectors refrain from giving advice from a conflict-of-interest point of view, but they also hold the potential to bridge the gap between ignorant business practice and application of the law.

Self-regulation of the food business via private food standards also helps. To a certain extent this is surprising. As far as HACCP requirements are concerned, private standards elaborate on what has to be done to comply with these requirements. For most other public law requirements, however, most private standards do little more than stating that compliance is due. Apparently the real help is not primarily from the content of the standard as such but from its infrastructure embedded in training, auditing and certification.

This is in line with the findings indicated above that feedback from customers and inspectors form important sources of knowledge about food law. Certified HACCP systems are seen as most helpful in complying with public law requirements, followed by retailer systems like BRC and GlobalGAP. The French cheese case study

showed that being part of a group is very helpful in achieving an understanding of legal requirements. When companies own different establishments, people have to meet on a regular basis and discuss issues of common interest.

One of the effects of limited knowledge is that hygiene legislation is incorrectly blamed for favouring industrial products. On closer inspection, food hygiene legislation seems to hold the solutions needed to solve the problems perceived by small-scale traditional producers. The problems are not in the law but in the limited knowledge of the law by businesses and authorities alike.

6.5. Pre-market approval

Pre-market approval procedures for additives, novel foods, GMOs and (health) claims are beyond reach for the vast majority of food businesses in the EU. Legislation reserves this type of innovation to the happy few. But even for them the legal environment is difficult. Each pre-market approval requirement has its own procedure. Harmonisation is limited. If businesses choose the wrong procedure, they cannot simply switch, but have to start all over again. Negative clearance ('no pre-market approval is due') or legal guidance with, for example, a comfort letter (as the Competition DG introduced) is not offered in food law (Wijnands et al., 2007).

In the period 2003–08, 25 genetically modified foods, 19 novel foods and some 30 new additives were approved. Only a handful of these products were related to the dairy sector. This number stands in striking contrast to the over 700 innovations that we recorded for a part of this period (Table 5.9) for the dairy sector alone. This confirms the results reported in Chapter 5 that product innovations are not popular. The requirement of pre-market approval may contribute to explaining this situation.

The core mechanism of pre-market approval schemes in EU food law is the so-called positive list. The principle of proportionality as well as Article 6 of the General Food Law and Article 5 of the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) require scientific risk assessment to justify measures that restrict food businesses. However, some leeway is granted to the legislator on the basis of precaution to consider certain substances as 'a priori hazardous' that reverses the burden of proof regarding their safety. An early example of such a reversal can be found in legislation on colorants. One of the first lists created concerned colouring matters that could be used, while products not on the list could not be used. This is a so-called positive list. The law does not say what is forbidden, leaving the rest free, but says what is allowed, making the rest forbidden. The list is a part of the law (in this case an annex to the directive). To later include a product in the list (or delete a product from the list), the law must be changed by the applicable procedure.

Ever since, the number of types of food products deemed 'a priori hazardous' and made subject to a positive list system has been expanded more and more. German scholars (Will and Guenther, 2007) observe a shift in food law from what they call the 'principle of abuse' to the 'prohibition principle with reservation of permission'. If the former principle applies, food businesses are free in their actions but will be held responsible if they infringe on the general norm of food safety. In other words the food is considered not to be categorically unsafe. If the latter principle applies, it is forbidden to bring a food to the market unless express permission has been obtained. The food is considered categorically unsafe (until authorities decide otherwise). From the point of view of business competitiveness, the shift of the burden of scientific proof from the authorities where it was placed for reasons of proportionality, to business, may raise some concerns.

The pre-market approval schemes indicated above differ considerably in procedure, competences in assessment and decision (Table 6.1), criteria and legal consequences. Legal consequences come in two categories: generic and exclusive. Generic approvals address the food product; once approved all food businesses are entitled to market the product. Exclusive authorisations address the applicant; after approval the applicant has a right excluding all others to bring the product to the market. Businesses that want to bring the same innovation to the market also have to pass an approval procedure. The exclusive authorisation is the 'bonus', rewarding businesses for their investment in completing the procedure. From a risk management point of view, it makes little sense to demand scientific risk assessment for products known to be safe on the basis of the evidence submitted by another business. It even seems incompatible with the precautionary principle to require scientific proof of safety in situations where no scientific uncertainty exists because risk assessment has already been conducted.

CASE STUDY: NOVEL FOODS

In many comments on EU pre-market approval policy, novel foods are addressed. They stand as pars pro toto. This is understandable as novel foods, along with genetically modified foods, is the most general category. Novelty is mainly related to the calendar date of marketing, not to function in (food) production or product. We have excluded genetically modified foods in this case study because the discussion on this issue is obscured by strong emotions of political, ethical and other nature. The novel foods scheme has recently been evaluated and a proposal for improvements is on the table.

Our research as well as the evaluation of the novel foods regulation (hereafter: NFR) shows that stakeholders find the scope of the regulation difficult to deal with. Clarity on the scope of the NFR is important for at least three reasons. Food businesses need to know if the products they bring to the market need to be approved, enforcement officers need to be able to recognise unauthorised novel foods, and administrative authorities need to know if they are competent to authorise a food presented as novel.

In itself, the use in legislation of open or otherwise vague concepts is not unusual, indeed it is unavoidable. Over time in their application to specific cases such norms usually acquire substance and a better delineated content, but this seems not to be the case in the 10-year old NFR. The reason seems to be that the European Commission has not been able to contribute by 'case-law' in clarifying the concept of novelty. In its scarcely reasoned approval decisions, the Commission rarely gives an opinion let alone a reasoned opinion that the product at issue qualifies as a novel food. On this point the Commission could improve compliance with the duty to give reasons as envisaged in Article 253 of the EC Treaty.

TABLE 6.1
COMPETENCES TO DEAL WITH APPLICATIONS FOR APPROVAL

	Receive application	Risk assessment	Decision		
ADDITIVES (INCLUDING SWEETENERS AND COLORANTS)	Commission	EFSA	Commission, Parliament, Council		
FOOD SUPPLEMENTS	Commission	EFSA	Commission and Standing Committee on the Food Chain and Animal Health (SCFCAH)		
NOVEL FOODS' INITIAL ASSESSMENT	National competent authority	National risk assessment body	National competent authority		
NOVEL FOODS' ADDITIONAL ASSESSMENT		EFSA	Commission and SCFCAH		
GM ENVIRONMENTAL APPROVAL	National competent authority	National risk assessment body	Assessment negative: national competent authority	Assessment favourable, no objections: national competent authority	Assessment favourable, objections: Commission and SCFCAH
GM FOOD APPROVAL	National competent authority	EFSA	SCFCAH favourable: Commission	SCFCAH not favourable: Council	SCFCAH not favourable, but Council misses three-month deadline: Commission

Qualification of foods as novel is based on compromise in comitology rather than compliance with legal criteria.

According to interviewees, the Member States have established a practice to report all potential novel foods that come to their attention through applications, or in a more informal way, to the Novel Foods Working Group CAFAB (Competent Authority Food Assessment Body), that is composed of national authorities. Under the NFR a food is novel if it has been used for human consumption to a significant degree within the Community before 15 May 1997. Every Member State seems to have, however, a different view on what 'used to a significant degree' means. Therefore, it has been agreed within CAFAB

that, whenever a Member State representative declares that in her or his home country the product has been consumed 'at a significant degree' before 15 May 1997, then the rest of the Member States will accept this verdict and the food is not considered novel. For interviewees, it is not clear how Member States check the presence of a product before 1997.

In general, interviewees have the impression that CAFAB tends to give members and the chair their way. This is also true in the opposite sense, i.e. if one member considers a food to be novel, it will be regarded as such. In practice, the verdict 'novel' seems to be inspired by safety concerns, not by any legal interpretation of the NFR. If a member has a safety concern, the conclusion tends to be that there has to be a risk assessment and that, therefore, the product is considered novel.

In this NFR case study, three dossiers have been analysed. They all show strategic application of the novel foods scheme by the businesses concerned. In all three cases it would have been arguable that another regulatory framework (additives, processing aids) applies that takes precedence over the novel foods regulation. In all three cases, the competent authorities followed the qualification chosen by the applicant. It seems that these applicants value the protection a novel foods' approval adds to patents. A novel foods' approval grants a quasi-monopoly that is enforced under public law. Further, the novel foods procedure does not involve the European Parliament, which may make the outcome of the procedure slightly less uncertain than an application for approval of an additive. The dossiers also show pre-existing risk assessments either from a Member State or the Scientific Committee for Food predating the novel foods regulation, or from outside the EU.

Controls on non-approved novel foods are limited to products on the CAFAB list. Interviewed enforcement authorities have indicated they will give limited priority to enforcement of the ban on unauthorised foods. Interestingly the Dutch food safety authority (VWA) issued a risk assessment regarding unauthorised (GM) long-grain rice. This seems to indicate that this authority is of the opinion that it is not entitled to enforce it unless a risk to health has been established. Such an opinion would be in conformity with the general principle requiring scientific justification for limits placed on food businesses. It disregards, however, the shift in burden of proof based on the precautionary principle included in pre-market approval requirements.

BUSINESS STRATEGIES

The available data show at least three, probably four different business strategies with regard to the novel foods regulation. Some businesses avoid all innovation, bringing them within the ambit of pre-market approval requirements, some take on the required procedure and some do not avoid innovation but try to stay out of the procedures (circumvention).

There are, of course, businesses that do engage in pre-market approval procedures. Besides a genuine desire to comply with legal requirements, different factors may contribute to explain this behaviour. In producer–customer relations, an official proof of safety and/or marketability may be demanded. Pre-market approval schemes may provide competitive advantages. The findings from our previous study (Wijnands et al., 2007) and the three dossier analyses show that some businesses actively choose the NFR procedure even in cases where non-applicability of the novel foods procedure would have been arguable. The cases show businesses keen on investing in protection of inventions. The key players in all three cases acquired one or several patents with regard to the food product concerned. Authorisation under the NFR — unlike additives — is exclusive. It protects the applicant with a monopoly similar to a patent. Unlike a patent, however, enforcement of this monopoly is not strictly a private law matter, but also a matter of general interest undertaken by public authorities on their own initiative. To put it bluntly, the pre-market approval procedure can be used by businesses as an instrument to clear the market of competitors. It seems likely that SMEs lose twice: the hurdle for registration is high and they lose from monopolisation. A last reason why NFR approval is preferred by some businesses over additive approval is the role of the European Parliament in approving additives. This makes the decision to such an extent political and subject to lobbying that the result is even less predictable than under the NFR.

In a third strategy (next to avoidance and monopolisation), businesses do innovate but look consciously or unconsciously for ways to nevertheless remain out of the scope of approval schemes. In the NFR case study, a food safety inspector remarked that a lot of companies just place a product on the market and when confronted they act surprised.

Some situations are difficult to understand differently than as wilful infringements on the NFR. Probably the most notorious novel food for which market authorisation has explicitly been denied is stevia (sweetleaf or sugarleaf, a herbal sweetener, widely used in some markets outside the EU). Nevertheless this product is readily available on the EU market.

To a certain extent these business strategies can be explained by economic factors. Brookes (2007) analysed the economic impact of the novel foods' approval procedures on the EU food sector. He found that the fairly common costs associated with meeting regulatory requirements are situated between EUR 0.3 million and EUR 4 million and that the considerable additional time taken to authorise novel foods in the EU adds an extra EUR 0.3 million to EUR 0.75 million per application. The rate of return of the costs made on these investments would be 24–25 % if the procedure took six months. If delayed to two-and-a-half to three years then the rate decreases to 17–18 % and, if extended to five years (60 months), it becomes 14.6 %, which is lower than the 15 % hurdle rate often used in investment decisions. Our earlier study (Wijnands et al., 2007) found an average of three years (between nine months and eight years). Apparently at least some potential innovators are afraid of not getting the desired return on investment and abstain from the innovation.

As stated above, this case study also shows repeated risk assessments for the same product. The precautionary principle cannot support a burden on businesses to prove the safety of a product when authorities already have a conclusive risk assessment at their disposal. If we accept the interpretation of the European Commission that pre-market approval schemes are based on the precautionary principle, from Article 7 of the GFL, and the case-law on the precautionary principle, it follows that they can only be applied in cases where scientific uncertainty exists. In cases where conclusive risk assessment is available, the shift in the burden of proof can no longer be based on the precautionary principle. In such situations, compliance with Article 6 of the GFL and Article XX(b) of GATT would require the burden of proof to return to the authorities opposing market entry of the food product concerned. Member States' practice (in comitology) of requiring additional risk assessment at EU level in situations where conclusive risk assessment has been provided by the competent authority in another Member State goes against the principle of proportionality and against Article 6 of the GFL if it is not supported by science-based concerns about the validity of the risk assessment provided.

LEGISLATIVE PROPOSALS

All this raises the question of whether the NFR makes a serious contribution to food safety in the EU and, even more, if the contribution it makes justifies the burden placed on food businesses in the EU. The Commission has introduced proposals to the Council and the European Parliament for a common procedure and for a new novel foods regulation (hereafter: NNFR). The question arises to what extent these would lessen the problems indicated above and to what extent additional remedies are required.

While the concepts used in the NFR have been somewhat simplified in the proposed NNFR, the core of vagueness — the notion of 'significant degree' — remains in place. The proposals replace the legislative procedure for updating the additives directives by the comitology procedure with scrutiny. This contributes a little to replacing political decision-making by administrative decision-making. However, comitology has become very political as well. Also transparency is a critical issue. An improvement is that risk management is only done once at EU level and no longer in two stages.

The hottest potato in the NNFR is the reversal of the burden of proof with regard to the safety of food products. Article 5 of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) requires sanitary measures to be based on risk assessment. The NNFR, just as the NFR, regards novel foods as a priori unsafe until proven safe. No risk assessment underlies this presumption of lack of safety. Members of the WTO are beholden to notify their sanitary measures and to justify them when challenged by other members. The European Commission is said by stakeholders to have circumvented this obligation by notifying the NNFR under the Technical Barriers to Trade (TBT) Agreement and not under the SPS Agreement. This is disappointing. The position that pre-market approval schemes demanding proof of food safety are not sanitary (but technical) measures hardly seems tenable. In this way the EU creates the suspicion to be unwilling and maybe even unable to justify its measures.

6.6. Food safety standards

In EU food law a fundamental norm applies that food may not be brought to the market if it is unsafe. In general it is left to the responsibility of food businesses to determine what, from a scientific point of view, this means in practice. For an increasing number of substances and micro-organisms, legislation sets specific limits distinguishing what is considered safe from what is considered unsafe. In principle such legislation can be seen as helpful to businesses as it increases legal certainty. The onus to distinguish safe from unsafe is no longer on them with regard to the substances concerned. A downside to such legislation is that it fixes in law scientific understanding as it stands at a certain moment in time and thus may easily become outdated in the light of scientific progress.

The strictest level conceivable is zero. Several substances and organisms may not be present in food at all. In practice 'zero' is the detection limit. As a result of technological progress, ever smaller contaminations can be detected. Over the last 20 years the precision of measurement techniques have improved by a factor of 1 000 000. This means that the 'zero' norm now represents a norm 1/1 000 000 of what it was 20 years ago. Such developments run the risk of taking the zero norm *ad absurdum*. When, due to technological developments, zero tolerance loses meaning, the legislator should be responsible, on the basis of sound risk assessment, for redefining 'zero' by setting a specific — presumably very small — detectable limit.

Zero tolerance may result from sources other than scientifically established safety levels. Apparently the zero level in some cases does not represent a risk assessment positively finding **risks** at the minutest of levels, but the unapproved **status** of the product. In such a situation, however, applying zero tolerance is no longer a risk management instrument but a sanctioning mechanism to deal with the use of unapproved substances.

Preferable — indeed necessary — is the approach chosen in the new legislation on pesticides. Regulation (EC) No 396/2005 sets a general maximum pesticide residue level (MRL) in foodstuffs of 0.01 mg/kg. This general level is applicable 'by default', i.e. in all cases where an MRL has not been specifically set for a product or product type. Such a default level should be set for all contaminants. Lower levels should be set on the basis of scientific risk assessment only, and never for reasons like lack of producer support or the coercion of producers, inside as well as outside the EU, to refrain from using products not conforming to EU standards. The GMO regulation provides a similar example.

LABELLING PROPOSAL

The Health and Consumers DG issued on 30 January 2008 a 'proposal for a regulation of the European Parliament and of the Council on the provision of food information to consumers' ([6]). Does the proposed new regulation sufficiently address businesses' worries?

Even taking account of the fact that experts meeting at forums on such proposals are more inclined to voice criticism than approval, the overall reception of the proposal was highly critical.

The new proposal is presented as a fast-track project within better regulation and is meant to support business competitiveness. Nevertheless, the substantive changes seem limited compared with the major effort that is being placed upon businesses to readjust to the legislation. The project contains four key issues: mandatory nutrition labelling at front of pack, mandatory font size for all mandatory information, additional legislative powers for the Commission, and voluntary national schemes. According to experts, for the latter two no convincing need has been shown, since the former two articles are sufficient to achieve the desired result. Some elements — in particular a 3 mm font size — are perceived as unnecessarily burdensome by food businesses. The general feeling in the food sector seems to be that the results from the proposed new regulation come at too high a price.

Stakeholders fully agree that inconsistency and uncertainty should be avoided at all costs. This is precisely the reason why they deplore the call the proposal makes upon the Member States to develop national schemes (Chapter VII of the proposed regulation). According to stakeholders, it is asking too much of national inspectors to differentiate between binding law and non-binding national schemes

([6]) COM(2008) 40 final. This proposal aims to replace Directive 2000/13/EC and some other pieces of legislation by a regulation.

that should not constitute a barrier to international trade. In practice the non-binding but very much cherished national schemes on food labelling based on composition (like the German and Austrian *Lebensmittelbuch*) constitute high barriers to intra-Community trade. Their application to imported products is inconsistent with EU law. Interviewees say that inspectors openly acknowledge that the business will win the case (several years later) if they take it to court, but that compliance is the only viable option for market entry in the short term. On the basis of such experiences, interviewees fiercely oppose the invitation to create more national schemes.

Experts and business stakeholders concur that merging all food labelling provisions into one single text would be a great improvement. But the proposal by no means approaches a full codification as vertical food labelling requirements are being kept out of the codification (as is the very important horizontal nutrition and health claims regulation, and the regulations on protected designations, GMOs, novel foods, etc.). The very least that should be done is add an annex listing all other food labelling provisions.

The interviewees consider various aspects of the proposal to be positive, in particular the step that is being taken towards codification of food labelling law and the clarification of some concepts like the origin of products and the values to be applied in nutrition labelling.

BOX 6.1
CONCLUSIONS AND RECOMMENDATIONS FROM WIJNANDS ET AL., 2007

Food legislation has benefits:
- food safety is seen as satisfactory;
- it provides a level playing field;
- but there are national derogations, interpretations, enforcement;
- it provides a reputation in non-EU markets;
- the EU legal system is preferred to the US one.

There are five major problems. The first four concern:
- quality of legislation (complexity, clarity, simplification, connection to national law);
- changes in legislation (continuous flow, unstructured disclosure);
- overdose of controls (HACCP self-control, audits, Member State and EU controls, Food and Veterinary Office (FVO); no compliance assistance);
- administrative burdens in labelling, hygiene, tracking and tracing.

These four problems lead to:
- costs that are hard to estimate;
- winners and losers, depending on management level of companies (size effect unclear).

Recommendations to reduce costs:
- codification;
- clarification;
- guidelines and compliance assistance;
- regulatory rhythm;
- rely more on self-regulation:
  — business can integrate controls in business process;
  — companies have brand/reputation management;
  — public role: system check (compare national banks);

The fifth problem concerns innovation/pre-market approval:
- uncertainty in applicability of laws;
- uncertainty in outcome;
- costs;
- time span needed for approval.

Recommendations:
- harmonisation procedures;
- recognise Food and Drug Administration (FDA), Joint FAO/WHO Expert Committee on Food Additives (JECFA);
- preliminary procedure/assistance, negative clearance;
- compliance assistance;
- fatal deadlines.

6.7. Recommendations

In the previous study (Wijnands et al., 2007), we made a number of recommendations (Box 6.1). These recommendations still hold after this more detailed follow-up investigation. Probably the most striking addition of the outcomes of the current research (Box 6.2) is the insight that part of the burden felt by food businesses from the food regulatory framework is not a result of the makeup of the framework as such, but of shortcomings in compliance by the authorities applying the framework. Improved compliance by public authorities would alleviate the burden on businesses from EU food law.

Administrative practices can contribute in two ways to reducing the burden on food businesses: through improved compliance with the law by the authorities and through compliance assistance to help businesses deal with their obligations.

BOX 6.2
SUMMARY OF MAIN CONCLUSIONS AND RECOMMENDATIONS FROM THIS STUDY

Food legislation misses the objective to ensure conditions for competitiveness.

From the competitiveness point of view, there are several major shortcomings in EU food legislation; most can be resolved by improved compliance with the EC Treaty and the general principles of food law.

Food legislation is too complicated. Food inspectors and private schemes can bridge the gap.

Pre-market approval schemes impede innovation. They should be applied only if scientific reasons exist for a health risk.

Practices in the application of pre-market approval schemes contribute little to maturing the system.

Zero-tolerance norms should be applied as provisional measures only and, on the basis of further risk assessment, be replaced by more specific levels.

Technically the hygiene package holds sufficient flexibility to accommodate traditional small-scale production. Member States' authorities and food businesses are insufficiently aware of the available options.

The proposed overhaul of labelling legislation requires substantive reorientation by food businesses. Such a burden seems only justifiable if the project goes substantially further to solving problems and simplifying legislation than is currently envisaged.

Good administrative practices to enhance competitiveness are as follows:
- compliance assistance;
- deadline discipline;
- transparency;
- compliance with legislation addressing administrative authorities;
- improved compliance with the duty to give reasons.

7 Impact assessment of food origin marking scheme

7.1. Key findings

Based on the material in the previous chapters, a regulatory impact assessment is carried out for a food marking system. This analysis leads to the following conclusions.

- Many forms of such a system would not add much (other than administrative burden) to existing PDO/PGI labels. They overestimate the usefulness of generic labels in an era of brands and private labels of retailers.
- Co-labelling is not a solution to the problems of SMEs. It will not work if they produce a commodity. In case the SME produces a specialty product, its brand can be recognised by the retailer. This recognition can be organised under private law and does not necessarily need public regulation.
- A food marking origin system that obliges non-EU countries to label their produce as 'made in the specific non-EU country' is the least problematic option for such an origin system, but it could lead to higher prices and misperceptions with European consumers for products that can be labelled as European by a simple treatment like seasoning or a food service preparation. And it could lead to higher costs in exports if trading partners retaliate with similar requirements.
- A mixed food marking system (obligatory for EU products, voluntary for imports) could make sense in order to address consumer concerns in the case of a liberal WTO agreement. From the objective of improving the competitive position of the food industry, it would not make much sense as it leads to higher operational costs and an increased administrative burden and not much commercial value (which is already captured in voluntary, regional labels).
- We therefore recommend not to follow up the idea of mandatory origin marking. Policy actions to promote competitiveness of the food industry should be concentrated on the issues of access to raw materials, administrative burdens and innovation.

7.2. Introduction

In the tender that was the basis of this research project, the European Commission proposed three policy options for a European food origin marking scheme. This chapter provides an impact assessment of this proposal. The methodology for the impact assessment are the European guidelines (SEC(2005) 791), including the March 2006 update.

One of the issues that challenges a regulatory impact assessment is the marginal attention paid to competitiveness issues (Jacobs, 2006; see Table 7.1). Based on Chapters 3 and 5 of this report, extra attention has been given to these aspects.

TABLE 7.1
PRESSURES ON REGULATORY IMPACT ASSESSMENT METHOD

Pressure	Goals	Analytical method
NEOCLASSICAL ECONOMICS	Maximisation of social welfare among multiple goods and bads	Benefit–cost analysis using a common monetary metric
BETTER PUBLIC POLICY, INTEGRATING MULTIPLE OBJECTIVES AND INTERESTS	Weighing and balancing many positive and negative impacts	Soft benefit–cost analysis, integrated impact assessment including multiple criteria analysis
NEW PUBLIC MANAGEMENT	Cost and performance disciplines	Cost-effectiveness analysis of various options
COMPETITIVENESS, MICROECONOMIC POLICIES	Minimising business costs	Business impact, SME tests, administrative burdens' tests
SOCIAL CONSENSUS, INTEREST GROUP PRESSURES	High valuation of impacts on selected groups	Distributional analysis, partial analysis

Source: Jacobs, 2006.

During the analysis and the research reported in the previous chapters, it became clear that food origin marking had less attractiveness than the tender for the project presumed. We therefore decided to restrict quantification of a number of effects. The next sections follow the steps in the impact analysis.

A regulatory impact assessment asks for stakeholder involvement. We discussed the idea of origin labelling with experts of the European Dairy Association in connection with a discussion on the draft findings of the study. These experts were quite critical towards an origin label, especially with an eye to the possibility of retaliation at country level. One of the authors of this study in mid-July 2008 also attended a week of workgroups for the high-level group on the food industry. There origin labelling was twice argued for in favour, mainly from the meat industry. More detailed discussions showed that this was brought forward by the industry in relation to the issue of co-labelling or a better origin labelling for the raw materials used. Both issues are therefore discussed below.

7.3. Identification of the problem

The competitiveness of the food industry is under threat. One of the reasons is that European producers face higher costs than their competitors overseas. There are many factors causing these higher costs, like less efficiency of scale, higher labour costs, higher costs of raw materials due to the common agricultural policy and higher costs due to higher standards for issues like food safety, animal welfare, environmental and labour standards. As some consumers are probably willing to pay more for such goods (or do not want to buy similar products from abroad) and as this effect is perhaps not fully exploited by existing labels like PDO/PGI or organic products, a label of origin might help consumers to differentiate and the food industry to raise extra revenue that helps to offset some of the higher costs due to the high European standards.

As the competitiveness of the industry is an important issue defined in the EU's Lisbon agenda, and the food industry is a large and growing part of the manufacturing industry, the EU is legally allowed to act.

7.4. Objectives

The envisaged marking scheme is intended to create a 'mark of distinction'. This means that the message to be conveyed is that a product coming from the EU ensures buyers of its quality.

In the tender document the Commission cites the following key cumulative and/or exclusive objectives for the introduction of a food origin marking scheme:

1. to introduce greater homogeneity and clarity across the European Union single market through an EU-wide instrument, taking into account the existence of different Member States' legislation;

2. to promote the image and attractiveness of European Union food products and manufacturers with the view to contribute to enhancing European food companies' competitiveness in the global arena against foreign competitors producing at lower costs and investing less in consumer and environmental protection;

3. to create the first step towards recognition in third-country legislation of the concept of 'European Union origin food product' through a 'Food product made in the European Union' claim;

4. to equalise the costs of the European food industry exporting to third countries, which require origin marking, with those of foreign producers exporting to the European Union market.

Ancillary objectives such as accurate information for consumers, the fight against counterfeiting and misleading labels are not seen as top priorities for the purpose of this study.

7.5. Main policy options

In the tender for this project, the European Commission presented three policy options.

OPTION 1: REGULATION OF A WHOLLY VOLUNTARY SYSTEM

This means an EU-wide measure governing the use on a voluntary basis of origin marking for either:
(a) both imported non-EU food products and EU domestic food products; or
(b) EU domestic food products only.

This option implies the necessity to adopt an EU regulation that would provide a legal basis for the use and enforcement in a consistent manner across the EU territory of a homogenous 'EU origin food product marking scheme'.

OPTION 2: REGULATION OF A MIXED (COMPULSORY/VOLUNTARY) SYSTEM

This means an EU-wide instrument establishing either:
(a) compulsory marking for imported food products only, together with a voluntary marking for domestic food products; or
(b) the opposite, i.e. compulsory marking for domestic food products, together with voluntary marking for food products that are imported from third countries.

OPTION 3: REGULATION OF AN OBLIGATORY ORIGIN MARKING FOR BOTH IMPORTS OF FOOD PRODUCTS AND DOMESTIC FOOD PRODUCTS PLACED ON THE INTERNAL MARKET

In this case, every food product marketed in the European Union would carry an origin marking, indicating either EU or a third-country origin.

This option implies the necessity to adopt an EU regulation that would provide a legal basis to mark all of the EU originating food products and foreign food products to actually ensure that such a mark is used at all times.

As a benchmark for the impact analysis we defined a fourth option.

OPTION 4: BUSINESS AS USUAL AND NO 'EU ORIGIN MARKING' LABEL

These options for origin labelling are pictured in Table 7.2. The scheme also shows some additional options: besides 'made in the EU' or 'made in Brazil' origin marking, there could be regional ('made in Lapland' or 'Quality of Bavaria') or Member State ('made in Italy') marking. Some such schemes already exist, for instance in beef. PDO/PGI labelling could be seen as a kind of regional origin labelling. This example makes clear that there is experience with mandatory and voluntary public labelling.

In addition to public regulation, private regulation could take place. The retail and food industry could set up a system for the labelling of, for example, 'locally produced' food, like some retailers do with food miles or carbon miles. SMEs could label their products via a trade organisation label such as 'SME traditional quality inside' and could see if this also has commercial value for retailers. And of course (food) business operators are free within the general legal limits, like the ban on misleading information, to choose to indicate an origin. That is the current situation, listed above as option 4, 'business as usual'.

TABLE 7.2
OPTIONS FOR ORIGIN MARKING

	Producer	Regional	Member States	EU	Third countries	Member States + third countries	EU + third countries	EU + Member States + third countries
PUBLIC								
MANDATORY				Option 2(b)	Option 2(a)	Beef Fresh fruit and vegetables	Option 3	
VOLUNTARY		PDO/PGI C-6/02	C-325/00	Option 1(a) or 2(a)	Option 2(b)		Option 1(b)	
PRIVATE								
SELF-REGULATION	'Locally produced'							
NO REGULATION	'SME traditional quality inside'	Current	Current	Current	Current	Current	Current	Current

Option = option in terms of reference.

SHORT LIST

In the impact analysis we have not included private regulation options (Table 7.2). They do not require public law, but are an important consideration in comparing the public options with the current situation. The private options make clear that the food industry can also move to more labelling if it sees the benefits, without public regulation. There are examples (like the 'Food from Britain' campaign) where industry has taken action itself.

Based on the legal analysis reported in Chapter 6, we also decided not to include options where Member State labelling would be introduced. That has been done in fresh fruit and vegetables and — for clear reasons — in beef, but this option is not very compatible with the common market idea that is the *raison d'être* of the European Union. Such options would not support the first objective of the Commission with such a scheme (greater homogeneity across the single market). Of course food business operators can label their products on a voluntary basis, as long as their claims are not misleading.

7.6. Legal aspects of the options

Literature shows two different perspectives on establishing and communicating the origin of products. One perspective is on imported products, the other on domestic production. The perspective on imported goods is known as 'rules of origin'. The perspective on domestic production is known as 'origin marking'.

'Rules of origin' (hereafter: ROOs) identify the country where a good is deemed to have originated. One of the primary roles of ROOs is to prevent tariff circumvention, or, to put it more generally, to reserve preferential treatment to goods originating in the country with which such treatment has been agreed upon and to prevent goods from other countries from taking advantage as well. ROOs are distinguished in preferential and non-preferential ROOs (Lang and Gaisford, 2007). National governments implement non-preferential ROOs unilaterally for keeping trade statistics, country-of-origin labelling, government procurement, anti-dumping and the like. Preferential ROOs define the products that are eligible for preferential (e.g. tariff-free) access between member countries of a free trade area or similar preferential trading agreement. The origin of a product is determined by application in the ROO of one or more of three criteria: change of tariff classification, *ad valorum* or percentage test, or specified operations test. The WTO Agreement on rules of origin provides a harmonisation programme for ROOs.

A mark of origin ('made in' marking) is a permanent sign (e.g. etching, moulding) on a product which signals its geographical origin. Origin marking may be required for imports and/or domestic goods; it may cover certain sectors or all goods; or legislation may just set a framework for its voluntary use.

The purpose of origin marking is transparency and informed purchase decisions by consumers, and to reduce the incidence of fraudulent or misleading indications that would undermine the reputation of producers. From this spring certain practical features. The marking must reach the final purchaser. It must be sufficiently permanent and indelible. It must be visible, clear and easily understood by the ultimate purchasers. 'Country-of-origin labelling' (hereafter: COOL) seems to be the expression used for origin marking regarding food products. It refers to the requirement for retailers to inform consumers of the country of origin of a product at the point of sale. The argument in favour of COOL is that consumers prefer domestic products to imported ones or that consumers in export-destination countries consider the origin an asset.

COOL is practised by the EU's trade partners. A new standard in the Australia New Zealand Food Standards Code requires packaged food to carry a separate statement identifying the country where the food was produced, made or packaged. The new country-of-origin labelling standard for packaged food has been phased in over a two-year period from 8 December 2005. The USA 2002 Farm Bill requires country-of-origin labelling for beef, lamb, pork, fish, perishable agricultural commodities and peanuts. The entry into force has — except for fish and shellfish — been delayed several times. Currently the date aimed at is 30 September 2008.

In the EU, proposals to apply origin marking go back at least as far as 1980, when a proposal submitted to the Council received a negative opinion from the Economic and Social Committee and was withdrawn. In the early 2000s, in a series of working documents the Trade DG proposed the introduction of a 'made in' marking scheme. According to the Trade DG such a scheme may cover two types of goods: (a) imported goods; and (b) domestic production for the internal market, regulated in either a voluntary or a compulsory manner. In 2005, a proposal was submitted to the Council (COM(2005) 661 final) that concentrates on imported goods. This is the option which, according to the Commission, on balance, takes best into account the interests of the larger share of stakeholders (industry, trade unions, and part of the consumer movement); it is an option which limits any costs and negative effects for other interested parties (EU industries that have delocalised their production, traders), and it ensures at the same time a positive impact as regards the policy objectives of the initiative.

The proposed regulation requires the country of origin to be marked on goods using the words 'made in' together with the name of the country of origin. The country of origin is determined on the basis of the criteria set out in the Community Customs Code ([7]) for non-preferential origin. The regulation is intended to apply to industrial products listed in an annex, such as leather, footwear, textiles, ceramics, jewellery, furniture and brooms. It explicitly excludes foodstuffs from its scope.

([7]) Regulation (EEC) No 2913/92.

It is a general principle of food law that labelling may not mislead the consumer. The general labelling Directive 2000/13/EC requires particulars of the place of origin or provenance to be labelled where failure to give such particulars might mislead the consumer to a material degree as to the true origin or provenance of the foodstuff.

According to Regulation (EC) No 1182/2007 fruits, vegetables and nuts which are intended to be sold fresh to the consumer may only be marketed if the country of origin is indicated.

Rules for beef and veal go even further. Regulation (EC) No 1760/2000 holds some compulsory provisions and some voluntary measures for their labelling. The countries must be mentioned where the animal was born, where it was bred/fattened and where it was slaughtered. This regulation has been issued as part of the responses to the BSE crisis. This background seems to justify the assumption that labelling the country where certain steps in the production chain have taken place is meant to dissociate the animals concerned from areas stricken by BSE. In other words the prime issue is negative in the sense that it matters most from which country the product is not. This was felt, for example, by producers in Northern Ireland that had to use the label 'UK'.

Evaluations show as a result of this legislation (and its predecessor) a tendency towards localisation of slaughter, meaning a decrease of export of cattle and an increase of slaughter in the country where the animal was bred (EC, 2004; Van Horne et al., 2006). If Member State origin labelling were to be substituted by EU labelling, this would mean a considerable reduction of burden on business (Van Horne et al., 2006). It is also believed that beef originating in a less popular country is preferably used in meat products for which an exception to the labelling requirement exists. For PDO/PGI regulations that communicate quality to consumers, see Chapter 4.

The EU labelling proposal improves on the current general labelling Directive 2000/13/EC by incorporating the definition of country of origin from the Community Customs Code mentioned above. This concept of origin has to be applied if origin labelling is mandatory to avoid misleading the consumer or if it is done on a voluntary basis.

The chapter in the proposal on voluntary food information explicitly deals with origin labelling in the situations where it is not mandatory. Paragraphs 2, 3 and 4 of Article 35 read:

'2. without prejudice to labelling in accordance with specific Community legislation, paragraphs 3 and 4 shall apply where the country of origin or the place of provenance of a food is voluntarily indicated to inform consumers that a food originates or comes from the European Community or a given country or place;

3. where the country of origin or the place of provenance of the food is not the same as the one of its primary ingredient(s), the country of origin or place of provenance of those ingredient(s) shall also be given;

4. for meat, other than beef and veal, the indication on the country of origin or place of provenance may be given as a single place only where animals have been born, reared and slaughtered in the same country or place. In other cases information on each of the different places of birth, rearing and slaughter shall be given.'

It should be noted that the Court of Justice of the European Communities considers origin marking a trade barrier. A Court ruling from 1985 deals with national legislation prohibiting the retail sale of certain products imported from other Member States, unless they bear or are accompanied by an indication of origin. The Court is highly critical. For several reasons it concludes that the measure at issue is a barrier to trade for which no justification can be found in EC law.

In 2002 the Court ruled that, by awarding the quality label *Markenqualität aus deutschen Landen* (quality label for produce made in Germany) to finished products of a certain quality produced in Germany, Germany has failed to fulfil its obligations under (now) Article 28 of the EC Treaty. The contested scheme has, at least potentially, restrictive effects on the free movement of goods between Member States. Such a scheme, set up in order to promote the distribution of agricultural and food products made in Germany and for which the advertising message underlines the German origin of the relevant products, may encourage consumers to buy the products with the quality label to the exclusion of imported products. The fact that

the use of that quality label is optional does not mean that it ceases to be an unjustified obstacle to trade if the use of that designation promotes or is likely to promote the marketing of the product concerned as compared with products which do not benefit from its use.

The Court consistently rules, both with regard to mandatory and voluntary legislative schemes on the protection of indications of origin, that these constitute barriers to trade infringing on Article 28 of the EC Treaty. While Article 28 of the EC Treaty seems to be stricter than Article VIII of GATT, the position of the EU to argue that the envisaged marking scheme is compatible with Article VIII of GATT is not greatly improved by the case-law stating in no uncertain terms that they constitute trade barriers.

7.7. Co-labelling

Table 7.2 includes the suggestion to introduce a general label 'SME quality inside', where a common label is introduced (like an 'organic' label). This could be done on a voluntary basis and the label could be defined by an SME association. A related idea that is sometimes suggested is to use the existing SME brands for this. The idea is to indicate the identity of the (SME) producer on the label of a product brought to the market under the name of another business, the (private) label holder. This can be christened co-labelling.

In current EU food legislation, some examples exist of legislation requiring the labelling of information relating to the make-up of the chain the food in question has gone through. These are in health marking (indication of the slaughterhouse) and (GMO) traceability.

Since 2002 the Dutch consumers' organisation Consumentenbond has been lobbying for introduction of a chain transparency act (Wet Openbaarheid Ketens: WOK). This idea seems to be gaining support from politicians and consumer NGOs in other countries. The act as proposed by the Consumentenbond would give consumers the right to demand from businesses information on social aspects of their product. Social aspects often relate to the history of the product in the supply chain.

Co-labelling can be perceived from two different perspectives: the perspective of businesses producing their own brands and producing for private label holders as well, and the perspective of businesses producing only for another business' label. The former may not be overly pleased by chain transparency as the private label may be perceived as undermining their own label: premium brand quality at private label price. Given the choice in a voluntary scheme, they will probably choose not to be mentioned. Businesses on the other hand that depend on a private label will not be in a bargaining position to exercise their rights under a voluntary scheme as the private label holder is likely to prefer to do business with operators not invoking their rights.

LIABILITY AND ECONOMIC ASPECTS OF CO-LABELLING

Food businesses can be held liable if they bring unsafe products to the market. Discussions surrounding the introduction of traceability show that some fear existed that this would lead to increased liability risks. There are two sides to this issue. For businesses upstream of the food production chain, indeed this risk will increase. For businesses downstream the situation is the reverse. If they can indicate the business that caused the problem, it is easier for them to pass on liability. Under product liability law, the retailer can pass on liability to the producer by informing the consumer of the producer's identity. This is not possible for the private label holder. The business that has its name on the label is the producer within the meaning of product liability law. If, however, the manufacturer is separately mentioned on the label it is conceivable that the consumer will choose to address the manufacturer instead of the brand holder or will accept to be redirected by the brand holder to the producer.

The increased visibility that results from co-labelling 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), the level of transparency of product characteristics to the consumer and the number of suppliers with the same or similar products to choose from.

In the 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 (see Table 7.3), a distinction has to be made between the 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 others) 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;
- the SME makes a commodity or makes a differentiated product; a commodity is defined as a homogeneous product which is produced by many suppliers.

In cases of a commodity, the net effect of co-labelling will most likely be negative: administrative burdens will increase, while the advantages will be 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, if co-labelling works, SMEs are in many cases also strong enough to create competitive advantages themselves (unless, for example, management and capital markets are not working).

TABLE 7.3

PRODUCT CHARACTERISTICS AND POLICY OPTIONS FOR 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. Reduce information requirements to limit scarce resource usage.
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. Reduce information requirements to reduce scare resource usage. No need for co-labelling. Reduce information-processing costs.
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. Focus on reducing all administrative burdens.
SME'S PRODUCT IS SOLD UNDER PRIVATE LABEL	Commodity	Reduction of costs via process innovations; natural tendency of upscaling; competition will reduce the number of SMEs; administrative burdens will stimulate the enrolment of this process; focus on reducing all administrative burdens.
SME'S PRODUCT IS SOLD UNDER PRIVATE LABEL	Differentiated product	Craftsmanship of SME is hidden and premium not collected. Co-labelling can rearrange 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.

The effects of private labels on administrative burdens, looking at the EU as a whole, are expected to be positive, because of upscaling. With respect to the economic effects of private labelling in general, Bergès-Sennou et al. (2004) make a distinction between the short run and the long run. According 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 [a] private label could well be less positive. The argument is as follows: The development of private labels 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' (Bergès-Sennou et al., 2004).

In the survey for this study, we presented three options to stakeholders:

1. a mandatory system requiring the name(s) of the processor(s) to appear on the label of the end-product;

2. a voluntary system giving processors the right to demand mentioning their name on the label;

3. a voluntary system giving the end-producer the choice to print names of processors on the label.

None of these models was greeted with much enthusiasm (Table 7.4), although it would — according to our interviewees — lead to more sales, profits and exports (4.4 on a scale of 1 to 7).

TABLE 7.4
OPINIONS ON CO-LABELLING (SCALE 1–7)

		Mandatory to print name on package	Voluntary for processor to claim the name on the package	Voluntary for end-producer to print the name on the package
Number	Valid	28	28	28
Mean		2.89	3.25	3.03
Standard deviation		2.11	2.26	1.94

1 = totally disagree; 7 = totally agree.

These empirical results as well as the discussions with stakeholders (see Section 7.2) support our decision to restrict the impact assessment to the options suggested by the European Commission in the tender.

7.8. Impacts of options

There are different categories of stakeholders, inside and outside the EU, that are affected. The main categories are the consumers and the food industry (producers) within and outside the EU. Other categories that are potentially affected are farmers, citizens, workers, taxpayers, retail and service suppliers. We consider these categories only marginally and only inside the EU. The main potential impacts for the categories mentioned are identified in Table 7.5.

TABLE 7.5
MAIN POTENTIAL IMPACTS PER CATEGORY

Category	Potential impact of food origin marking
EU FOOD INDUSTRY	Higher food sales in the EU Higher food sales outside the EU More administrative burden
EU FOOD CONSUMERS	More differentiated supply with guarantees for EU sourced products Higher product costs and search costs
NON-EU FOOD INDUSTRY	Less export possibilities to the EU More competition in non-EU markets
CONSUMERS OF EU FOOD OUTSIDE THE EU	More differentiated supply with guarantees for products produced under EU law
EU CITIZENS	More environmental problems in case the substitution of imported products with EU products would be high, or export would increase
EU WORKERS	Higher employment or wages
EU TAXPAYERS	Lower costs of the common agricultural policy in case the scheme leads to higher farm prices; higher costs in case the export of products that receive export subsidies increases
FARMERS IN THE EU	More production with higher prices
RETAILERS IN THE EU	More possibilities to differentiate the retail brand by (not) offering marked products (in case it is voluntary) Costs of informing the consumer
SERVICE SUPPLIERS TO THE EU FOOD INDUSTRY	Higher demand for services in auditing, tracing and tracking, marketing and fights against agro-piracy

The economic, environmental and social impacts, using the standard table from the Impact Assessment Guidelines of the Commission (SEC(2005) 791), are discussed in Tables 7.6, 7.7 and 7.8.

TABLE 7.6

ECONOMIC IMPACTS

Economic impacts on:	Key issues
COMPETITIVENESS, TRADE AND INVESTMENT FLOWS	Higher food sales in the EU by EU food companies to those consumers that prefer 'made in the EU' to 'made in a non-EU country'. There is scientific evidence that an origin label can be a cue to influence and divert consumer demand (see Table 4.7). Based on the literature (Chapter 4) we estimate this effect as rather small, as: • this effect is much stronger for 'made in the national Member State' or even 'made in the region' than 'made in the EU'; • the effect of 'made in national Member State' is stronger in some Member States than others; in these countries a 'made in the EU' label might be ineffective by additional voluntary labelling with 'made in the Member State/region'; in the other countries, consumers are most likely to not be very open to both systems of origin labelling; • PDO and PGI arrangements already capture a part of this effect; • a large part of the effect is already captured by voluntary labelling. We found no evidence whether a positive label ('made in the EU') would be more effective than a negative one ('made in a non-EU country'). Positive labels are easier to understand by consumers; negative labels probably work well in case of perceived food safety problems or other turmoil in that country (as the labelling of beef showed in the case of the UK, but also the drop in sales of pork in the case of foot-and-mouth disease although it has no effect on meat consumption in humans). Higher food sales outside the EU by EU food companies to non-EU consumers that prefer 'made in the EU' to products from another origin. This effect is not based on the scientifically proven 'Schooler' effect (Table 4.4) that consumers have a preference for products from their home country, but on the name of the region/country as a positive attribute of the product. This can be a (perceived) quality attribute (like in 'Argentinean beef') or a status attribute (like in the consumption of foreign beers). Also here we estimate this effect as limited: • this effect is probably stronger for 'made in the national Member State' than 'made in the EU'; this is especially the case if the Member State has a positive image for food production (like in Italian/French cheese or cooking in general, Belgian beers); • PDO and PGI and similar arrangements already capture a large part of this effect (like in champagne); • a large part of the effect is already captured by voluntary labelling and branding.
COMPETITION IN THE INTERNAL MARKET	In theory a very successful 'made in the EU' label could reduce competition from non-EU food business operators but, seeing the large number of processors and the growing importance of private labels, there is no reason to think that competition would be hurt by such labelling. Member State labelling, however, could hurt the common market.
OPERATING COSTS AND CONDUCT OF BUSINESS	Labelling leads to higher costs for food business operators. These costs are relatively higher for SMEs, due to scale effects. In cases where only domestic or non-EU products have to be labelled, there will be a differentiation in operating cost between producers due to the law. There will be higher costs (and demand) for services in auditing, tracing and tracking, marketing and the fight against agro-piracy. The retail sector will face the costs of informing the consumer.
ADMINISTRATIVE COSTS ON BUSINESSES	Origin labelling will imply a system of origin certification, which means an administrative cost. This administrative burden is higher for SMEs.
PROPERTY RIGHTS	Origin labelling does not lead to a legal property right but, in an economic sense, EU food processors are given an economic property right to be able to raise more money from their consumers than food processors without the label.

Economic impacts on:	Key issues
INNOVATION AND RESEARCH	Not relevant.
CONSUMERS AND HOUSEHOLDS	Consumers get a more differentiated supply with guarantees for EU-sourced products. Consumers who are willing to pay for this benefit from a wider consumer choice and guarantees of origin. As argued above we estimate this group as limited. Consumers have search costs when making their choice, e.g. time spent in analysing labels. These could be higher with more labels/products. Some consumers (and businesses) already complain that there is too much labelling that creates a confusing jungle of labels. Higher cost of producers will lead to higher food prices. Origin labelling could be confusing for consumers and lead to lower trust in labelling in case the 'made in the EU' label is based on the processing activity that changes the customs code of the product but in which mainly raw materials from outside the EU are used.
SPECIFIC REGIONS OR SECTORS	Regions with regional products that adopted a PDO/PGI label will not benefit much from a 'made in the EU' label, or could even lose some sales that shift to a non-PDO/PGI, 'made in the EU' labelled product. Within the food industry, sectors with consumer products (like dairy or fruits and vegetables) benefit more than sectors that are mainly in commodities or ingredients (like vegetable oils). Also sectors that make a lot of use of brands or PDO arrangements (like beverages: beer and wine) benefit less from a 'made in the EU' label than others. Meat products (beef) are already labelled.
THIRD COUNTRIES AND INTERNATIONAL RELATIONS	Food business operators in third countries will have less export possibilities to the EU and see more competition in their home markets. A 'made in the EU' label and even more an obligation to label imports (that lead to higher operating costs for businesses that export to the EU) therefore face a high chance of retaliation. Third countries will most likely install a similar system. In a stakeholder meeting with experts from the dairy industry in this project stakeholders argued against origin labelling for this reason: third countries could oblige EU exporters to label their goods with a 'made in Member State' (instead of 'made in the EU') label and that would lead to higher costs for exporters working from several EU Member States, irrespective of the labelling in the EU. In case of boycotts in third countries a 'made in the EU' label instead of a 'made in a Member State' label could create larger problems than a situation without labelling.
PUBLIC AUTHORITIES	Costs for communication to consumers of the label and costs for checking the correct application of the rules. The experience with the CE marking on electric gear, electronics and toys to signal that these products comply with European law holds a lesson here: many consumers think that these products are of European origin or have been certified by the government. This lack of understanding implies that consumers take misinformed decisions and that the objective of the marking (driving out less safe products by consumer decisions) is not reached without proper communication on the meaning of the CE label (*). Lower costs of the common agricultural policy in case the scheme leads to higher farm prices; higher costs in case the export of products that receive export subsidies increases. A label has to be marketed/explained to the consumer and label fraud ('agro-piracy') has to be fought. Both will lead to some costs, for the public authorities, that are not seen as prohibitive.
MACROECONOMIC ENVIRONMENT	Not relevant.

(*) Based on an article by Helen Sutcliffe and Birgit Weidel in ***Unternehmen Europa***, No 25, June 2007.

TABLE 7.7
ENVIRONMENTAL IMPACTS

Environmental impacts on:	Key issues
AIR QUALITY	See below.
WATER QUALITY AND RESOURCES	See below.
SOIL QUALITY	See below.
CLIMATE	More environmental problems could arise in case the substitution of imported products by EU products is high, or exports increase. Agricultural production and food production are by definition polluting and especially the livestock industry is held responsible for a large share in the emission of climate gases (FAO, 2007). Replacing imports by EU production reduces carbon miles and emissions of climate gases related to transport.
RENEWABLE OR NON-RENEWABLE RESOURCES	See above.
BIODIVERSITY, FLORA, FAUNA AND LANDSCAPES	See above.
LAND USE	See above.
WASTE PRODUCTION/GENERATION/ RECYCLING	See above.
LIKELIHOOD OR SCALE OF ENVIRONMENTAL RISKS	See above.
MOBILITY AND USE OF ENERGY	Replacing imports by EU production reduces carbon miles and emissions of climate gases related to transport.
ENVIRONMENTAL CONSEQUENCES OF FIRMS' ACTIVITIES	See above.
ANIMAL AND PLANT HEALTH, FOOD AND FEED SAFETY	See above.

TABLE 7.8
SOCIAL IMPACTS

Social impacts on:	Key issues
EMPLOYMENT AND LABOUR MARKETS	Higher employment or wages could be the result of an improved competitive position.
STANDARDS AND RIGHTS RELATED TO JOB QUALITY	Not relevant.
SOCIAL INCLUSION AND PROTECTION OF PARTICULAR GROUPS	Food industry and retail provide more jobs and career opportunities than the average for low educated persons and immigrants. A growth of this industry would be beneficial for inclusion.
EQUALITY OF TREATMENT AND OPPORTUNITIES, NON-DISCRIMINATION	Not relevant.
PRIVATE AND FAMILY LIFE, PERSONAL DATA	Not relevant.
GOVERNANCE, PARTICIPATION, GOOD ADMINISTRATION, ACCESS TO JUSTICE, MEDIA AND ETHICS	A 'made in the EU' label could bring Europe closer to its people.
PUBLIC HEALTH AND SAFETY	Replacing imported products by products made in the EU gives guarantees that production has been done under EU food safety law. In case of serious doubts about safety of non-EU products, however, other measures seem to be more appropriate than labelling.
CRIME, TERRORISM AND SECURITY	Not relevant.
ACCESS TO AN EFFECT ON SOCIAL PROTECTION, HEALTH AND EDUCATIONAL SYSTEMS	Not relevant.

ASSESSMENT OF IMPACTS

The most important benefit usually expected from any form of origin marking is the benefit for consumers who consider a certain origin an asset. Businesses exploit this by investing in their brand reputation. A product originating from the business concerned enjoys a good reputation. Protected designations of origin do the same on a collective basis. In so far as empirical data are available geographical origin mainly appeals to consumers for chauvinistic reasons related to a region or a Member State, not to the EU. This benefit applies to the home country only. Businesses are free to mention the state of origin of their product.

Compliance with origin rules entails significant transaction costs for businesses which reduce both trade volumes and gains from trade (Lang and Gaisford, 2007).

Origin rules have the potential to act as an instrument for protectionism in two related ways (Lang and Gaisford, 2007). First, stricter rules of origin typically reduce the extent of new trade creation in final goods between member countries within a free trade area. Second, stricter rules of origin also lead to greater trade diversion with respect to trade with outside countries in intermediate goods because there are significantly increased incentives to produce intermediate goods within a free trade area so that final goods will meet the origin rules.

Political disagreement sometimes translates into a consumer boycott of products or authorities' restrictions on imports. These may have lasting effects. In the mid-1980s, for example, in the Netherlands high quality in wine was strongly associated with origin in France. After French government agents (DGSE) bombed the Greenpeace ship protesting nuclear tests at Moruroa killing a crew member of Dutch/Portuguese nationality on 10 July 1985, a consumer boycott of French products followed. As a collateral, Dutch consumers 'discovered' non-French wines that to the detriment of France acquired a market share they still hold today. In our previous round of interviews (Wijnands et al., 2007), a Dutch dairy company related that after (EU) rejection in Rotterdam harbour of shrimps contaminated with chloramphenicol, some Asian inspection agencies claimed to find contaminations in Dutch dairy products. The business resorted to supplying its customers from its German branch, thus circumventing the suspicion aimed at Dutch products. As indicated above the mandatory country-of-origin labelling of beef may in practice be perceived as a negative label in this case. Experience with traceability systems shows that the bigger the lot, the bigger the damage in case of a recall. Similarly the introduction of an EU marking scheme may increase the size of the lot affected by negative appreciation of a single Member State's actions.

RISKS AND UNCERTAINTIES

The biggest risk in the policy choice is the issue of retaliation by third countries, especially with an obligation to label at Member State level. In that case, exports would probably not be supported by a label (as most of the effect is already captured by voluntary labels, branding, PDO/PGI) but hurt by the higher costs in price sensitive markets.

The main uncertainty in the assessment has to do with the size of the effect on consumer demand. The scientific literature reports different experiences. In most cases the effects reported are small, but there are exceptions, like the 4.6 % increase in the case of Bavarian beef (Herrmann et al., 2002; see Chapter 4). However, this experience cannot be translated to a 'made in the EU' label. This effect was measured for beef in a chauvinistic region in a country where consumers already have a preference for national produce, at the time of the BSE crises. Above all the example itself demonstrates that most of the effect is already captured by voluntary systems at the regional or national level.

7.9. Comparison of options

Option 1 of the regulation of a wholly voluntary label comes close to what already exists on a voluntary basis (option 4), for EU domestic food products as well as for imported non-EU food products. This means that the commercial value would be very low, and would not add much to what is now available in geographical identification (PDO/PGI), branding and voluntary labelling with a regional or Member State name. The effect of the option would be that the public administrations incur higher costs for the checking of the correct application of rules and informing the consumers on the meaning of the label. It is hard to see how a voluntary system for non-EU food products (option 1(a)) would work assuming that such a labelling would suggest that these products are of a lower quality (in the sense of produced under EU environmental and social standards). Overall, it is questionable if this option 1 would increase the competitiveness of the European food industry.

An obligatory system (option 3) for EU products and for imports would lead to a higher administrative burden and higher operational costs for food business operators, with SMEs disproportionally hurt. Although the system would be legal in the WTO framework, there is a high risk of retaliation by third countries and, in case this were done at the Member State level, this would hurt multinational companies that export from different EU countries. This suggests that such a system should only be put in place in consultation with trade partners, for instance to address consumer concerns (for example, in South Korea regarding American beef), in a WTO agreement for a large opening up of markets for international trade. Such a system would increase the costs for public administrations to check the correct application of the rules. As most of the origin labelling effect, also in third markets, is already captured in voluntary labelling, the commercial value of such a system is rather limited. Consumer concerns seem to be a stronger argument than improvement of the competitive position of the food industry for this option.

In a mixed system (option 2) a voluntary labelling scheme for imported products and an obligatory system for EU products (option 2(b)) comes close to the obligatory system (option 3, see above) with the big difference that the risk of retaliation by third countries is probably low. This is therefore a trade-off between the commercial value (low, as most effects are captured already in PDO/PGI and voluntary schemes at Member State level), on the one hand, and the administrative burdens for industry and the costs for the public administrations, on the other. Especially if the labelling works, costs of compliance checking could be relatively high. There is also a certain risk of consumer deception if the current rules on origin labelling with respect to raw materials are followed. Also in this case, consumer concerns seem to be a stronger argument than improvement of the competitive position of the food industry for this option.

The opposite mixed system (option 2(a)) with a voluntary labelling of marking of EU products and a compulsory marking for imported food products only is legally possible but retaliation with higher costs for exporters is very likely. If retaliation could be ruled out, this option implies higher costs for third-country food business operators, and could improve the competitive position of the EU food industry on the EU market marginally. Imports would be more expensive and this would contribute to inflation.

In conclusion, option 4 (the current situation) is the preferred option, as most of the effects in consumer demand can already be harvested by voluntary labelling and current PDO/PGI arrangements.

7.10. Policy monitoring and evaluation

If the conclusion of the previous section is followed, there is no need to create monitoring arrangements. In case a regulation for labelling is put in place, it would be attractive to create a panel of, for example, 2 500 food businesses in the EU where the effects of policy are measured. This is in analogy of the Agriculture and Rural Development DG's farm accountancy data network, where information from more than 60 000 farms is used to inform policymakers and research. Such a panel would also be very useful to measure the current administrative burden and progress made in reducing it.

8 Policy reflection

8.1. Introduction

In recent years, the EU food industry has become more important in an economic sense within the EU manufacturing industry in total. Recently it also became more important in a political sense. The food industry is often located close to production, for which Europe is well suited, or close to consumption, where Europe is a large market of 500 million relatively rich consumers. With some other industries declining, this has implied that the relative importance of the European food industry in manufacturing (but not in the total economy) is growing. A fair number of world-leading food enterprises are located in the EU. However, the competitiveness of the European food industry is weak compared with the USA and Canada (Wijnands et al., 2007).

This competitiveness can be improved by several strategies. Earlier research (Wijnands et al., 2007) recommended that enterprises exploit economies of scale in the large common European market, to exploit economies of scope (differentiation) based on cultural differences in Europe, and to try to be an innovator in the use of new technologies.

The strategy of high-value products, based on diversity in consumer demands and in products, can be implemented in two different ways: it can be based on innovation or it can be based on the European tradition in high-quality food products. Both ways have their merits in a heterogeneous market. The next two sections reflect on what this research project has taught us regarding these two ways.

With the completion and enlargement of the common market, the European food industry is going through a period of structural change. As the market power of the retail sector is also increasing, this is a very challenging period for many SMEs. Food legislation and regulatory burdens affect all enterprises, but SMEs proportionally more. Section 8.4 reflects on what this study learned regarding the effects of regulatory burdens from food legislation in general and for SMEs in particular.

In addition to efforts to bring food legislation more in line with the policy objective of competitiveness, this study looked at whether additional legislation on labelling could help the food industry, and especially SMEs, to gain competitiveness with high-value products. Section 8.5 reflects on our sceptical findings in this area. This chapter ends with the main conclusions and policy recommendations of this study.

8.2. Innovation

SMEs are often credited as being innovative and responsible for the creation of new employment. Large companies can be rather bureaucratic with built-in resistance to break into innovation activities, although they have economies of scale in R & D. The ICT revolution reinforced the idea of the importance of micro-start-ups and hence SMEs in innovation.

For the food industry this picture is probably wrong. Although start-ups exist, most SMEs are older local companies, with second- or third-generation family management or a cooperative structure, which are resource poor and not involved in innovation at all.

This study revealed, for the dairy sector, that both pictures are too extreme. Large companies can be very innovative and SMEs have a fair share of the innovations in this sector.

Another interesting result demonstrated by our analysis is that it confirms that a part of the innovation comes from collaboration with other industries: packaging and ingredient suppliers play a major role. Such companies are able to introduce innovation rather quickly with several companies in a sector, including SMEs. This results in fast gains for the consumer.

Food law is biased towards process, organisational and marketing innovation. Product innovations are not encouraged. This research again shows that product innovative companies in particular are dissatisfied with the content of food law. Time-to-market of new output is long, costs are relatively (compared with the USA) high, and procedures are not transparent. Legal prescriptions are scattered and a comprehensive up-to-date overview is often lacking.

The role of collaboration between enterprises in innovation suggests that policy support for experimenting with open innovation and for bridging activities between different levels in the food chain and within industrial districts (food valleys, poles of competitiveness) could make sense.

Our findings suggest that innovation plays a bigger role in the UK market than in, for example, the German or Mediterranean markets and we think that this is influenced by the retail structure in the UK. If supermarkets compete on quality, this induces innovation with suppliers. However, as an expert meeting revealed, some dairy experts challenge the finding that the UK dairy sector itself is innovative. They agree with the idea that retail, packaging and ingredient suppliers are driving innovation, but they do not see the UK dairy companies themselves as very innovative. There could be a reporting bias in trade journals, not only due to language, but also because product innovations in the business-to-business market tend to be underreported.

Innovation can become a licence to supply the shelves of the retailer. In such a situation the gains of innovation will not end up in rents (extra profits) with the innovator but will quickly be transferred to the retailer or the consumer. In oligopolistic markets or markets with a strong consumer preference for hard discounters with low prices, price wars are to be expected (Vorley, 2007). If high-quality products and innovation are preferred above price-oriented markets, but are under threat of concentration in the retail sector, this might have implications for competition policy.

8.3. Traditional quality

The European food industry has an international reputation for high-quality products based on the diversity in the European food heritage. Regional traditions survive in many quality products. European law recognises this situation and guarantees its continuity by origin labelling in the form of PDO/PGI recognition. Although some of the largest food companies are involved in typical products such as camembert or champagne, SMEs are the ones that are active in niche markets based on origin-labelled products.

Organic farming is another example of food products that are perceived by a niche of consumers as having a distinct quality, based on traditional, non-chemical production methods. This system of food production was developed in Europe and supported at an early stage by a legal framework that defined a labelling scheme and property rights.

In recent years, some consumers and food sociologists started to worry about the sustainability of the global food system and argued for regionalisation or even localisation of food production. This counter-trend to globalisation has led to a niche with effective demand for localised food. It is not clear that this needs support from a legal framework comparable to that of organic farming and how this could be shaped — as distance is not a characteristic of the production process but of the sales process.

It is often thought that the food legislation is inflexible towards traditional food products. Our empirical work showed that this thinking indeed exists, but is wrong. Technically the hygiene package holds sufficient flexibility to accommodate traditional small-scale production. Member States' authorities and food businesses are insufficiently aware of this.

Experts in the dairy industry suggested in a workshop in this project that SMEs that produce a PDO/PGI product face difficulties in jointly organising their sales and negotiate with retailers due to (national) competition laws that use a very restricted definition of the market in terms of product (e.g. PDO protected cheese instead of cheese in total).

8.4. Structural change and SMEs

Especially in countries where the retail structure is concentrating or expected to concentrate (like Italy), the food industry is afraid of losing power to the retail sector. And not without reason. Twenty-five years ago it was argued that the big multinational food companies with their 'A brands' would have too much power in the food chain and dictate what we eat, but in reality even they are now under pressure from the buying power of the retail sector. Consumers like to see the retailer as a gatekeeper and retailers develop private labels, partly based on their knowledge of their clients, to support their brand name (Burch and Lawrence, 2007) — and in some cases to stay competitive vis-à-vis the out-of-home market. The products under these private labels are not necessarily of a different quality, even within hard discount formulas.

It seems that the consumer is the winner in this structural change and, from a welfare point of view, it is hard to see that there is an economic problem that needs a policy solution. Of course many SMEs are under threat in this cut-throat competition. They see their company name and label as a brand that determines the value of their company. But in reality brand loyalty can be very low and many consumers easily substitute for a comparable private label product if the supermarket chain is a more attractive place to shop.

A legal obligation for private label holders to co-label the 'brand' of the producer will be a large administrative burden if it is fully obligatory, and ineffective if it is obligatory for the private label holder on the simple request of the producer; in that case, retailers will award contracts to the producers that do not ask to exercise their right. 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.

A general label, saying that a product has been produced by an SME ('SME produced quality product inside'), is at best expensive as the label has to be promoted like a brand, and at most ineffective.

This leaves an SME with four options to cope with globalisation and the restructuring in the European food industry (Cisilino, 2001):

- concentrate on efficient production for a private label instead of staying with a product of the company that has low brand loyalty;
- position the company's brand on quality in a niche (sometimes backed by PDO/PGI) and sell this worldwide through supermarkets or other chains;
- reposition the company's brand in local networks that are gaining popularity as a counter-trend to globalisation, either in the consumer or the out-of-home business-to-business market;
- bypass the supermarket channel by direct sales of the brand to consumers, using up-to-date ICT and logistics suppliers (examples can be found in drinks like wine and in chocolate).

Policymakers who would like to support SMEs in their struggle with structural change should first of all realise that general economic policy, innovation policy and reductions in administrative burdens also benefit SMEs. These policies have the advantage that they are general, do not require very detailed know-how at the policy level and have less risk of being distortive. As many SMEs, also in the food industry, have problems adopting ICT, ICT policy deserves extra attention in the innovation agenda. Research, innovation and pilot projects in this area can help SMEs, agro-logistic suppliers and retailers to find new food distribution formulas that enhance consumer welfare.

In addition to this, it could make sense to support collaboration between SMEs in the food industry and the big retailers. These two sectors have quite different methods of operating and many SMEs are not familiar with the way the large retail chains operate and how they can effectively collaborate, when such chains become important in a region. Spain has some interesting experience in supporting collaboration in special promotional weeks of (regional) SME products, where SMEs can find out how to handle the requirements of supermarkets and their distribution centres, and retailers can learn which local labels are really brands sought by the consumer ([8]).

([8]) Based on personal communication with Prof. L. M. Albisu, Zaragoza.

8.5. Labelling

Labelling provides consumers or buyers with extra information on the product. Labelling is different from branding, where the consumer is willing to pay extra for the (emotional) value of the product. Brands can have a very important effect on the value of a company, although it also costs quite some marketing to support the brand. A label rarely has this effect.

Some generic labels, like organic food or 'Quality from Bavaria', not only inform the consumer about the product but can also distinguish it and therefore improve the sales. For machine tools, 'made in Germany' is such a qualifier.

This study discovered that the effect of a 'made in the EU' label for food would probably not have such an effect, although we were not able to test this empirically with consumers. Within and outside Europe, our food products are more often linked to regions (directly, as in Champagne or Parma ham, or indirectly, as in whiskey) or types of product (camembert). It could be that a 'made in the EU' label could further stimulate exports (especially to non-western countries). But companies will prefer to distinguish themselves on their brand name, PDO/PGI and food safety and quality characteristics. Origin labelling (a 'made in the EU' label) has a counter-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.

National labels ('made in Italy') would most likely have more effect inside the EU than a 'made in the EU' label. This is due to the so-called Schooler effect. It has been demonstrated in empirical research for several products and countries, also within the EU, that if consumers are offered the same product (sampled from one batch) with different labels for their own country and other countries, a certain percentage thinks the home product is better and buys the home product instead of a foreign product. As such labelling is against the spirit of the common market and has in the past received a critical reception from the Court of Justice of the European Communities (see the Q & S case), it would be strange for the EU to oblige Member States to introduce this. It could also lead to confusion for consumers in the case of import products that get a relatively small treatment in the home country (like seasoning or cutting), which technically leads to a new product category and can therefore be claimed to have been produced here.

This is also one of the arguments against an obligation for non-EU producers to label their products as 'made in Brazil/Kenya/Vietnam, etc.': it suggests that all non-labelled products are from the EU, but from a consumer perspective that is at best the legal truth, not the perceived reality. If the European food sector aims for a strategy based on innovation and quality, there is not much need to try to keep out 'low-value commodities' (if that is what they are) with the help of such a 'made in a non-EU country' label. However, from a WTO point of view such an obligation is legally possible and other countries try to apply the strategy too, and assuming the costs for those exporters is relatively low, it would not harm the European consumer much. It could, however, harm the food exporters directly in case our trading partners would follow up this European measure by obliging European food exports to label their produce with 'made in the national Member State'. That would imply extra costs, especially for those companies that operate in several European countries. In a workshop in this project experts from the dairy industry argued therefore strongly against such origin labelling.

8.6. Legal issues and administrative burdens

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

In general, there is not a broad preference for co-labelling. Technically there are high impediments if such transparency should be improved by means of labelling.

From the point of view of the competitiveness of the food sector there are several major shortcomings in the EU food legislation. Food legislation has been designed to pursue a limited number of objectives. The objective envisaged in Article 157 of the EC Treaty, to ensure conditions for competitiveness, is missing in this limited number.

Food legislation is too complicated to reach its target audience. Food inspectors and private schemes hold the potential to bridge the gap. Pre-market approval schemes impede innovation. They should be applied only if scientific reasons exist to suspect that a category of food may pose a health risk. Practices in the application of pre-market approval schemes contribute little to maturing the system. Zero-tolerance norms should, both from the scientific and competitiveness point of view, be applied as provisional measures only and, on the basis of further risk assessment, be replaced by more specific levels.

The proposed overhaul of labelling legislation requires substantive reorientation by food businesses. Such a burden only seems justifiable if the project goes substantially further towards solving problems and simplifying legislation than is currently envisaged.

Good administrative practices to enhance food business competitiveness consist of: compliance assistance, deadline discipline, transparency, compliance with legislation addressing administrative authorities, and improved compliance with the duty to give reasons (Article 253 of the EC Treaty; Article 41(2) of the EU Charter of Fundamental Rights).

8.7. Recommendations

'In the longer term they cannot compete on costs but have to compete on quality and innovation,' said European Commissioner Mr Verheugen recently, referring to the EU's new Member States (*The Economist*, 31 May 2008). This is equally true of the European food industry. There is scope for cost reductions by efficiency of scale; with an open European capital market, mergers and acquisitions can and do take place. Policymakers therefore better concentrate on the question of how they can support the food industry in their international competition on quality and innovation.

Policymakers should first of all realise that the general business climate is the most important issue. Our current and previous analysis (Wijnands et al., 2007) on competitiveness shows that, for example, labour productivity is influenced by the general economic situation, including the state of the labour market.

A second issue is access to raw materials. The common agricultural policy hurts the food industry with high prices and, especially, quotas. For the coming years, the energy policy (biofuels) also has an effect on access to raw materials at competitive prices. The case of the dairy industry in the UK shows that it is possible to be competitive with a quota system — in this case, the innovative supermarket environment, foreign direct investment and the flexible, booming economy seems to compensate. And the Italian dairy industry solves the problem by importing cheap materials and exporting more valuable products. But these are exceptions. The loss of world market share in dairy to countries like New Zealand is a direct consequence of the quota system. Some world-leading European companies refrain from extra export from Europe and serve, for example, the Asian market in collaboration with New Zealand. It is true that in a full liberalisation market share will not be regained, due to the fact that for some food products the CAP also stimulates production (to be processed) that would disappear with full liberalisation. It is also true that in that case the food industry would be a smaller part of the then larger economy. But on balance a more liberal agricultural policy might benefit the food industry in the longer term. One big advantage is that productivity at farm level might go up considerably, due to efficiencies in scale (farmers will become bigger with lower cost prices and less transaction costs between processors and farmers). A second advantage is that consumers will be richer and have more spending power.

A third issue for policymakers to deal with concerns the legal issues and the administrative burden. It is an expressed goal of the Commission to reduce administrative burdens by 25 % in 2012. European food law has been rushed in in a crisis atmosphere in an era of food scandals. In principle the system is accepted and favoured above American litigation law, also by businessmen and women. But it seems to be time to make competitiveness one of the objectives of food law. In line with this, a number of changes could be made which are based on our empirical findings and do not seem to be too academic. Box 6.1 repeated the conclusions on the legal issues from the previous study. These were confirmed in this investigation and are still relevant. In Box 6.2 we added the conclusions and recommendations of this study. Many of these concerns and recommendations were also addressed by industry in the working groups of the high-level group in mid-July 2008 in Brussels.

All the policies mentioned have the advantage that they are general, do not require very detailed know-how at the policy level and have less risk of being distortive compared with very detailed policy measures. Many

of them also benefit SMEs more than multinationals, as SMEs benefit more from flexible labour markets than large companies; they cannot invest outside the EU for sourcing or production and they have more problems with administrative burdens than large companies.

Policymakers who further would like to support SMEs in their struggle with structural change could think about innovation policy. Helping SMEs to make strategic choices by improved management, helping them to connect with other companies and research (e.g. in industrial districts or by fostering tests in cooperation between SMEs and retailers) and providing them with resources for innovation projects in food and ICT are all themes that can be explored in a pre-competitive way by European and national innovation policies. In addition, the completion of the single market, especially on services, and access to venture capital might be an issue.

This report argues that all these approaches are more supportive for the competitiveness of the diverse European food industry than a kind of food marking origin system. Many forms of such a system would not add much (other than administrative burden) to existing PDO/PGI labels. They overestimate the usefulness of generic labels in an era of brands and private labels of retailers. A food marking origin system that obliges non-EU countries to label their products as 'made in the specific non-EU country' is the least problematic option for such an origin system, but it could lead to European consumers' misperceptions regarding products that can be labelled as European by a simple treatment like seasoning or a food service preparation. And it could lead to higher costs in exports if trading partners retaliated with similar requirements, especially at Member State level. A mixed food marking system (obligatory for EU products, voluntary for imports) could make sense in order to address consumer concerns in case of a liberal WTO agreement. From the objective of improving the competitive position of the food industry, it would not make much sense as it leads to higher operational costs and an increased administrative burden and not much commercial value (which is already captured in voluntary, regional labels). We therefore recommend not to follow up the idea of mandatory origin marking. Policy actions to promote the competitiveness of the food industry should be concentrated on the issues of access to raw materials, administrative burdens and innovation.

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Appendix

The research team

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Maria Litjens	Legal case study (Chapter 6)
Adeline Merey	Legal case study (Chapter 6)
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