

Technological development. Changes in technology involve both process and product, both of which have a potential influence on the value chain. Many of these process-oriented innovations surround the need for traceability, mentioned earlier.

Product development in the last few years has often been related to biotechnology. Biotechnology has a number of potential influences on relationships within the value chain. First, they potentially add a whole new layer to the value chain, as farmers purchase biotechnologies. Second, the need to provide transparency over the use of these technologies places another burden on all levels of the value chain.

Competition from third country imports on EU Markets and trade negotiations.

According to the latest EU study on the food industry competitiveness in the EU, the EU meat industry faces competition from third countries like Brazil and Argentina that benefit from a comparative advantage inputs in land, feed, and labour. For example, in 2004, the supply price of chicken breast meat imported from Brazil to Germany was 10-15 percent lower than the price of EU producers. Imports place additional pressure on EU producers.

Increasing costs of inputs. Increasing energy prices affect all levels of the value chain. At the farming level, it influences feed prices. For processors, refrigeration and equipment usage cost more. And, of course, increased transportation affects all levels.

2.5 The legal situation

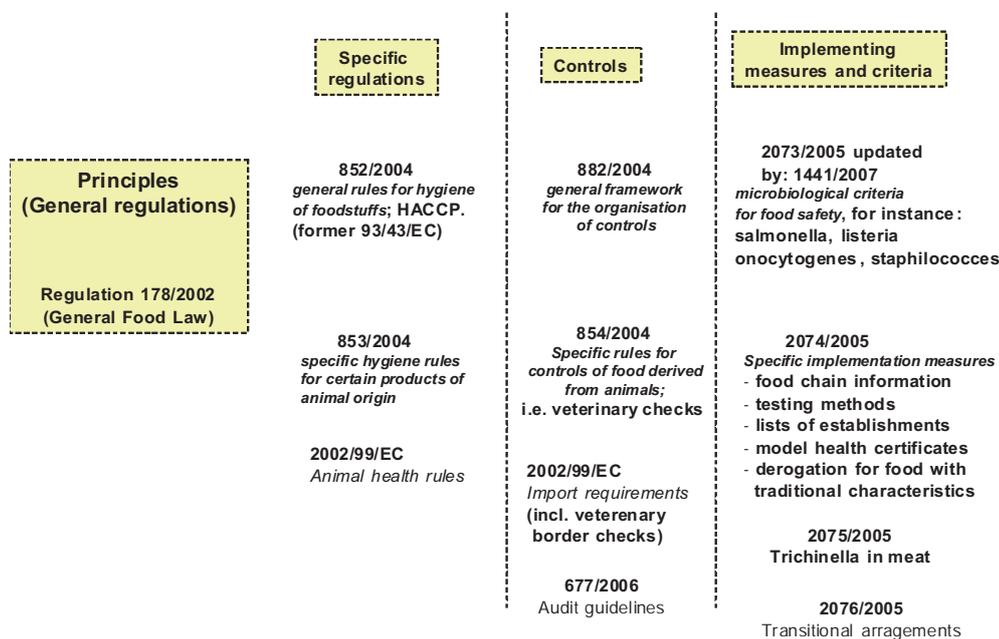
The current legal environment for the food industry results from both complementary and competing lines of law and policy. In the Treaty of Lisbon, a broad range of purposes are defined. They stretch from preserving a well-functioning internal market to consumer protection, social development, and protection of human rights (OJ C83/2010).

Regulatory activity regards, among others, the creation of a system of Food Law (see extensively: Van der Meulen and Van der Velde, 2008). It is founded on the General Food Law (GFL, regulation (EC) 178/2002) as well as of Competition Law (TFEU Title VII, ch. 1 – rules on competition) that aim to create a level playing field and foster consumer interests.

The installment of a European (Economic) Community from the 1950's onwards had as a principal aim to remove barriers for and sources of unfair competition. To enhance competition, transaction costs and other tariff or technical barriers should be removed. The occurrence of several food safety crises (of which the BSE-problem has had the most impact) has leveraged the attention to food safety, hygiene and control of the food supply chain (Article 17 GFL). It led to the enactment of the General Food Law (178/2002). This contains general principles for food safety and has established the European Food Safety Authority as well as a Rapid Alert System for Food and Feed.

The GFL has sparked a continuous stream of regulatory activity. For the pork and poultry industry the 'hygiene package' included in regulations 852/2004, 853/2004 and 854/2004 are of special importance. A summary of key results of this regulatory activity which is relevant for meat supply chains is included in Figure 2.4. below.

Figure 2.4 Key components of EU-law with respect to Food Safety



Source. European Commission, Guidance Document (I), 2006; Foreign Agricultural Service <http://useu.usmission.gov/agri/foodsafes.html>; Food safety regulation on http://ec.europa.eu.food/biosafety/hygienelegislation/comm_rules_en.htm; Guidance Document (II), 2009; included in: Bremmers et al., 2010.

The HACCP-requirements laid down in Regulation 853/2004 (as well as 852/2004) extensively impact meat supply-chains, leading to changed management structures and increased cost burdens for processors (Bremmers et al., 2010a). The General Food Law (GFL) — and food law²⁷ in general — affects the entire supply chain ‘from farm to fork’. Specific requirements induce costs along different parts of the value chain, which may increase selling prices depending on chain and market configurations.

Food law aims to protect consumers based on the assumption that many characteristics of food — especially its quality and safety — cannot be objectively observed. Food is therefore called a ‘credence good’. Quality assurance is required to provide valid information to consumers (compare: Heyder et al., 2010). The GFL protects consumers against risks due to incomplete scientific knowledge. In this respect, the precautionary principle laid down in Article 7 GFL takes on a disputed and thoroughly questioned place (Trouwborst, 2007). It allows safety measures to take effect without full scientific proof. In general, risk analysis, risk assessment, management and communication should be based on scientific evidence (for instance: Szajkowska, 2009; Mulder and Hupkes, 2007). The precautionary principle overrules this logic. As stated in Article 6 GFL: ‘where it is not appropriate to the circumstances or the nature of the measure’. The precautionary principle could be seen in the early stages of the BSE-crisis.

²⁷ The General Food Law defines the concept of food law as: ‘food law’ means 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 (Article 3(1) GFL).

EU-food law is not static, but dynamic of a kind. It will expand further due to an increasing desire to protect and control consumer interests (Article 8 GFL) and to regain consumer trust after major food scares. Next to BSE, E-coli, Dioxine contaminants, Salmonella and Campylobacter infections have drawn attention to regulatory activity (Knowles and Moody, 2007; Arienzo et al., 2008, p. 23-32; Dwinger et al., p. 632).

Article 14(1) of the GFL states very clearly that unsafe food shall not be placed on the market. At the same time, adjacent and subsequent regulatory requirements aim to prevent and seek sanction against foods incidents. For this reason, traceability systems for food, feed and food-producing animals have been adopted. Although not their main purpose, traceability systems could be used to improve the informed choice of the consumer.²⁸

European food law fosters transparency, especially to allow consumers to be able to make ‘informed choices’ (Article 8 GFL) on issues such as the origin of food, its effects on sustainability, its composition, as well as health characteristics (like, for instance, the publication of nutrient contents of foodstuffs, 90/496/EEC).

The responsibility of compliance with food and feed regulations *lies primarily with the food and feed business operators* (Article 17(1) GFL). This puts the primary and industrial meat producers in a dependent position, as asset-specific investments combined with the short durability of produce, makes them increasingly reliant on long-term relations with their buyers. The burden of compliance most likely stimulates concentration and the development of long-term dependencies. For example, Food Law also fosters the installment of hygiene measures. For the meat industry this requires the development of a HACCP-based system, in concordance with the Codex-guidelines, as well as the implementation of traceability and information storage. Traceability stretches not only upward, but also downward the supply chain.

2.5.1 Impact of EU competition law on the supply chain

Next to food law, competition law influences meat supply chain structures and pricing dynamics. The original goal of the European Communities to guarantee a window of free and fair trade has been supplemented and partly competes with a vast system protecting consumer and other interests. Harmful business practices should be avoided according to Articles 101/102 TFEU. Art. 101 TFEU declares incompatible with the internal market “all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market...”, for instance as in sub (e) by: “the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts”. This is the basic rule on which exemptions are possible. It should be noted that ‘undertaking’ is to be taken broadly in the application of the article. Article 101 TFEU

²⁸ See Dobson et al., 2008, p. 37

not only refers to horizontal, but also to *vertical agreements* — like in Consten SA-Commission 1966 — which have had negative trade or competition consequences in an international context (Berry and Hargreaves, 2007, p. 262; Lence et al., 2007).

Article 101(3) TFEU provides the conditions under which exemptions are granted for agreements between actors in the supply chain which limit competition in the market (Berry and Hargreaves, 2007, p. 278):

- The agreement contributes to better production and/or economic progress;
- It benefits consumers;
- The agreement cannot be substituted for other instruments which come up to the same goal;
- A reasonable amount of competition remains in the market; and,
- The agreement is proportional to the (beneficiary) purposes which are put forward.

The above-mentioned cumulative requirements show that just like food law, competition law generally allies itself with consumer interests. It takes as a benchmark for exemptions the effect of competitive structures on consumer welfare. This can be realised through price cuts, increased productivity, and efficiency. The consumer orientation of competition law may lead competition authorities to largely ignore the detrimental effects of increased concentration in the retail sector on food processing businesses. The fact that concentration has occurred in the final stages of the supply chain where retailers act as “gatekeepers” for access to consumers strengthens their buyer power (Dobson et al., 2003). However, concentration in itself should not be regarded as negative; abuse of market power in international business relations is. In this context it should be noted that many countries have adopted the European system of competition law and implemented it in their own legislation for national competition governance. Some countries have introduced other restrictions for national markets than those which govern international transactions. The diversity of such rules across Europe is a limiting factor in the assessment and comparability of legal effects on price transformation throughout national supply chains.

Excessive market power and its abuse are dealt with under European Law, Article 102 TFEU, in so far as it may affect trade between Member States. Article 102 TFEU states that “any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States”. This abuse can consist of, among other “(b) limiting production, markets or technical development to the prejudice of consumers”. Within this legal context, reference is made to unfair buying or selling prices and the imposition of contractual conditions which intend to distort competition.

While market dominance by big food retailers in itself cannot be classified as an abuse of EU-law, it could have positive but also negative consequences for consumers and/or for other actors in the supply chain, like industry. For example, market power (through private labels, for instance) can influence margins across supply chains. For consumers, private labels can bring advantages in the short run as they put pressure on retail prices. Slee and Kirwan (2007) report that in the UK moves to monopoly are taking hold at the local level as the exercise of buying power drives down prices, and small independent food retailers are driven out. While intense competition in case law often is valued

positive for consumer welfare, leading to short-run price cuts, higher productivity and scale advantages, the long-term effects of market concentration may be heavily underestimated.

Nowadays, meat supply-chains are characterised by hot spots of power, which are thought to be located at the end point of the supply chain. While legally speaking, the number of competitors is important, only the economic effects are taken into account (Gronden and Hertog, 2008). For instance, only if critical resources are monopolised or an actual monopoly exists are there sound legal grounds to intervene.²⁹ From this perspective, slotting fees can effectively create a barrier to market entrance. Slotting fees can make products excessively expensive compared to the price of competing products on the shelf. Intentions to limit access to the market to competitors with slotting fees are hard to prove. A simple defense would be the argument that fees are legitimised because of incremental and opportunity costs of the provided shelf-space. Only clear cases of abuse of market power would allow for legal proceedings, like predatory pricing, tie-in arrangements, refusal to supply, or refusal of access to an essential facility (Berry and Hargreaves, 2007, p. 301). As Dobson (2003) summarises, increased concentration can have positive and negative effects: positive effects include improved economics of scale, efficient logistics, investments in new technology, while the discerned disadvantages concern the decline in traditional retailing and greater homogenisation of food.

2.5.2 Product liability and its effect on the supply chain

The primary actor within the supply chain for safeguarding food and feed safety is the processor (Dwinger et al. 2009). If a food or feedstuff can be traced back to the original producer, retailers stay unaffected. If, however, retailers sell under private label, they can be addressed using product liability as an instrument. In that case, the retailer could use contractual agreements or tort law to shift the burden upward the supply chain. It is obvious that in a dependency relationship a contractual agreement will include clauses which result in such a shift. This can have major impact in case of recalls. While the technical execution of a recall in many instances will be done by the retailer, the costs of the operation will possibly be carried upstream in the supply chain. So *ex-post* liability is to a large extent vested on the shoulders of operators upward the supply chain. As a response they will implement hazard control systems to avoid risks or limit consequences of incidents.

As the ultimate consequences of product liability will be borne upward the supply chain, this shift strengthens the positions of retailers and consumers towards producers. If the producers could organise themselves to form a “countervailing power”, their bargaining position in contractual agreements would improve. It would make it possible to negotiate on a fair basis the acceptance of a part of the risk and costs by all the chain partners. However, in principle competition law does not support the creation of a ‘countervailing power’ towards powerful retailers, with the intention to force them to take their share of the burden (see section 2.5.1).

²⁹ See for instance COMP/38.784 Wanadoo España vs Telefónica regarding the use of a ‘price squeeze’ in the Spanish Telecom market, making market entrance almost impossible for competitors.

2.5.3 Specific problem areas

System implementation

As mentioned earlier, processors are required to implement a HACCP-system to protect food hygiene. Likewise, retailers have to comply with the same set of HACCP rules, but the number of critical control points (and therefore the implementation costs) is normally less. In recent years we have seen the emergence of private next to public standard systems. Public standards are set as a response to perceived market failure, while private standards are set mainly for risk and quality control reasons as well as improving transparency and thus reducing transaction costs (Hobbs 2010; Barcala et al., 2010).

The implementation of private standards forms a cost burden for the companies which are involved. Although many price changes find their cause in commodity markets, price moves could also be induced by changes in size and composition of cost prices to which burdens to implement food safety and quality systems (FSQs) contribute. Costs with respect to intangible assets (like FSQs) could be included in the costs per product. Due to the uncertain nature of connected benefits, they could also be administered as losses.

Freedom in the attribution of costs can occur if cost items refer to intangible assets, like quality systems, investments in R&D, or built-up goodwill. It creates the opportunity to push the burdens to future periods by recognising expenditures (like paid goodwill) as assets, or to book immediate losses, instead of including them in product costing. This 'slack' can be used as a cushion to soften the effect of price volatility of inputs or soften the pressure on profit margins exercised by retail organisations. While such cushions have a softening effect in the short run, in the long run their opportunistic use could be detrimental, as costs which should be recovered are no longer reimbursed.

The installment of FSQs is the responsibility of two different regulatory actors: public and private (Hutter and Jones, 2007). They could be used to protect the home market against foreign low cost producers (Gellinck and Khüne, 2004). Both public and private actors can behave in complementary ways, creating hybrid forms of governance (Barcala, 2009). However, in implementing FSQs like Global-G.A.P., BRC or IFS,³⁰ new dependencies without public control are created, which can be exploited to let absorb input price movements upward the supply chain. Such dependencies can result from asset-specific investments in contractual relations (production for a single buyer) and/or long term contracts.

Another consequence of the mandatory introduction in the meat sector of HACCP and other systems for food safety and quality are fixed financial burdens. These may not influence the supply curve and in that case are not reimbursed through price adjustments. In many cases, they are the result of asset-specific investments connected to private (self-) regulation. Despite the advantages connected to agreements like Global G.A.P., BRC, SQF³¹ or IFS in the relationship between producer and retailer, such 'voluntary'

³⁰ Global Good Agricultural Practice (Global GAP), British Retail Consortium (BRC), International Food Standard (IFS).

³¹ Safe Quality Food (SQF).

agreements strengthen the power position of the retailer in the supply chain. This power position is re-enforced because sales, not production, is generally the output bottleneck in meat supply chains. Surplus producer's capacity has no shadow price and will therefore not be priced.

(Non-)transparency

The factual composition of food prices is largely hidden because of firm secrecy and the diversity of applied accounting rules among Member States. Applied accounting rules are diverse because they stem from directives that offer freedom at their inclusion in national legislation (Fourth Council Directive 78/660/EEC and supplementary directives for banks and insurance companies, as well as amending acts). Revealing the composition of food prices would contribute to improving macro- and micro research which now mainly uses aggregate price information as input in econometric models.

There is a need to look deeper into the composition of prices. Price and margin distribution are interrelated and influenced by many factors at different levels:

- at global level, e.g. through price development of commodities;
- at supply chain level, e.g. power distribution and logistics;
- at sector and firm level, e.g. investments in assets and systems, available stocks; and
- at product level, e.g. through the perishability and composition of the product.³²

Within the regulatory system of the EU, provisions have been made to increase transparency of rulemaking, its execution and publication of motives, grounds and effects. However, information of the composition of prices and profit margins is only scarcely available. Such information could be of key importance for sound decision making, especially within the context of competition law.

Several circumstances aggravate the lack of transparency of sources of value added within the supply chain:

- Many companies involved in food supply chains are small to medium-sized and bound to specific vending channels by means of contracts;
- Companies which actually publish their costs and revenues on a regular basis (which are according to EU law *limited* companies) do so in an aggregated way or consolidate their figures with those of the *group* to which they belong; as a consequence, profitability on a product level is not visible. Public scrutiny of pricing anomalies like predatory pricing, price fixing or price squeezes will be hard to substantiate;
- Companies apply costing systems which are firm-specific and aggregate. In other words, application of uniform accounting systems revealing the composition of product prices is not mandatory.

Overall, the information revealed under the present European regulatory reporting framework is limited in terms of its usefulness for price transmission disclosure and research on structural elements of the supply chain: it fosters aggregation and diversity in

³² See extensively: Ben-Kaabia and J.M. Gil, 2007.

reporting. The information is generally financial of a kind and primarily serves the information needs of key financial stakeholder groups.

Other instruments than corporate financial reporting can be considered to unlock information. To reveal the information enclosed in the price at which products are brought to the market *labelling* can be of value. The label information on the composition of foodstuffs (Directive 2000/13/EC of the European Parliament and the Council) provides information which — as a side effect — can be used in the calculation of the nominal effect of price changes, which could be compared with the real impact. In the near future, the present labelling directive will probably be replaced by a *regulation* (as proposed by the Commission in COM(2008) 40), which integrates nutrient with information on food composition and condition. However, the information still lacks the necessary level of detail that would allow one to derive the components of a product.

Detailed information could be useful to assess the effect on cost prices of input price volatility. For instance, the inclusion of information on the weight of separate ingredients included in food that is brought to the market is only mandatory in a limited amount of cases. Examples include reference to an ingredient in the name of the product, picture on the package, etc. The main focus of information on the package is, next to traceability and differentiating products (Verbeke and Roosen, 2009), to enable consumers to make ‘informed choices’.

Labels do not only differentiate, but also homogenise, especially in the case of production under private label. Private labels can hide the origin of the content of a package and the used systems, skills and scarce resources which have been brought in by the intermediate producer.

Cost structure disproportionality

HACCP-implementation in the US meat industry has led to a 1.1 percent increase in total costs, which is observed to be substantial, as 50-80% of the price consists of costs of raw material (Ollinger and Müller, 2003). In general, however, the identification of cost-effects of FSQs is problematic due to unclear labelling and diversity (Gellinck and Kühne, 2007). The importance of cost-based information has been recognised in the Commission’s guidelines on the application of sanctions in case of alleged exercise of market power.

Knowledge of costs and benefits is important from a regulatory perspective since many formal requirements lead to fixed cost burdens which are not included in the structure and elasticities of demand and supply. Capacity usage levels, for instance, could explain the relative power of food retailers towards the processing industry. Spare capacity has no shadow price and thus negotiated prices could — in the short run — drop to the marginal cost level. In that case they do not cover increased fixed costs. This fortifies the position of the retailer, who on legal grounds can ask for measures to prevent hazards from becoming immanent risks, and force the price down to marginal costs, at the expense of the long-term survival of producers and their innovation efforts (Dobson et al., 2003).

Cost price composition, differences and effects of price changes and regulatory activity could be measured using accounting techniques, if detailed information were made

available (Crutchfield et al., 1997; Ragona and Mazzocchi, 2008). It could reveal possible disproportionalities in cost reimbursement by small plants (Roberts et al., 1996). Using longitudinal analysis, it also can identify productivity growth, which affects the producer's share of the retail price (Kuosamen and Niemi, 2009), as well as explain price transfers (compare: Pellényi, 2007).

The basic question therefore is: Why is information on cost structures only scarcely available? A probable reason is secrecy considerations in the publication of financial figures. Firm-specific information could negatively affect the competitiveness of individual firms. Another is the focus on consumer interests in food law after the BSE-crisis. In this respect, it looks as if the internal composition of food prices and the distribution of value added over the supply chain participants are of less importance from a policy perspective than the price level itself and the microbiological specificities of foodstuffs.

Free riding on innovation

The White Paper on Food Safety of the Commission (2000) expresses the ambition to make the European food industry competitive while promoting innovation. Product innovation induces incremental costs which adversely could lead to burdens for producers while at the same time retailers benefit from the innovation activity. For many processors, product and process innovation are permanent necessities, increasing the fixed burdens of these firms.

From an accounting perspective pressure put on the industry by retail firms to stabilise price levels in periods in which sourcing expenses increase may be absorbed at the expense of covering innovation expenditures. This could be the case if there is accounting 'slack' because of the expenditures for intangible assets. R&D-expenditures could be considered as assets and activated on the balance sheet. In doing so taking losses is postponed to future periods. If however uncertainty pertains with respect to the capacities to earn back these expenditures, they should be taken as a loss. Likewise, investments in licenses and patents can be considered as assets if payments have been made to acquire them. The existence of research and development expenditures, which can be considered as either assets, losses, or gradually as costs through depreciation, create the possibility to calculate product costs and set prices in an opportunistic way. The free space in accounting could be used to mitigate the effect of input price movements on accounting profits.

Referring to private labelling it may be posed that the hidden character of innovation at the industry stage of the supply chain may induce behavior which we call "free riding on innovation". This means that benefits of innovation activities upstream in the supply chain—just like of FSQS-implementation or the absorbance of product liability—are harvested by means of 'anonymous' private label products at the final stage of the supply chain.

Consumer centrality

We have described food law and competition law as ultimately fostering the preservation and promotion of consumer's welfare. In this way, the law of the European Union has incorporated consumer concerns in the –from origin- economically oriented community

system. The BSE-crisis marks not only a major turning point in food policy, but also the empowerment of the consumer. It has brought us safer food and stimulated process and product innovation. Supply chain optimisation has created dependencies within the food channels to enhance traceability, quality control and reliability. It also has induced dependencies and concentration in the food supply chains and has made producers (whether it be pork, poultry or any other product) prefer long-term business relations.

On the other hand economic reality is a tendency towards short-term contracting. Adversely, such short term contracts are primarily in the interest of powerful players in the supply chain, as this increases the opportunities to switch from one supplier to the other. This brings the production sectors in a double squeeze: on the one side they are inclined to engage in long-term contracts, to be able to reimburse costs connected to long-term investments on behalf of specific producers. On the other hand, they are confronted with short term contracts which increase the uncertainty. Or simply stated: there are in a very uncomfortable position.

2.5.4 Main observations

On the basis of the previous elaborations the following problem areas can be discerned from the perspective of price transfers within supply chains.

1. Lack of visibility of added value upward the supply chain, especially as a result of private labels;
 - private labels lack the brand name of the producer
2. Private regulation makes producers dependent on retail;
 - specific investments in quality systems will have to be earned back
3. Product liability results in dependencies upward the supply chain;
 - liabilities can be shifted upward the supply chain using contractual agreements
4. Strong position of consumer interests in competition law;
 - exemptions in competition law on agreements if consumer's interest are regarded
5. Lack of transparency with respect to the content of end products;
 - labelling/reporting does not reveal the factual composition of food and its price
6. Limited available information on cost structures of food processing;
 - cost structures are virtually unknown and kept secret
7. Opportunity of free riding on innovation;
 - retailers could benefit from dependency relationships and get innovation for free