

THE BEEF MARKET IN THE EUROPEAN UNION

Working paper no 51

January 1998



THE BEEF MARKET IN THE EUROPEAN UNION

Niels Asger Nielsen
The Aarhus School of Business

PREFACE

This report is a subtask of a project with the title Consumer-led approach to foods in the EC: Development of comprehensive market-oriented strategies. The project is funded by the European Commission through contract number AIR2-CT94-1066. Coordinator of the project is professor Jan-Benedict E. M. Steenkamp from the Catholic University of Leuven and Wageningen Agricultural University. Wageningen Agricultural University is also the main contractor on this project. Associate contractors are: University of Groningen, Catholic University of Leuven, Athens University of Economics and Business, University of Reading and the Aarhus School of Business.

Niels Asger Nielsen

January 1998

EXECUTIVE SUMMARY

1. This report describes and analyses the market for fresh beef in Europe including both supply and demand issues. The report is made on the basis of published and unpublished reports and supplemented by in-depth interviews with industrialists in various types of companies and in different countries. Legal and political issues are also discussed in the report.
2. The consumption of beef in Europe has been stable around 20 kg/head/year since the 1960's with a slightly falling trend. With a steady increase in total meat consumption, this has resulted in a significant decrease in beef's share of total meat consumption
3. As a consequence of the consumers' demand for convenient shopping, butcher's share of total beef sales is rapidly decreasing in Europe.
4. Changes in meat consumption have traditionally been explained by relative price and per capita income, but these economic demand analyses can explain a rapidly decreasing share of the variation in beef consumption.
5. Studies show that beef consumption tends to increase with age; the heavy users are found among middle-aged men. Beef consumption also increases with income and social class.
6. The most important user-oriented quality characteristics determining the consumers' value perception of a piece of meat appear to be fat, tenderness, taste and freshness.
7. The primary production of beef is fragmented in most European countries and the average number of cattle at a European cattle farm is only slowly rising. Two thirds of the cows are suckler cows which goes to show that milk production is in the main focus for most European cattle farmers who get only a small part of their income from beef production.
8. The beef slaughtering industry has become quite concentrated at the national level but at the European level concentration is still small with the largest slaughtering company slaughtering only 3% of the total.
9. Relations between industry (slaughterhouses) and farmers tend to be much looser in the beef market than it is in other agricultural markets, eg the milk market. Cattle markets are still quite important although the share of cattle going through markets is declining.
10. Product quality has been very difficult to control in the beef sector. The cattle supplied for slaughtering is of a very varying quality with regard to important consumer-oriented quality characteristics like tenderness and taste, and the lack of instrumental measures of these characteristics has made the sorting into consumer-relevant quality categories impossible. Recently, schemes have been set up in several countries to produce beef under certain controlled conditions with the aim of assuring a certain quality. These schemes involve participation of all links in the distribution chain.

11. There is very little branding in the beef market. Where fresh beef is not unbranded it is usually branded with national and regional origin. There are only few manufacturers' brands in the market. New product development is very scarce as well.

12. As a consequence of the low degree of differentiation among fresh beef products in the market, the competition at both the level of slaughtering companies and the level of retailers, tends to focus on price.

1. Introduction	1
2. Overview of the European beef industry	2
2.1 Profile of the beef sector	2
2.2 Consumer products in the beef market	4
2.3 The common agricultural policy	5
2.4 The Fresh Meat Directive	6
2.5 The EUROP classification system	6
2.6 BSE	7
3. The demand side: consumer dynamics	8
3.1 Meat and beef consumption patterns	9
3.2 Demographic and socio-cultural influences on meat consumption	14
3.3 Economic explanations of changes in consumption	14
3.4 The influence of consumer preferences	16
3.5 Companies' views on consumption trends and consumer preferences	22
4. The supply side: Structure of the beef sector	23
4.1 Primary production	23
4.2 Beef slaughtering industry	28
4.3 Wholesalers	32
4.4 Branding, advertising and promotion of beef	33
4.5 Product quality	35
4.6 New product development	41
4.7 Competition in the beef market	43
4.8 The role of retail chains	43
5. Conclusions	45
References	49
Appendix	51
Companies interviewed	54
Consumer-led approach to foods in the EU – AIR-CT94-1066	55
Guidelines for interviews in the beef market	55
Interview with a retail chain	56
Interviews with slaughtering companies	59
Interviews with trade organisation	63

1. INTRODUCTION

This report analyses the market for beef in the European Union. The information in this report primarily concerns the EU-12 countries. More than half of the beef consumption in the EU is sold as fresh beef products at the retail level, the rest being used in further processed products or sold through catering outlets. This report will primarily focus on the market for beef sold fresh at the retail level.

The report will analyse consumption patterns and look at various explanations of changes in beef consumption. A complementary analysis of the structure of the beef supply chain will comprise all links from farmers through cattle markets, slaughtering companies and wholesalers to retailers. Such an analysis of the basic structure of the distribution chain is helpful with a view to understanding the use or non-use in the market of marketing parameters like branding, advertising, product quality, and new product development.

Section 2 contains an overview of the European beef market including trends in consumption, production and foreign trade as well as a description of some legal and political issues and of some factors concerning health and food safety, which are of importance to the beef market participants.

In section 3 the beef consumption patterns in the EU are analysed and various factors influencing consumption patterns are considered, including demographic and economic factors as well as the influence of consumer preferences.

Section 4 contains an analysis of the beef sector in terms of structure, competition and marketing strategies. Section 5 concludes the report with a summary of key findings.

A number of interviews with slaughtering companies, trade organisations and retail chains in the United Kingdom, Greece and Denmark have been conducted to support the compilation of information for the report. The interviews have contributed to a better understanding of the market and they have provided validation for some of the information gathered in the report. The areas covered concern market trends, relations between actors in the distribution chain, product quality, new product development, branding, advertising and promotion. Where interviews contained valuable insights or comments which were difficult to summarise in a meaningful way, the answers have been reproduced in smaller print in nearly full length. Some of the data are incorporated in the text. The interview guidelines are attached in the Appendix.

Five interviews were conducted in Denmark, three in the UK and four in Greece. The companies are classified according to size and market. Codes are used in the report to identify respondents. A legenda of codes can be found in the Appendix.

2. OVERVIEW OF THE EUROPEAN BEEF INDUSTRY

In this chapter a broad overview of the European beef sector is given, including a description of some basic conditions which the actors in the market are faced with.

2.1 Profile of the beef sector

In this report the beef sector includes rearing of cattle as well as slaughtering, cutting, deboning and packaging of beef. It could be argued that the beef sector does not include rearing of cattle since it is just an input to the beef slaughtering industry. However, the conditions in primary production and the relations between primary production and slaughtering companies to a large extent determine the qualities of the product offered for final market consumption.

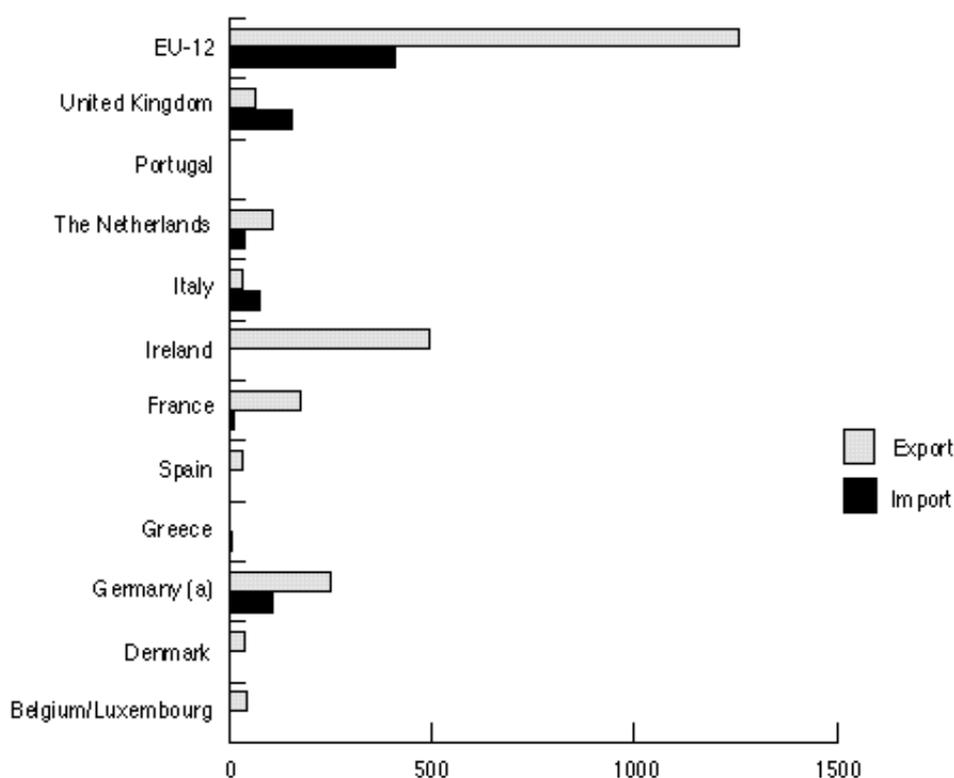
The EU is the world's second largest producer of beef. In 1995, the EU countries accounted for 15% of the world production of beef. After a couple of years with falling beef production in the EU, production seems to have stabilised around 8 million tonnes in 1994 and 1995. The EU as a whole is self-sufficient with beef, and since the beginning of the nineties the Community has been the world's largest exporter of beef with more than 1.2 million tonnes exported in 1993 and 1994, whereas only about 0.5 million tonnes were imported. Almost half of the extra-EU-exports was Irish beef (see figure 1). At the same time large differences in self-sufficiency exist across individual countries. While the production of beef and veal as a percentage of consumption was 982 in Ireland, it was only 31 in Greece. Around 90% of beef and veal imports into mainly the deficient countries in the EU are intra-community trade. (Eurostat-Comext,1995).

Table 1. Self-sufficiency indexes 1995, production as percentage of consumption

	Beef and veal
Ireland	982
Denmark	176
Belgium/Luxembourg	167
The Netherlands	167
France	120
Germany	114
United Kingdom	98
Spain	96
Italy	65
Portugal	55
Greece	31

Source: Eurostat, 1996

Figure 1. Trade in beef and veal of EU countries with countries outside the EU in 1995



Source: The Danish Meat and Livestock Board Statistics (1996), Eurostat-Comext

The development in the EU consumption of beef over the last decades has been very slow. The average per capita beef consumption has been stagnating at around 20 kg/head/year. The consumption of pork and especially poultry on the other hand has increased sharply resulting in beef's share of total meat consumption falling from 38% in 1961 to a mere 24% in 1994.

Beef production in Europe is to a large extent a by-product of milk production. Most of the cattle delivered for slaughter in the Community originate from dairy farms. Two thirds of the cows in the EU are dairy cows and dairy farmers get around 80% of their income from milk production. European beef production is therefore far less specialised than for example pork or poultry production and also far less specialised than beef production in the US where beef is mainly produced on large fattening farms (feed-lotting) producing heifers and steers. As a result of this underlying condition, variations in cattle delivered to a European slaughterhouse in terms of age, feeding, race, weight etc. are large and make it very difficult or impossible for the slaughtering industry to produce beef of a standardised quality as it has been done very efficiently in the case of pork or poultry.

A long life-cycle of cattle and a more labour-intensive slaughtering process are factors that make beef a relatively costly product to make. The concentration in the beef slaughtering industry is increasing with a relatively small number of large companies taking over a still larger share of total slaughterings.

The European beef sector has, like other meat sectors, undergone a significant change of scale at all links in the food chain. The average farm grows larger, the average slaughtering company grows and the average beef retailer gets larger especially because of the diminishing importance of butchers. This change of scale, however, has not altered the mentioned conditions for beef production.

2.2 Consumer products in the beef market

Beef is an important part of the diet in all European countries and the fundamental product types offered at the retail level do not differ very much across countries. An investigation in Germany, the United Kingdom, Spain and France (Baadsgaard, Grunert & Skytte, 1993) showed that minced beef, beef steaks, beef joints (for roast beef), cubed beef and offal are common product types known to consumers in all four countries. Tenderness and taste of a piece of beef varies with its location on the carcass, and a joint, steaks or cubes of beef are therefore normally given a name, indicating which muscle on the animal the product has been cut from for example "T-bone", "sirloin", "fillet", "brisket" etc. These names vary across countries. Sometimes the name of a type of beef reflects its usage in a particular traditional dish for example "Goulash" or "pot-au-feu". Although the basic product types are very similar across countries, there are also product types which are known only in one or a few countries for example the German "Roulade" (a product also known in Denmark) which is a thin, rolled slice of beef. With regard to the colour of the beef there is a remarked difference in preferences between northern and central Europeans, who prefer relatively dark beef and southern Europeans, who prefer beef with a lighter colour.

The frequency with which consumers eat the different types of fresh beef differs across countries. Beef steaks are consumed more often in Spain and France than in Germany and The United Kingdom, and the Spaniards and the French have beef steaks more often than minced beef. In Germany and the United Kingdom minced beef is consumed most frequently. In general minced beef and beef steaks are eaten more often than cubed beef and beef joints. There seems to be a trend away from roasting joints towards the more versatile and convenient minced beef. Figures from the UK (MLC, 1995) indicate that although the market share of roasting joints is diminishing they still represent a large part of the market in value terms. The roasting joints are usually cut from the relatively expensive hindquarter of the carcass whereas minced beef is usually forequarter meat.

Beef is also used as an ingredient in the production of ready meals like burgers, pizzas etc. and to a small extent in charcuteri-products like sausages. The amount of beef which is sold processed at the retail level in the UK seems to be slowly growing (MLC, 1995) and according to the industry interviews, the growing market for convenience food is expected to affect the beef market in other countries, too. According to MLC figures, processed beef has increased its share of the UK market from 18% of the total volume in 1985 to 22% in 1994. The catering market also increased its share from 20% to 24% of the UK market, and share of fresh beef sold at the retail level consequently decreased from 62% to 54%. In Germany, the distribution of beef sales between processed and fresh beef is approximately the same as in the UK, whereas in France the amount of processed beef sold only corresponds to around 6%. Processed meat is much less

important for beef than for pork where around two thirds of the meat sold is processed in both the UK, Germany and France. Although ready meals is a growing market due to the demand for convenience, the quest for fresh and natural products is a factor which probably puts a limit to the potential for ready meals.

2.3 The common agricultural policy

The common agricultural policy (CAP) is the main regulating mechanism affecting agricultural markets in the EU, and beef is no exception. One of the prime objectives which has been driving CAP regulations is to secure a satisfactory and equitable income for farmers.

Market price support systems formed the basis of national agricultural policy in the six founding members of the EC and market support systems remained the predominant policy instrument from 1962, after the establishment of CAP, until the CAP reform in 1992. Market price support systems met the objective of securing farm incomes very well at a comparably low cost to the Community budgets.¹ A system of market protection was established for nearly all farm products based on community-wide “target prices” which were substantially higher than world market prices.

The system of market price support included (and still includes) three basic instruments:

- 1) Import levies, varied according to import price levels, force external producers to sell inside the community above a threshold price. These levies safeguard the Community against fluctuations in world market prices.
- 2) Export refunds, similarly variable according to world market conditions, compensate EC exporters for the difference between the internal community price (usually somewhat below the threshold price) and the lower world price.
- 3) Intervention prices are the trigger for the purchase of EC farm products by community authorities when oversupply pushes Community market prices below predetermined intervention levels. There is a ceiling on intervention buying which, however, can be removed in exceptional circumstances.

In the seventies and eighties, this system came under still larger internal as well as external pressure:

- The budget costs of the CAP increased at the rapid speed of 5.6% p.a. in real terms from 1973-1991 (European Economy, 1994). Additionally, produce surpluses were built up. At the end of 1990 a “beef mountain” of 530,000 tonnes of beef and 600,000 tonnes of dairy products were in public stores.
- At the Uruguay Round negotiations in GATT there were tough and determined demands for changes in agricultural policy in the direction of free trade and less protectionist measures.

¹ Market price support was probably not very helpful regarding other objectives (European Economy, 1994).

The CAP reform which was agreed upon in 1992 and the final GATT agreements in 1993 reduced the importance of market price support and increased the importance of support through direct headage payments (premiums). The most important changes were:

Changes in import levies These levies are converted into tariff equivalents i.e. the levy is set as the difference between the internal price and the world market price in the period 1986-1988. This import levy is to be reduced by 36% over a six-year period from July 1995 when the Uruguay Round took effect.

However, this change is not very important in the beef market because the main part of meat from non-EC countries is imported via bilateral preference agreements at no or reduced tariffs.

Changes in export refunds On a 1986-90 base, direct export-subsidy spending must be reduced, product by product, by 36%, and subsidised export volumes by 21%, over six years from July 1995.

Changes in intervention measures The CAP reform included a 15% reduction in the intervention price from July 1993 until July 1995. The ceiling for normal beef intervention buying is reduced from 750,000 tonnes to 350,000 tonnes in 1997.

Premiums. With the CAP reform the premiums become more important. There are increased male bovine and suckler (beef) cow premiums subject to individual limits per holding and to regional reference herd sizes which, if exceeded, reduce the number of eligible animals per producer. There are also extra extensification headage premiums if a producer reduces the stocking rate.

Through these reforms farmers are thus compensated for losses due to falling prices in the form of increasing headage premiums.

2.4 The Fresh Meat Directive

The EC directive 93/43, also called the Fresh Meat Directive, is a horizontal directive setting general rules of hygiene for food products and methods for controlling the observance of such regulations. This directive has widened the areas covered by previous sectoral regulations (eg Regulations 91/497 and 92/05 for the meat sector) forcing food companies and others to adopt HACCP (Hazard Analysis and Critical Control Points) methods for the control of all processes – from preparation to sale. The regulations in the directive have required slaughtering companies to make investments which some small companies have been financially unable to undertake.

2.5 The EUROP classification system

When an animal arrives at the slaughterhouse in the EU, it is slaughtered and initially cut into two half carcasses. At this point the animal is classified according to a standard obligatory classification system called EUROP. The criteria for classifying cattle into the EUROP classes are specified in EU directives supplemented by national regulations. There are five main classes in the EUROP

standard ranging from E (the best class) to P, and there are a number of sub-classes within each main class. The classification is based on a visual inspection of the carcass, where shape (the distribution of meat on the carcass), and fatness of the meat are judged by a certified cattle-classifier. The classifier is employed by the slaughterhouse and the classification is controlled by national authorities. The EUROP standard is used in the settling of payments with farmers. Some slaughterhouses have developed their own additional criteria for sorting the meat including, for example, colour and veterinary history.

2.6 BSE

A fatal brain disease in cattle, BSE (bovine spongiform encephalopathy) has concerned both producers and consumers almost since it was first detected in 1986 on a farm in Surrey, UK². In 1988, the UK government put a ban on all bovine material being used in food stuffs as this was thought to spread BSE infection. In 1990, when reports of new BSE cases in the UK reached 300 a week, the UK media focused heavily on the disease, and the consumption of beef in Britain dropped sharply. Also in 1990, Germany became the first country to ban beef imports from Britain. In 1992, the number of new BSE cases reached 800 a week, and there were questions raised whether BSE could be regarded as safe for humans, given that so little was known about the disease. In 1994 it became clear that a large amount of vertical transmission of the disease from cow to calf was taking place and the EU finally imposed a restriction on beef exports from the UK, stating that it must be proved that the meat came from a herd that had been unaffected by BSE for six years. Also in 1994 a teenager contracted the rare and deadly brain disease, Creutzfeldt-Jakob Disease (CJD), which was linked to her having eaten beef. In March 1996, it was announced that ten people had contracted a new variant of CJD and eight of them died. This was quickly followed by a complete EU ban on beef exports from the UK. A research group in London showed the new CJD variant to be of the same form as BSE rendering it almost certain that it is derived from infected beef. At the end of 1996, the UK government finally agreed to a huge slaughtering program meant to exclude all cattle over 30 months from the food chain. The program was partly funded by the EU. A large number of measures were introduced in the UK to control BSE, mainly by securing that no bovine brain or spinal cord material enters the food chain at any level, but is properly disposed of. In March 1997 the number of new BSE cases was 120 per week compared to 1000 a week at the peak of the epidemic in 1993. BSE is largely a UK phenomenon where until March 1997 168,053 cases have been reported. 240 cases are confirmed in Switzerland, 202 cases in Ireland, 64 cases in Portugal, 30 cases in France, five cases in Germany, two cases in Italy and one case in Denmark. The total number of new-variant CJD cases in the UK was 16 up to March 1997. It is likely to be some years before reliable predictions on future numbers can be made.

² The figures in this section are based on information provided by the British Ministry of Agriculture, Fisheries and Food (1997).

2.7 Hormone-treated beef

The use of artificial hormones to promote growth in cattle is banned in the EU as are imports of hormone-treated beef. The US claim that the ban is a violation of the rules on international trade because the ban is not scientifically based. The EU claims that the ban is a reflection of the preferences of European consumers who do not want beef treated with hormones. 70% of US cattle has been hormone-treated. The dispute is being settled by the World Trade Organisation.

3. THE DEMAND SIDE : CONSUMER DYNAMICS

All companies in the food chain from the producer to the retailer depend for their existence on the value as perceived by the consumers of the final product. If the consumers do not enjoy eating beef once in a while, there would be no sense in slaughtering cattle, cutting it up, packaging it and sending it to the retailer.

Even though the farmer does not sell directly to the consumer, he depends on the final beef product creating a value with the consumer that makes him or her pay a price for the product sufficiently high to cover the costs of all links in the food chain and preferably a bit more.

A company's sales are of course directly determined by the value perceptions of its immediate customers who do not have to be the final consumer, but the customer's value perceptions must ultimately be guided by consumers in that they determine what can be sold. The consumer is the final judge of the value of a piece of beef.

Consumer perceived value and the costs of creating this value are thus the keys to competitive advantage. A company or an industry that is able to create more value in the eyes of the consumer than competing companies or industries, or is able to create the same value at a lower cost will have a competitive advantage. An understanding of the factors determining the consumers' perception of a product's value and cost is thus of crucial importance to the choice of marketing strategy.

Figure 2.A model of consumers' value perception

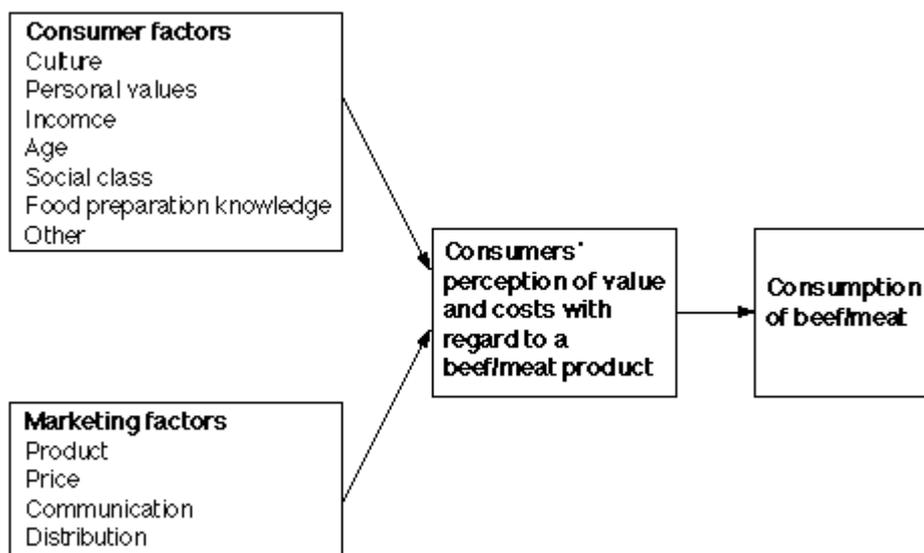
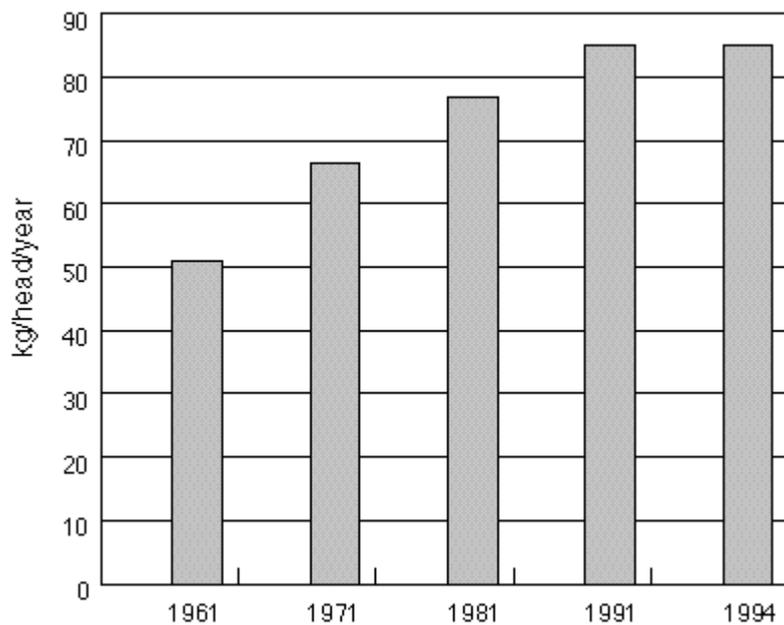


Figure 2 shows that consumer characteristics and marketing factors both influence the consumption of meat through consumers' perception of value and cost of consuming the meat product. In the presentation of European consumers' behaviour with regard to beef we will consider all the aspects of the above model. In the next section we will look at some changes in the consumption patterns with regard to beef and other meat types that beef competes with. Then we will focus on demographic and socio-cultural explanations of beef consumption. Economic explanations of the changes in meat consumption will be the topic of section 3, and in section 4 we will look at the influence of consumer preferences on beef consumption patterns. Finally in section 5 companies' views on consumption trends and the preferences of consumers are reported.

3.1 Meat and beef consumption patterns

The consumption of meat in the European Union has been on the increase for the last 35 years (see figure 3). Whereas the average consumption of the four most important meat-types³ in 1961 was 51 kg/head/year it had reached 85 kg/head/year by 1994. Since the early nineties meat consumption seems to have stabilised though.

Figure 3. Average per capita meat consumption in the EU-12

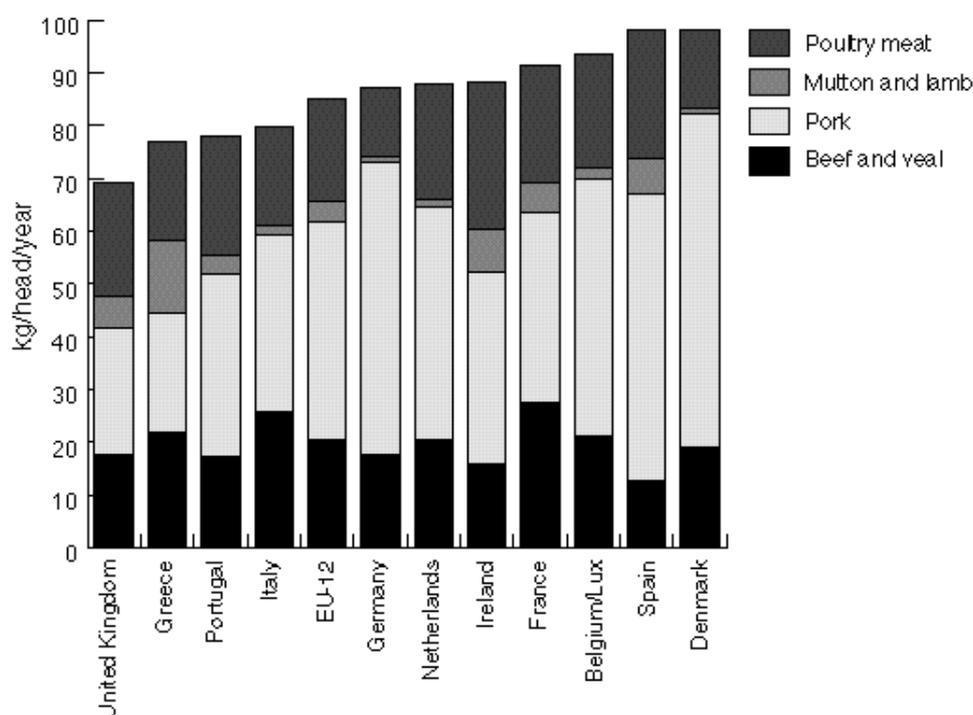


Sources Bansback, 1993 and Eurostat, 1996

In Figure 4 it is shown how meat consumption is distributed on the four most important meat types in the EU countries. The figure shows that total meat consumption does not differ as much between countries as do the different meat types' share of total meat consumption. Whereas mutton and lamb consumption is almost non-existent in Denmark and Germany, it holds a significant share of meat consumption in Greece.

³ Pork, beef, poultry and mutton and lamb account for more than 90% of meat consumption in the EU. Other meat and offal accounted for 9% of meat consumption in 1994.

Figure 4. Per capita consumption of four meat types in 1994



Source: Eurostat, 1996

Table 2 shows how total meat consumption has been developing over the last 35 years. The levelling out between countries is quite remarkable. The low-user countries have caught up with the high-user countries and it is worth noting that the average per capita meat consumption in the United Kingdom was the highest among the 12 countries in 1961 and the lowest in 1994. Four countries, Spain, Greece, Portugal and Italy more than doubled their consumption of meat per capita. The Spaniards consumed more than four times as much meat in 1994 as they did in 1961 and are now very close to taking the lead in meat consumption.

Table 2. Average per capita meat consumption

kg/head/year	1961	1971	1981	1991	1994
United Kingdom	68.1	70.6	69.0	70.4	69.2
Greece	22.6	47.4	65.9	70.9	76.8
Portugal	24.1	35.6	50.4	66.9	78.0
Italy	29.3	53.0	69.9	78.9	79.7
Germany (a)	62.3	80.7	91.4	90.3	87.2
The Netherlands	47.2	58.2	71.7	83.9	87.7
Ireland	54.3	71.4	80.2	86.2	88.3
France	66.1	77.0	89.2	94.4	91.3
Belgium/Lux	56.9	70.8	85.0	88.6	93.5
Spain	21.2	39.7	65.8	92.7	98.1
Denmark	55.2	55.1	73.5	97.6	98.2
EU-12	50.8	66.3	76.9	85.1	85.1

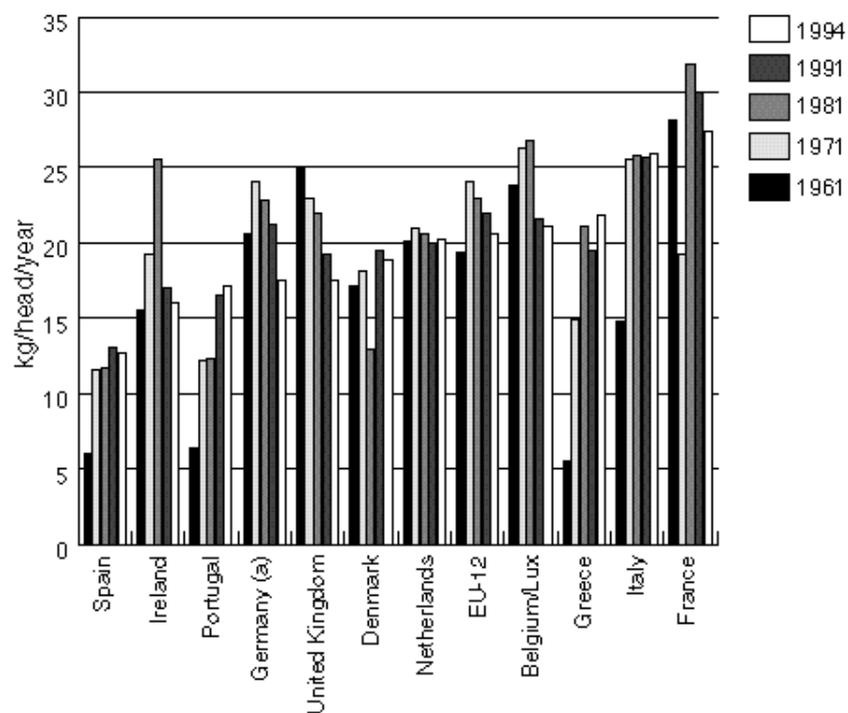
Sources: Bansback, 1993 and Eurostat, 1996

Beef consumption patterns in the EU

The stable average per capita beef consumption in the EU of around 20 kg per capita per year since 1961 (see figure 5) conceals wide fluctuations in individual countries. Greece, Portugal, Spain and Italy have increased their consumption of beef whereas consumption in other countries: The United Kingdom, Germany, Belgium, and France has fallen. Since the seventies there has been a tendency of slightly falling consumption of beef per capita in the EU taken as a whole. When British scientists in March 1996 made it clear that there is a likely connection between consumption of BSE infected beef and contraction of the deadly Creutzfeldt-Jakob disease, beef consumption plummeted and according to a September 1996 forecast⁴, the average consumption of beef per capita in the EU will decline by 11% and reach a mere 18.2 kg in 1996 – the same level as in 1961.

Beef's share of total meat consumption has diminished significantly since 1961 as shown in figure 6. In 1961 38% of the total meat consumption was beef, in 1994 it was only 24%. The decline has been to the advantage of pork and especially poultry. The share of poultry has risen from 11% in 1961 to 23% in 1994. Pork reached a share of 48% in 1994 from a level of 43% in 1961. The consumption of mutton and lamb fell from 7% in 1961 to 5% in 1994.

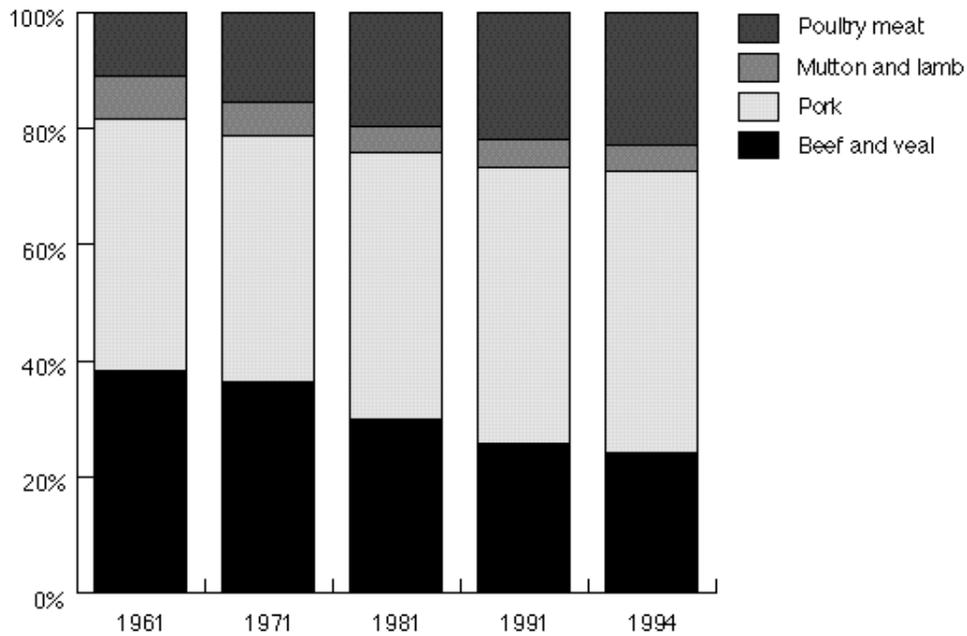
Figure 5. Beef consumption per capita



Sources: Bansback, 1993 and Eurostat, 1996

⁴ The Danish Beef and Livestock Board Statistics, 1996

Figure 6. Meat types' share of meat consumption in the EU-12

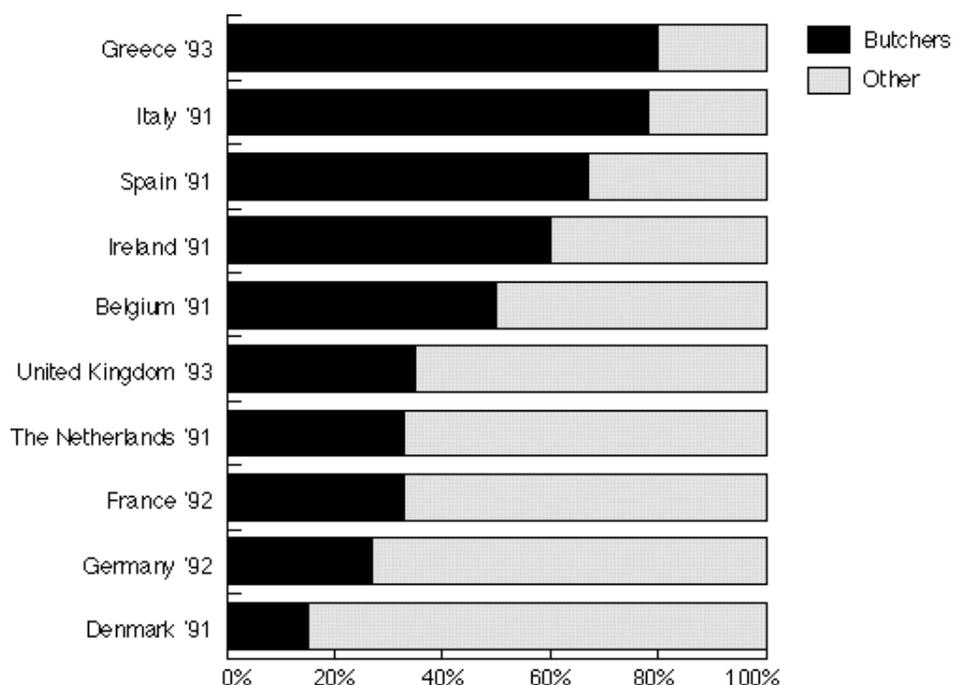


Sources: Bansback, 1993 and Eurostat, 1996

Point of purchase

In recent years we have seen changes in shopping habits, with the requirement for the convenience one-stop shopping leading to increasing dominance of hyper- and supermarkets (EIU retail business, 1995). Although the meat sector is different from other food sectors in that the supermarket share has been comparatively low, the trend is affecting the traditional butchers' share of beef sales. In the United Kingdom, butchers' share of retail sales of beef was 61% in 1980 (EIU). By 1990 the share had fallen to 39% and in 1993 the share was only 35%. A study in the UK has shown that consumers regard supermarkets as more convenient and more hygienic whereas butchers are seen to give better advice, to be more friendly and to sell fresher meat (MLC, 1995).

Figure 7. Butchers' share of beef sales



Source: Euromonitor, 1994

Changes in the importance of different cuts of beef

A national food survey in the United Kingdom (EIU Retail Business, 1995) has measured the purchases of different cuts of beef in 1989, 1991 and 1993. Table 3 is based on the results of the survey.

Table 3. Beef product types' share of the UK market by volume 1989-1993

	1989	1991	1993
Joints	29.7	28.1	24.6
Steaks	38.2	34.2	34.4
Minced	31.7	37.2	40.0
Other	0.5	0.6	0.9

Source: EIU Retail Business, 1995

Minced beef has increased its share of the total beef volume sold, probably as a result of its lower price and of its versatility in contemporary dishes. The increasing popularity of cooking sauces, especially pasta sauces is believed to be a major reason for the increase in mince's share of beef sales. An explanation of the decreasing popularity of beef joints could be the lack of convenience of large-size joints which do not fit into the lifestyles of especially the growing number of one or two person households.

It should be noted, however, that since the latest BSE crisis experts have made recommendations to avoid minced beef in order to minimise the risk of being exposed to infected beef. This piece of advice which has been generally communicated through the media has probably caused the minced beef market to decline relatively to beef joints and steaks.

3.2 Demographic and socio-cultural influences on meat consumption

The influence of age and gender

As panel study conducted by Taylor Nelson in the United Kingdom in 1994 (MLC, 1994) compared different age groups' share of total beef consumption with their share of food consumption in general. It turned out that young people under 16 and older people over 65 tend to consume less beef relative to other foods and that consumers who eat a lot of beef compared to other foods should be found in the age groups: 17 to 34 years and 35 to 64 years. According to an NFS study in the UK from 1993 (EIU Retail Business, 1995), young people under 25 eat 40% less beef and veal than the national average, and according to this study, the heavy users are found among people in the age group of 45 to 64. According to both studies women tend to consume less beef than men. A study by LEI (1986) in Belgium shows that beef's share of the total meat consumption tends to increase with age perhaps due to older people's more traditional eating habits.

The influence of income and social class

The NFS study in the UK showed that consumption of beef tends to increase with income and social class. The LEI study (1986) in Belgium distinguished between blue-collar, white-collar, self-employed and non-active consumers. This study showed that general meat consumption is higher among the self-employed and the non-active population, and that beef's share of meat consumption was significantly lower among white-collar workers than among the other groups.

Another demographic trend with a potential for changing consumer preferences is the increasing number of women in paid employment, a development which creates time pressure on families, making them less inclined to buy for example joints of beef that are time-consuming to prepare (Mintel, 1994). Growth in the number of single or two-person households that will demand smaller cuts of meat will also affect the demand for large beef joints.

3.3 Economic explanations of changes in consumption

The consumption level of meat has traditionally been explained by economic demand analysis. In such analyses the demand for individual meat is explained by: consumers' income, the price of meat in question, and the price of other meat types, ie relative price. The consumers' value perceptions (eg tastes and preferences) are assumed to be fairly unchanging.

Bansback (1995) has performed such analyses with the aim of determining the relative importance of price and income factors versus other non-economic

factors. He was looking at beef, pork and mutton/lamb consumption in the EU from 1955 to 1994. He based the model on simple demand functions measured at 10-year periods over the 40-year data set. The demand functions equate changes in the products' own prices, relative prices, and per capita incomes to changes in consumption. The change in consumption level between any two years is thus explained by these three factors, by shifts in the demand curve, and by error terms. The last two factors represent the unexplained change in consumption.

Table 4. Per cent contribution to the explanation of beef and veal consumption change

	1955-79	1975-94
EU-12		
Price and income	95	68
Unexplained	5	32
France		
Price and income	80	60
Unexplained	20	40
Germany		
Price and income	81	69
Unexplained	19	31
Italy		
Price and income	82	47
Unexplained	17	53
UK		
Price and income	73	55
Unexplained	27	45

Source: Bansback, 1995

Bansback's results show that price and income factors explain a lower proportion of the changes in the overall beef consumption level in the period from 1975-94 than they did in the period from 1955 to 1979. For all four countries as well as for the EU as a whole, the changes in beef and veal consumption that are not explained by price and income factors have risen. Bansback performed the same analyses for two other meats namely mutton/lamb and pork and found the same pattern.

For the whole 1955-1994 period, Bansback found a close relationship between total EU meat consumption per capita and per capita income.

With respect to the ability of relative prices to explain market shares of individual meat types Bansback (1995) found that rising beef prices relative to other meat types could explain 75% of the fall in beef's share of total EU meat consumption. There are several explanations of the relatively expensive beef prices. Firstly, market price support has kept prices up. Secondly, the restrictions in the supply of cattle caused by the imposition of milk quotas has held prices up. Thirdly, the fact that beef production is largely a by-product of milk production has removed focus from beef production and slaughtering resulting in an industry which is far less efficient than, for example, the pork industry.

It can be concluded from the above that factors other than price and income are becoming much more important and that traditional economic demand analysis is not sufficient to explain changes in meat/beef consumption. And even if income and price do explain part of the variation in the aggregate demand level, this kind of analysis does not say anything about consumers' evaluation of any specific beef product. It does not give any information about consumers' preferences regarding, for example, taste, tenderness, colour and healthiness of a piece of beef.

3.4 The influence of consumer preferences

Although relative prices apparently can explain a large portion of the changes in overall EU beef consumption, they cannot explain the growing market share for poultry. Poultry's market share is growing despite of the fact that relative poultry prices have risen since 1970. An explanation for this development which is close at hand, is consumers' health considerations. Consumers choose the leaner poultry meat because animal fat has been connected with coronary heart diseases, obesity and cancer. Supporting this explanation a study by Richardson, Shepherd and Elliman (1993) found that consumers were inclined to avoiding red meat (not white meat like poultry) when confronted with a hypothetical advice to lower saturated fat intake which has been found to be a contributing factor to coronary heart diseases. Related to this finding, a pan-EU survey of consumer attitudes towards foods, nutrition and health involving approximately 14.000 respondents in the 15 member countries (IEFS 1996) shows that 17% of consumers when asked to describe "healthy eating" in their own words mention "eating less red meat and more fish and chicken". In the same survey "eating less fat" was mentioned most often, namely by 48% of respondents. Another explanation put forward by Anderson and Shugan (1991) is that the poultry industry has been able to meet the growing request for convenience products to a much larger extent than for example the beef industry. This explanation is also mentioned by the representative from the Meat and Livestock Commission in the UK. According to this representative, the beef industry has relied on the relatively expensive, but probably also inconvenient hindquarter cuts, large roasts particularly. These roasting type cuts do not fit very well with the way demographics in Europe changed, he says. Smaller family units, changing eating occasions (family members eating at different hours) and changing eating styles are trends that reduce the demand for the large roast type meat.

Value perceptions of consumers

Nine thousand European consumers were asked about the three most important attributes of an ideal food product (Spitters, 1993). The attribute mentioned most often was "healthy" which was mentioned by 63% followed by "no harmful substances" (57%) and "natural" (53%). Attributes like "tasty" (18%), "value for money" (17%) and "not expensive" (7%) were apparently not as important. This result indicates that a consumer's first concern when buying a food product is that it is not detrimental to health. All other attributes like taste and price are secondary requirements. The recent BSE crisis on the beef market illustrates that fact. Consumers reject a product if they believe that there is the slightest chance of contracting a deadly disease by eating it. Of course, this is an abnormal situation since concerns for health will normally be of a dietary sort and as such balanced against concerns for a good taste, low price etc.

But what then determines consumers' evaluation of a piece of beef? Most consumers probably go by such characteristics as tenderness and taste. But what about health and status? What role do these factors play in relation to the others, and do they depend on the consumers' nationality, and, within a country, on the consumption situation? Furthermore, which specific characteristics of the product do consumers focus on in judging tenderness, taste and healthiness? Tenderness and taste can only be judged after the meat has been eaten, and depend on a lot of other factors than the meat itself – mainly the way it is cooked. Healthiness might never even be directly experienced. Most consumers are not experts as far as meat is concerned, so they have to focus on a few concrete product characteristics in the hope that these have some connection with the desired, more abstract characteristics. A lot of consumers think excessively fatty meat is intrinsically unhealthy, or at least unappetising, but what does this say about the taste? Marbling contributes to tenderness (up to a point), but does the consumer know this? And what influence does the colour of the meat have on the consumer's evaluation?

A cross-cultural study on consumer value perceptions with regard to beef

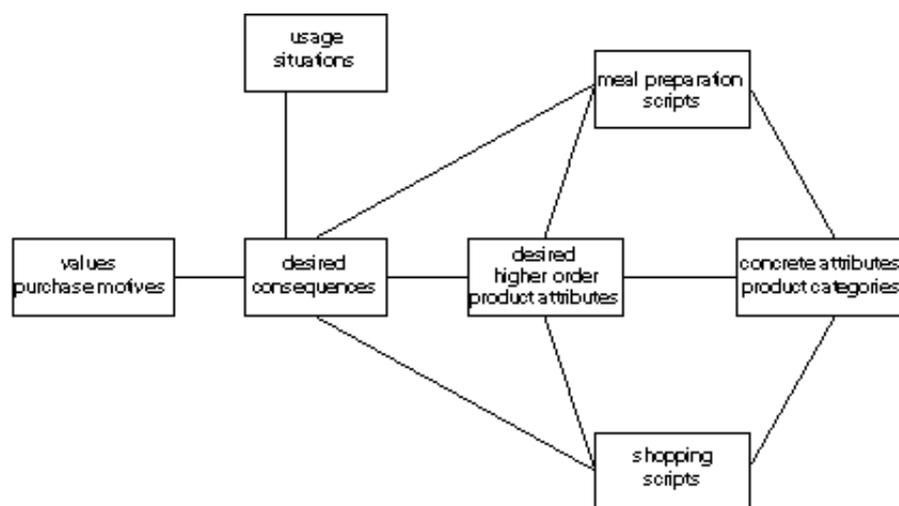
As mentioned there are a number of aspects that are a part of the consumer's value perception of beef: concrete characteristics such as colour or fat content, and abstract characteristics such as taste or wholesomeness. It was also mentioned that the importance of these characteristics possibly depends on the consumption situation, and that characteristics such as taste and tenderness are affected by other factors than the product itself, eg the cooking method. All of these different aspects will now be collected into one overall model which can be used to analyse how consumers perceive the value of beef. The model is inspired by means-end chains theory. According to means-end chains theory, the consumer learns to associate self-relevant consequences with particular product attributes. A product attribute is only relevant to the consumer when he or she expects the attribute to lead to one or more desirable or undesirable consequences. The desirability of these consequences are in turn determined by the personal values held by the consumer. The consumer is motivated to choose a product to the extent that he or she expects it to have the desired consequences when used, thereby contributing to the attainment of his or her personal values. The product and its attributes are the means to reach an end (personal values). The associations in the mind of the consumer between product attributes, self-relevant consequences and personal values are thus labelled means-end chains.

According to a model constructed by Grunert, Baadsgaard and Skytte (1993) (see figure 8), value perception involves seven aspects:

- Desired consequences and personal values What are the basic reasons for buying and cooking beef? On the face of it, to feed yourself and your family, but other reasons could be to create a nice family meal, please guests, demonstrate – and thereby win recognition for – your skills as a cook, enjoy yourself with friends over a meal, create a feeling of security through eating traditionally, stay in good health etc.
- Desired abstract attributes Characteristics which ensure or contribute to the realisation of the above are: healthiness, freshness, juiciness, taste, tenderness and nutritiousness.

- Concrete attributes/product categories. Characteristics of the product itself which can be seen/felt/smelt at the time of purchase: fat content, colour, price, packaging, country or region of origin, cut. These characteristics are used as indicators in judging the product's abstract characteristics.
- Shopping scripts. How consumers shop for meat. The place of purchase is important here. Whether the product is bought at the butcher's or in a supermarket may influence the consumer's opinion.
- Meal preparation scripts. The way in which the meat is cooked affects the result. This will also depend on the product's concrete characteristics.
- Usage situation. The various characteristics and consequences will differ in importance depending on whether it is a weekend or a weekday. On a weekday, the family's nutrition and health play a prominent role, while the more social aspects of cooking probably are more important at weekends, which in turn leads to different demands on the product.

Figure 8. A model of the consumer's value perception



Source: Grunert et al., 1993

Consumers thus perceive the value of a beef product via a few basic motives or consequences which he/she expects from a meal in which beef is a main ingredient. Producers can influence this value perception by varying the product's concrete characteristics, its packaging, and its price. Market communication can also affect value perception. However, the relation between concrete product characteristics on the one hand and consequences of the product's consumption on the other is a complex one, and passes through different phases.

In an extensive study, Grunert, Baadsgaard and Skytte (1993) used this model to analyse the value/quality perceptions of consumers in four European countries namely: Spain, France, Germany and the United Kingdom. The analysis was carried out in two parts: a qualitative and a quantitative part.

In the qualitative part, interviews were carried out in the four countries with focus groups, consisting of people who regularly bought beef. Two or three focus group interviews were conducted in each country. The general purpose of the interviews was to obtain background information about consumers' relations to beef in the four countries, and specifically, to find concrete answers to the six aspects in the model in figure 3.5: which purchasing motives, quality aspects, concrete product characteristics, places of purchase, cooking methods and consumption situations apply to beef in the four countries.

In the quantitative part of the analysis, 200 consumers in each of the four countries, who regularly bought beef were shown pictures of different cuts of meat (roast, steak, cubed and minced), which were varied systematically with regard to the most important concrete product characteristics identified in the focus groups. Both intrinsic and extrinsic product characteristics were varied. The intrinsic characteristics included were: cut, colour, fat lumps, fat rim, marbling, and fat content. The extrinsic characteristics were: price, country of origin and animal production (animals bred and fed under due consideration to animal welfare and without artificial hormones and additives). The consumers were then asked to judge the pieces of meat on the basis of a large number of criteria covering the various quality aspects, places of purchase, cooking methods, and consumption situations also identified in the focus groups. Grunert, Baadsgaard and Skytte (1993) distinguished between three different concepts of quality: product-oriented quality, which measures the quality of a product's physical characteristics (eg the percentage of fat in the meat); process-oriented quality, where quality is synonymous with meeting a number of pre-determined criteria, no matter at what level (eg keeping the fat content at a constant level); and user-oriented quality, where quality is identical with consumers' subjective quality perception. The data allowed an analysis of how different concrete product characteristics – ie those which the individual producer controls – influence consumers' value perception/user oriented, expected quality. Respondents were regular consumers of beef.

The main conclusions were as follows:

- Beef is an important part of the daily diet in all four countries. Beef has a high status compared with other meat types and is regarded as being suitable also for festive occasions. Beef is regarded as a wholesome, nourishing food, especially compared with pork. Beef is regarded as extremely versatile (especially minced and cubed beef), which makes it usable in many different kinds of dishes and on different occasions.
- Tradition and security, variation/change, atmosphere and social life, health, acceptance from family/children/guests, nutrition, demonstration of cooking abilities, and status were found to be the most important values which motivate beef consumption in all four countries.
- The most important user-oriented quality aspects of beef are that it tastes good, is tender, juicy, fresh, lean, wholesome and nutritious (mostly abstract product attributes). These aspects constitute what consumers regard as good quality in a beef product.
- Perceived fat is the most important product attribute in forming consumers' expectations about quality. A perceived high fat-content generally has a negative effect on perceived quality, and this applies to all aspects of fat. Concrete fat-related attributes: high marbling, fat lumps and fat rim all contribute to a perceived high fat content which in turn has a negative effect on expected quality. The colour of meat influences the perceived fat content in France, Germany, and Spain where beef with a darker colour is perceived as containing less fat than beef with a light or medium colour. The cut of meat influences the perceived fat content in all four countries. Cubed and especially minced beef is perceived as containing less fat than steak and roast even though objectively the meat had the same fat content – it was cut from the same pieces of meat. It was also found that German consumers prefer dark meat, while Spanish consumers tend to prefer light meat.
- The place of purchase and quality perception are related in all four countries, i.e. the butcher is regarded as a sort of guarantor of high quality. This applies less in the United Kingdom than in the other countries, however.
- Information about country of origin and breeding and feeding has no effect on quality perception.
- Price is not used as a quality indicator. Consumers have little knowledge of prices, and price has much less influence on the purchasing intention than perceived quality.
- Both purchasing motives and quality aspects are uni-dimensional in Germany, the United Kingdom and Spain, while they are multi-dimensional in France. This implies that French consumers have a more sophisticated purchasing behaviour than consumers in the other countries.

According to this investigation two factors appeared to dominate the formation of expected quality/value of a piece of meat: perceived fat and the place of purchase. Together, these show considerable uncertainty on the part of the

consumers with regard to the formation of quality expectations. Fat content is actually not a good predictor of the quality aspects consumers are interested in, and to the extent it is, the prediction goes the other way round than consumers suppose. Especially a certain degree of marbling is actually a factor that contributes to tenderness, taste and juiciness, whereas consumers seem to think it detracts from it. Thus, the formation of expectations about taste, tenderness and juiciness mainly based on fat attributes is actually dysfunctional. The high importance attached to buying from a butcher's shows that consumers would like to entrust the purchase decision in the hands of an expert, who would be more capable than themselves in predicting the outcome of the meal. The use of colour as a cue in the quality perception process does not add to the accuracy of the prediction of quality aspects either. It is also interesting to note that the other extrinsic quality cues tested in the study, country of origin and information about breeding and feeding, had practically no effect on the formation of quality expectations at all.

Other studies on consumer's preferences with regard to beef

A study linking the physical attributes of a beef product (blade steak) to quality as perceived by consumers was performed in The Netherlands by Steenkamp and Van Trijp (1995) using their "quality guidance" model. In this study not only expected quality at the point of purchase but also quality upon consumption was measured. Focusing on intrinsic quality cues the authors found that consumers use three quality cues when forming expectations about the quality of a blade steak: appearance, visible fat and freshness. Expected quality increases with attractive appearance and freshness, while it decreases with the amount of visible fat. These three consumer-perceived quality cues were found to be linked to a number of objectively measurable, physical characteristics of the meat. The quality as perceived upon consumption was found to increase with perceived tenderness and to decrease with the amount of non-meat components (fat, sinews and tendons). Tenderness and amount of non-meat components as perceived by consumers were also linked to the product's physical characteristics which have the potential for being modified by producers with the aim of improving both expected quality and quality as perceived upon consumption.

Determinants of actual meat consumption (frequency of eating) were investigated by Shepherd and Elliman (1993) in a survey based on the theory of reasoned action. The survey involved a representative sample of 1046 British respondents. In the study 15 different attitudes about meats were related to the actual consumption of these meats. It was found that taste, health, value for money and concerns about cruelty to animals influenced the frequency of eating beef. Attitudes that didn't affect the frequency of eating beef included attitudes concerning cholesterol, food poisoning, convenience, environment, antibiotics, hormones and additives.

3.5 Companies' views on consumption trends and consumer preferences

Company views on the general trend for beef consumption in the next five years were quite uniform. With one exception they believed that consumption would be stable or slightly decreasing. The manager of one of the Danish slaughterhouses was the only optimist, believing that a new project on quality control to be implemented in the Danish beef sector (IPOS) will improve the quality of beef and thus beef consumption. Interestingly, the respondent from the Danish Meat and Livestock Board where the project is co-ordinated thought that the project would only have the effect of stopping the fall in beef consumption.

The interviewed companies differ in their views regarding explanations of the falling consumption of beef. Three explanations were mentioned by respondents in all three countries: The relatively high prices of beef, health/avoidance of fat and lack of convenience. Negative publicity was mentioned by all three Greek respondents to this question. Related to the convenience explanation, two Danish respondents mention a low degree of product development in the beef sector as an explanation of falling consumption. Two Danish respondents mention the quality of beef as a problem.

Why has beef's share of sales been decreasing in the last 20 years:

- SC1-DK: Because of relative prices, cheap poultry.
- SC2-DK: Healthy eating – avoiding fat. Poultry at an advantage. Beef must contain some fat to be good. No product development. Not developed a lot of ready meals containing beef. The problem is that expensive beef makes ready meals expensive.
- SC-UK: A lot of alternatives to beef, quiche, pizza, hot-dog etc.
- SC1-GR: Negative publicity against red meat. Consumers prefer cheaper meat.
- SC2-GR: Influence of mass media, the trend towards health, low fat foods and for less quantities of food, and the need for easy and quick to cook food.
- TO-DK: Beef relatively expensive. Beef marginal product to milk. Consumer gets a not very exciting but expensive product.
- TO-UK: Reliance on hindquarter cuts – large roasts do not fit into the demographic trend of a smaller family unit. Relative price, restricted supply due to milk quotas kept prices up.
- RC1-DK: Low fat trend. More and more variants in poultry in last ten years. High product development in poultry, not in beef. No consistent quality because the meat is not sorted sufficiently. Different age cattle within EUROP classes for example.
- RC-GR: Consumers have substituted beef with pork because of pork's good publicity.

4. THE SUPPLY SIDE: STRUCTURE OF THE BEEF SECTOR

The quality of a piece of beef in the supermarket is of course not only dependent on the way the meat has been cut and treated in the supermarket. It is also dependent on the way the cattle has been handled at the slaughterhouse and the way it has been fed and bred by the farmer. Some of the factors affecting the quality of a piece of beef are: the age of the cattle, the race of the cattle, the feeding of the cattle, its veterinary history, transportation from farmer to slaughterhouse, cooling-down (chilling) time, maturation time, the way the meat has been cut at the slaughterhouse, the way it has been cut and cooled in the supermarket etc. Each link in the distribution chain from farmer through slaughterhouse to retailer is important in order to provide the consumer with a piece of beef which possesses the demanded quality. It can perhaps be said that each of the three links: the farmer, the slaughterhouse and the retailer are responsible for one third of the quality.

In this chapter, we will look at the distribution chain in the EU countries in order to describe the market structure at different levels in the distribution chain with primary production (farmers) and slaughterhouse levels in the main focus, and we will show which kind of relations exist between the links. The impact of these conditions on the use of marketing parameters like branding, product quality and advertising and promotion is analysed.

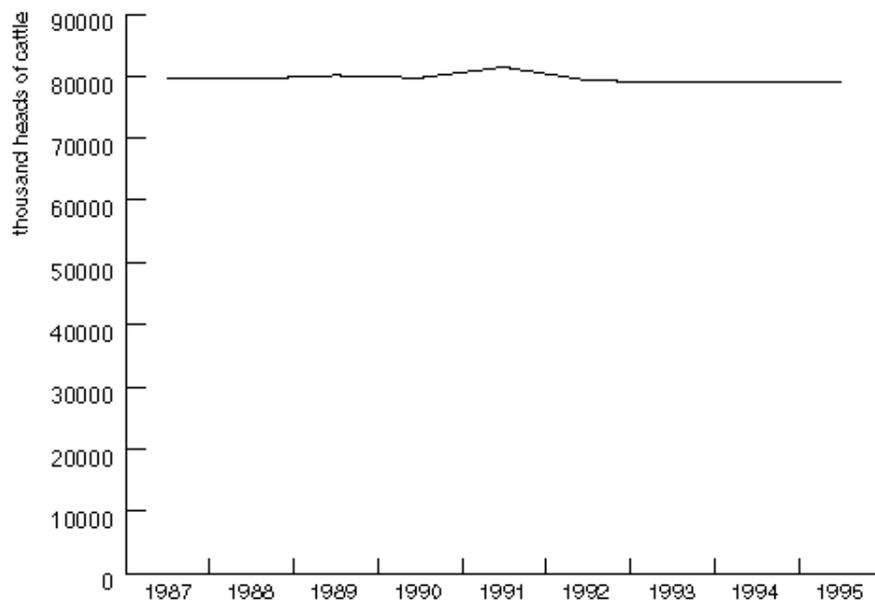
Figure 9. Important links in the distribution chain



4.1 Primary production

The number of cattle in the EU-12 has remained stable around 80 million animals during the last eight years, see figure 10. The production of beef is also fairly stable at around 8 million tonnes carcass weight as shown in figure 11. The peak in the production of beef in 1991 is a result of a sharp reduction in milk quotas resulting in a temporary increase in cow slaughter.

Figure 10. Cattle population in EU-12



Note: Cattle numbers include East Germany from 1991

Source: Eurostat, 1996

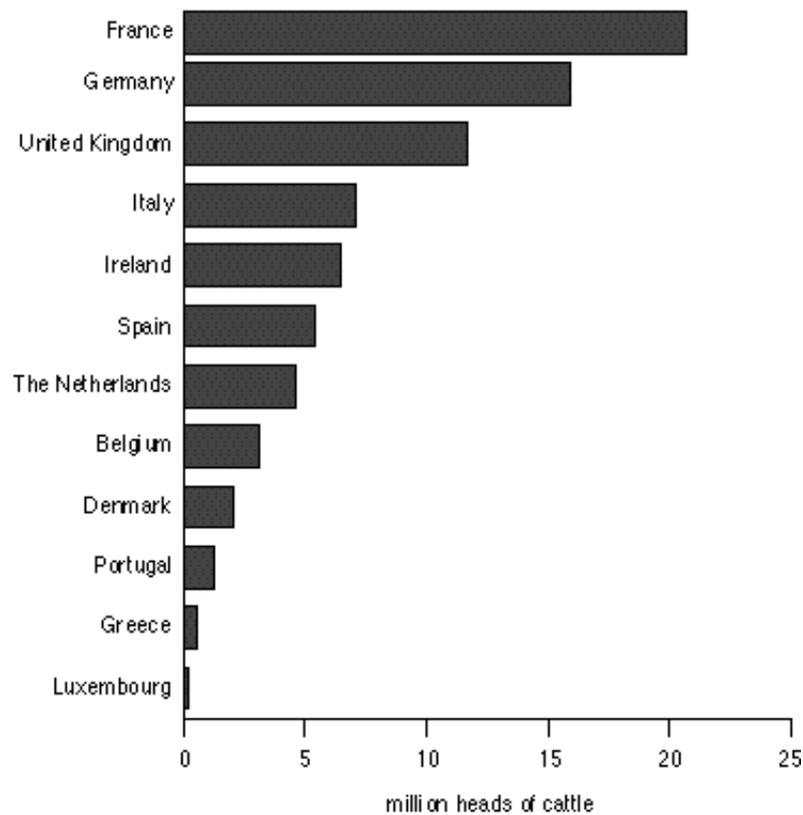
Figure 11. EU-12 gross production of beef



Note: Production figures include East Germany from 1991

Source: Eurostat, 1996

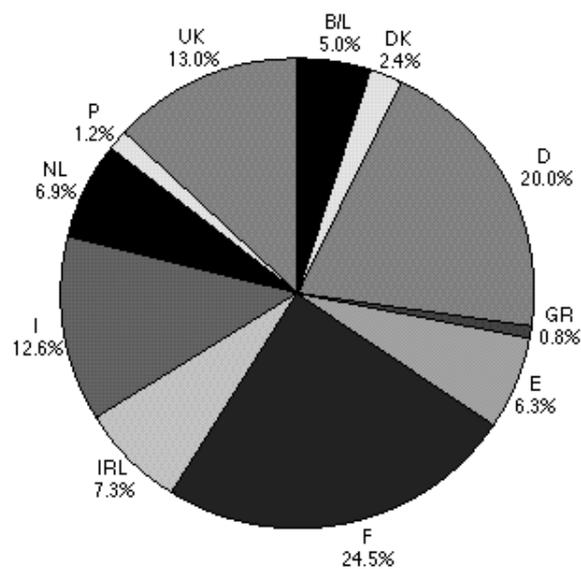
Figure 12. Number of cattle in EU-countries in 1995



Source: Eurostat, 1996

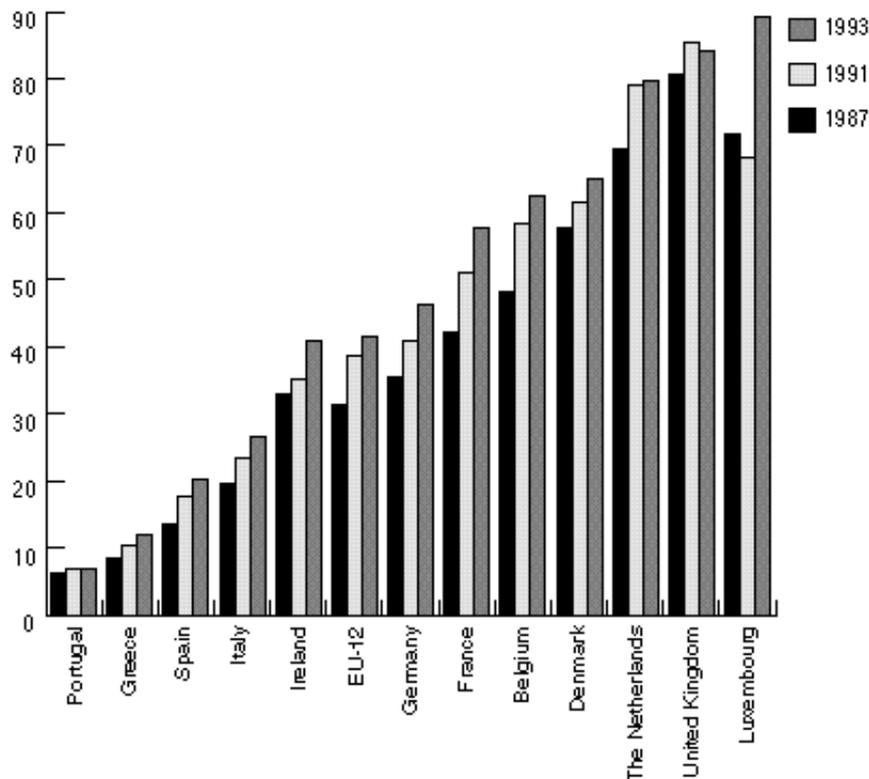
The largest cattle herd is found in France followed by Germany and the United Kingdom. These three countries accounted for 61% of the total herd in 1995. As figure 13 shows these three countries also have a large part of the total beef production in the EU.

Figure 13. Countries' share of gross production of beef and veal in the EU-12 in 1995



Source: Eurostat, 1996

Figure 14. Average number of cattle per holding

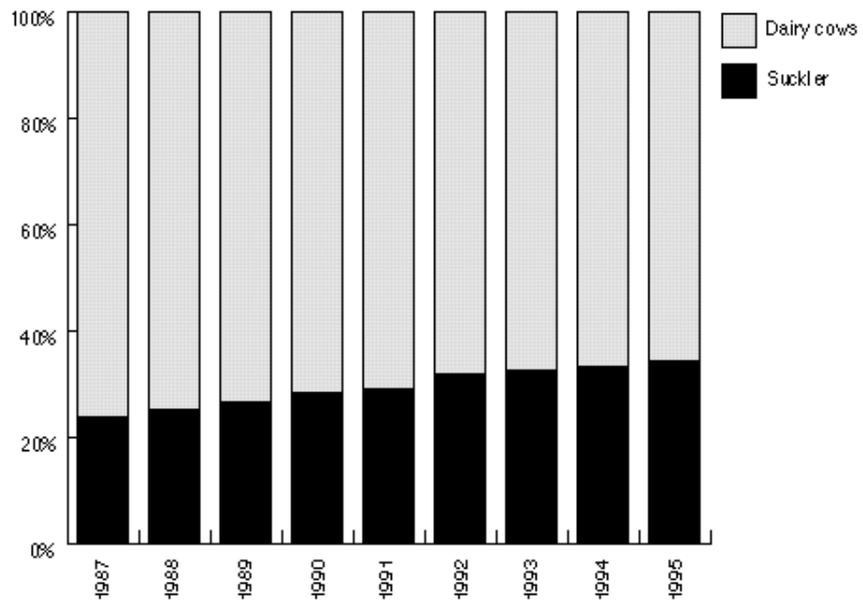


Source: Eurostat, 1996

As figure 14 shows, the scale of production differs to a significant degree across countries. France, Germany and Italy have large numbers of cattle, but the average size of holdings is relatively small, reflecting a fragmented production base.

The production of beef in the EU is to a large extent a by-product of milk production. A milk producer is also automatically a beef producer but the beef production is of much less value. Before the introduction of milk quotas only 10-20% of a Danish dairy farmers' income came from beef production; after the introduction of quotas it has reached about 25% (Plichta, 1995). The importance of dairy farming is reflected in the distribution of dairy versus suckler cows. Suckler cows are only used in beef production ie they are not milked. In 1995, a third (34%) of all cows were suckler cows, two thirds (66%) were dairy cows. In 1987, less than one fourth (24%) of all cows were suckler cows. Thus, in recent years there has been a trend towards pure beef production rather than dairy production.

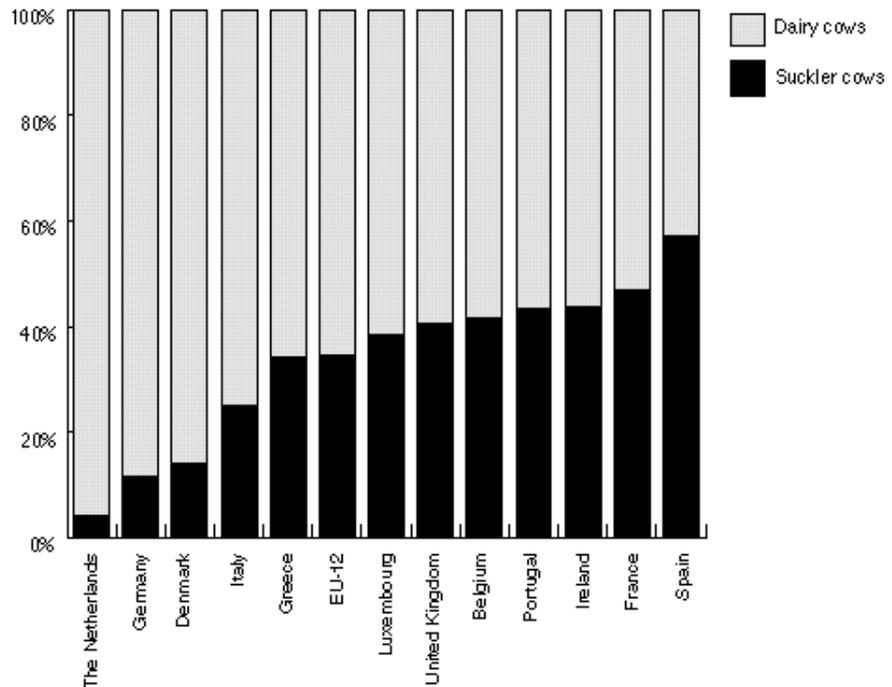
Figure 15. Share of dairy versus suckler cows in the EU-12



Source: Eurostat 1996

The suckler cows' share of the total herd of cows differs across countries. Among the large beef producers France has the largest share (47%) of suckler cows reflecting a large herd of beef cattle (eg, Charolais). Beef production in Germany is almost exclusively dairy-related (11% suckler cows).

Figure 16. Distribution of dairy and suckler cows in EU-countries in 1995



Source: Eurostat 1996

4.2 Beef slaughtering industry

In the European Union there has been a general trend towards a more concentrated slaughtering industry both in terms of ownership, ie slaughtering companies, and in terms of production plants. From a situation where each town had its own slaughterhouse (public or private), which was the case in many European countries 50 years ago, there has been a development towards closing small slaughterhouses and moving large slaughterhouses closer to the production areas. In the United Kingdom for example, the number of cattle slaughtering plants has decreased from 1671 in 1971/72, 965 in 1981/82 to only 436 in 1994/95 (MLC, 1996). The development has accelerated in recent years due to the requirements of the still larger retail chains and hygiene requirements in the Fresh Meat Directive. The large retail chains use their buying power to demand products and services that meet their pre-specified standards, ie descriptions of the various products and services supplied by slaughtering companies (weight of quarters, muscles, packaging, production methods etc.) and they demand these standardised products in large quantities on which they expect discounts and above all they want regularity in the supply. Only large slaughtering companies are able to meet these demands from the large retailers. Therefore, as the concentration increases at the retail level and large retail chains become more important, the concentration at the level of slaughtering companies will have a tendency to increase with it.

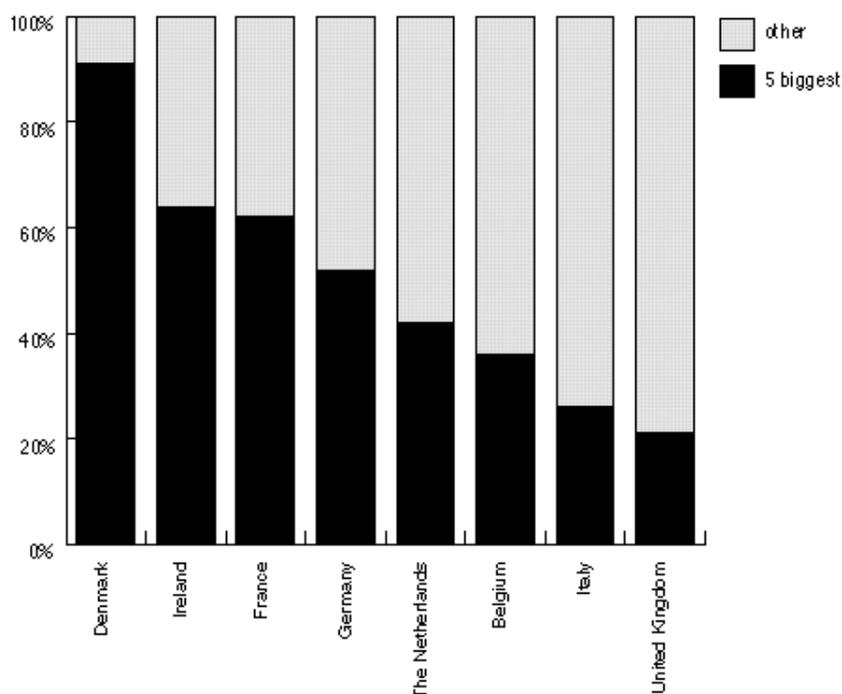
The Fresh Meat Directive setting common hygiene standards across the EU also contributes to concentration in the industry. Small slaughterhouses selling on a national level now have to meet the same hygiene requirements as were already in effect for slaughtering companies approved for intra-community trade. Even though a lot of temporary derogations were given, this directive has resulted in the closure of especially smaller slaughterhouses financially unable to meet the requirements in the directive.

An indication of the degree of concentration in the European cattle slaughtering industry is given in figure 17 showing the share of cattle slaughterings undertaken by the five largest companies in each country. Of the eight countries included in the figure, Denmark has the most concentrated slaughtering industry with the five largest companies accounting for more than 90% of slaughterings. The most fragmented slaughtering industry is found in the United Kingdom where the five largest companies account for only 21% of slaughterings⁵. The concentration at the European level (EU-15) is of course much lower, and as table 5 shows, the company slaughtering the largest number of cattle in Europe slaughters only 3% of the cattle slaughtered in the EU as a whole⁶. It is also interesting to note that none of these companies have slaughtering houses in countries other than their own.

⁵ The appendix shows for each of the eight countries the names of the five largest companies and their share of total number of national cattle slaughterings.

⁶ In the US the share of the top four companies in steer and heifer slaughtering reached 82% in 1994. (Choices, First Quarter 1997, pp. 26-31).

Figure 17. Five largest companies' share of adult cattle slaughterings in each country in 1995



Source: PVV, 1996

Table 5. The ten largest slaughtering companies in the EU-15 by share of total adult cattle slaughterings in 1995

Company	Share of slaughterings	Activities in
1. Arcadie-Bigard	3%	France
2. Moksel	3%	Germany
3. Socopa	3%	France
4. Südfleisch	3%	Germany
5. Irish Food Processors	2%	Ireland
6. SVA	2%	France
7. INALCA	2%	Italy
8. Vital-Sogéviandes	2%	France
9. Nordfleisch	1%	Germany
10. Annuss	1%	Germany

Source: PVV, 1996

The slaughtering companies not only vary in size but also in the range of activities they perform. Some (smaller) companies are involved in slaughtering only, which includes killing the animal and removing what is known as the “fifth quarter” (skin, liver, kidneys, intestines etc.). Carcasses are sold direct to retailers or through wholesalers or they are sold to the meat products industry.

Other (larger) companies also perform (if demanded) cutting and boning operations in order to produce muscles ready to be cut by for example the retail trade. The operations of the slaughtering company sometimes even include consumer-

portion packaging of products. In countries like France and particularly the United Kingdom, this activity is increasingly practised by the large slaughtering companies, thereby producing a larger share of the value added in the distribution chain. In France, this value-added activity also involves development of manufacturer trademarks.

Some smaller companies even devote their activity entirely to the cutting, boning and packaging of carcasses bought from slaughterhouses.

Private or public ownership

Public slaughterhouses are generally smaller than private/co-operative slaughterhouses and their share of slaughterings is declining. Their principal customers are often butchers. In some countries like the United Kingdom and Denmark public slaughterhouses are almost non-existing with less than 1% of slaughterings. In Germany they have 10% of the market and in France 30-40% according to some estimates.

Live cattle purchasing

Slaughterhouses source their cattle from either individual farmers, producer groups/co-operatives or cattle markets. The importance of these sources vary widely across countries. Generally, the relations between the farmer and the slaughterhouse are informal rather than contractual. The farmer usually has no obligation to supply cattle to a specific slaughterhouse (although he might usually do that), which means that the supply of cattle to a specific slaughterhouse tends to be of a rather unstable kind both with regard to quantity and quality – cattle with different specifications. The role of beef co-operatives is very weak compared to their role in all other agricultural products.

Table 6. Co-operative share of milk and cattle deliveries in %,1990

	Milk	Cattle
United Kingdom	..	7%
France	49%	35%
Italy	68%	18%
Germany	77%	26%
The Netherlands	84%	16%
Ireland	96%	65%
Denmark	92%	48%

Source: confidential

Farmers prefer to maintain a degree of freedom in selling. A likely explanation of the weak position of co-operatives and vertical integration in general is that for dairy farmers (who supply most of the cattle for slaughtering), the selling of cattle is just a supplementary source of income which he can afford to put at stake in an attempt to take advantage of price differences. The farmer may for instance get a higher price for supplying cattle to another slaughterhouse or a cattle auction market. Cattle auction markets are probably also attractive to some farmers because they give farmers the opportunity to meet other farmers.

Although binding relationships between farmers and slaughterhouses are not the norm at the moment, there is a trend towards closer vertical integration. A demand from retailers and consumers for high quality beef from healthy cattle which could be branded as such has made it necessary for slaughtering companies and farmers who want to meet this demand to co-operate more closely.

Cattle markets are still an important part of the distribution chain in many countries but their importance is declining. In the United Kingdom where the role of co-operatives is small especially in beef (only 7% of cattle is supplied to co-operatives), slaughterhouses still purchase 55% (according to industry interview) of their cattle from auction markets where cattle is priced in pence per kilo liveweight, and another 45% are sourced directly from farmers or producer groups and priced in pence per kilo deadweight. Larger slaughterhouses tend to buy more beef on deadweight basis than small ones do. In Denmark cattle markets are supplied with cattle equal to 23.4% of all slaughterings (The Danish Meat and Livestock Board Statistics, 1996). The share of cattle going through cattle markets is declining. According to Jill E. Hobbs (1996), who takes a transaction cost perspective in analysing the role of markets in the United Kingdom, the pressure for greater traceability and quality assurance guarantees is likely to increase the monitoring costs that slaughtering companies and retailers incur through auctions and occasional supply relationships. These costs might become prohibitive and Jill E. Hobbs predicts that there will be increasing pressure from downstream firms to move toward closer forms of vertical co-ordination.

The slaughtering companies interviewed in this study prefer to get their supplies of cattle directly from farmers because it makes production planning easier and less costly. Perhaps the respondent from the trade organisation in the United Kingdom gave a good account of the situation when asked what kind of sourcing slaughtering companies would prefer:

What they (the slaughterhouses) would like is all beef animals to be the same the same weight etc That has not been achieved on the beef side as it has to a much higher degree with pork and poultry They do it in the States The States have as much variation as we do at the start, its just through a feed-lot system you can take the variation out and so it's a lot easier you don't get rid of it, but you can minimise it. The reason for the importance of the markets is that a balance has not been reached where the efficiency of the abattoir buying for themselves has been overtaken by the efficiency of the auction market to collect a sufficient number of animals for them to slaughter Farmers love the market because that's the price they get If they don't like the price they receive they take the animals home Whereas, if you sell on a deadweight basis and then get paid when it goes past the scale at the end you are not going to take home the carcass.

In most countries beef cattle are fattened on the farms where they are born. In Spain though, the practice is different. When calves from small extensive farms in the south and centre of Spain are 4-6 months old they are transferred to special fattening farms in the northern provinces Catalonia and Castilla-León where farming is more intensive (approximately 40% of the fattening takes place in Catalonia). On these fattening farms the animals remain in the stables until they are 9-12 months old and are ready for slaughter. If the cattle were put

on grass the meat would be darker and not as attractive to the Spanish consumers who prefer light meat. A lot of these fattening farms have 1000 animals or more and they supply cattle to the major slaughterhouses on contract; in some cases slaughterhouses even own the farms. Through this close integration between slaughterhouses and fattening farms, slaughterhouses can control breeding and feeding to insure that the beef has the desired quality.

Overcapacity in the industry

Overcapacity in the slaughtering industry is a general phenomenon across the EU. The main reasons are:

- Slaughterhouses have been built to handle peak periods of slaughtering. Excess capacity is inevitable when deliveries of cattle go down. The need for excess capacity is increased by the very low integration between primary producers and slaughterhouses which means that the supply of cattle to the slaughterhouse cannot be foreseen but fluctuates widely.
- The ongoing modernisation of slaughterhouses is increasing capacity, but this has not yet been fully compensated for by shutdown of other slaughterhouses.
- The declining consumption of beef

The excess capacity has consequences besides higher costs derived from having unused equipment. The overcapacity makes it difficult for slaughterhouses to be selective in their sourcing of cattle. The slaughterhouses are more than willing to accept almost any supply of cattle. The incentive of the slaughterhouse to limit their sourcing of cattle to animals with certain specifications is not very strong. This has consequences downstream in the distribution chain resulting in beef with a varying quality.

4.3 Wholesalers

The role of independent wholesalers in the industry is declining as the wholesale and distribution functions are integrated in larger companies which can be either slaughtering companies or large retail chains via their central buying units. The decreasing sales of beef through butchers who are the principal customers of many wholesaling companies are putting additional pressure on wholesalers. Wholesalers try to avoid being placed on the fringe by marketing a broader range of products and by taking on processing activities like cutting and consumer-packaging and thus increasing the value which they add to the product. Wholesalers are trying to survive by changing their role as simple intermediaries and taking on more value added activity.

In some countries like Italy, wholesalers are still important intermediary distributors, though. According to industry interviews, Danish slaughtering companies prefer to deal directly with retailers, but they have found it impossible to avoid dealing with powerful Italian wholesalers.

4.4 Branding, advertising and promotion of beef

Meat is often perceived as a un-branded commodity which explains that promotional expenditure on meat and meat products in general tends to be extremely low in comparison with most other food markets. Beef and veal are no exception. Main media expenditure on beef and veal in the UK amounted to just 0.1% of sales in 1994 (EIU, 1995). Because of the lack of branding in the beef sector, promotion, where it is found, is normally carried out by the national trade organisation on a generic basis. None of the companies interviewed promoted their beef although some mentioned using price discounts to please their customers. As one of the interviewed Danish slaughtering companies pointed out:

We only very rarely promote our products We have participated when The Danish Meat and Livestock Board has had a campaign on a foreign market, that's it. It's very difficult to advertise when we don't have our own trade mark. If we did advertise we would be advertising for our competitors as well. When the product lies in the store it's neutral.

In the mentioned study by Grunert, Baadsgaard and Skytte (1993), the branding of beef in the four participating countries was investigated. The information in this paragraph is mainly based on that study. The United Kingdom: When the beef products are branded they are normally branded with the name of the retail chain that wants to stand as the guarantor of quality vis à vis the consumer. The major retail chains all have their own superior quality programme (see below). In some cases a beef product is branded with place of origin, eg "Scottish Beef". Slaughtering or cutting and boning companies do not sell beef with a manufacturer's trade mark. Germany : Like in other countries most beef is sold un-branded. But since the BSE crisis, major slaughtering companies, A Moxsel AG, Südfleisch GmbH and Wesfleisch, have launched private label quality beef programmes usually in co-operation with retailers. Also "Irish Beef" and beef from Argentina has been labelled with country of origin indicating superior quality. France : The majority of beef in France is sold un-branded. The branded beef is for the most part the chain's own label and to a lesser extent the slaughtering companies' brands. There is a weak tendency towards branding beef with the retail chain's own label because the chain wants to stand as the guarantor of quality. Spain : The major part of beef sales takes place over the counter in the store and does not consist of prepacked products. A small amount of "Irish Beef" branded meat is sold. Some chains have started launching own labels in beef but it is not very common yet.

The interviews conducted in connection with this report indicate that there has been no change in the market with regard to branding since 1993. With French and a few German slaughtering companies as exceptions there are no manufacturer's trade marks in the beef market. The only branding is done by the retail chains. The predominant way of branding beef in the retail chains is by using the place of origin as the "brand". Either the national or regional origin is used.

Some supermarkets try to create their own supreme quality brand of beef by contracting with slaughtering companies and farmers, usually in a specific region, on supplying beef that has been treated in a pre-specified way by farmers, slaughterhouses and the retail chain. All the major retail chains in the United Kingdom have established such "quality assurance schemes", a develop-

ment which has accelerated since the BSE crisis. It should be noted that these premium beef products only have a small share of the UK market according to the industry interviews.

One large Danish retail chain has created its own premium quality brand by employing a cattle buyer who buys live cattle from markets and directly from farmers. The retail chain has the selected animals slaughtered and all the carcasses are transported to the retail chains' own cutting plant, where they are cut up in exactly the same way for all the stores in the chain. The main criteria for selecting animals for slaughter are that they are less than three-year old steers, heifers or young cows which have had one calf at the most. These criteria maximise, according to the chain, the chances of getting tender beef. The chain only buys Danish or German beef. At least half of the beef sold in the chain comes from cattle bought live. The other half of the beef is bought as half carcasses or quarters which are also cut up at the chain's cutting plant. In this way all beef sold can be traced back to the farmer. The beef is branded by the retail chain and promoted as a high quality product. Only beef of this quality is sold in the chain.

To what extent do slaughtering companies market their own company brands? What are the future prospects regarding branded beef in your opinion?

SC1-DK: We have no company brands. I don't believe in it. You would have to tell people a lie – that this meat is better – when it is not. Secondly, retailers who want low prices do not want to be locked by manufacturers' trade marks.

SC2-DK: In Denmark they don't. I've heard that in France a slaughtering company can make an agreement with a retailer that in the next month or quarter we run your marks only. Then they can advertise their products. The French slaughtering companies also consumer package their products. We would like to do that too, but in Denmark retailers want to stand as free as possible.

SC-UK: We have tried branding, but it doesn't work. The only branding possible is strictly related to regional production. We market a brand "Aristocrat" but it represents a small volume.

SC1-GR: If the quality is good then it could be promoted with a brand name. The Greek customer is not interested in brand names.

TO-DK: The slaughtering companies have no brands. In France there is a specialised production of beef. They have slaughterhouses that only slaughter one race. And there is tradition for big family-owned companies in French meat industry. They have companies that perform breeding, slaughtering and consumer packaging so they have been able to create trade marks. In Denmark we are just suppliers.

TO-UK: There is little if any brand marking of beef in this country. To a degree there is regional branding M&S's "Aberdeen Angus", but it has more to do with M&S than the slaughtering companies. It just encourages the belief that you have done a little bit more. In relation to that I have to tell you that we have done some objective work on the impact of breed on meat eating quality, there isn't one. There is a discernible one at the very extreme, but it has more to do with how you treat the beef not the colour of its coat when it came. You can for example very quickly ruin a fine carcass if you don't slaughter it properly, if you don't check it properly or you don't mature it properly. You can do all these things and cook it badly and ruin the whole thing. Yes, species a little bit, flag branding has virtually disappeared.

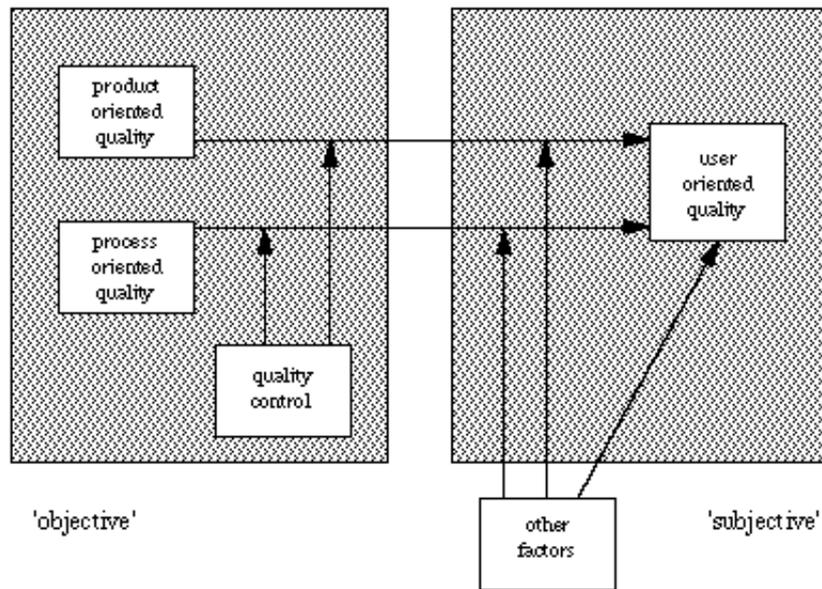
TO-GR: There is no brand marking of beef in Greece

The main obstacles to branding in the beef sector seems to be the lack of differences between products from different slaughtering companies and the preference of retail chains to be able to choose between the offers of different slaughterhouses without being “locked” by manufacturers trade marks.

4.5 Product quality

Food quality is a very complex phenomenon and the term is by no means clearly defined (Steenkamp & van Trijp, 1990; Grunert et al., 1996). It is not the purpose of this section to provide the reader with a deep understanding of the concept of food quality in all its complexity. But in order to point out the nature of some of the problems concerning beef quality in the beef sector, a rough distinction between four different types of food quality proposed by Grunert et al, is adopted. Product-oriented quality is a food product's physical properties, like fat percentage, muscle size, colour etc. Process-oriented quality is concerned with characteristics of the production process which are not necessarily reflected in the physical characteristics of the product, like the fulfilment of standards regarding hygiene, ecology or animal welfare. Quality control refers to the extent to which product and process-oriented quality remain stable at pre-specified levels. Finally, user-oriented quality is the subjective quality perception of a user. Since product and process-oriented quality can be measured in the product itself by physiological methods, it may also be called objective quality. Since user-oriented quality can be measured only at the user, and can differ for the same product among users, it may also be called subjective quality. The four types of quality are interrelated. Specifically, user-oriented quality will be affected by process and product-oriented quality, and also by quality control. In addition user-oriented quality can be affected by other factors besides the characteristics of the physical product itself, like the purchase situation, the type of retail outlet, the price etc. Changes in objective quality will improve the competitive situation of a food company only when at least one of two conditions are fulfilled a) the change in objective quality leads to a cost reduction either for the manufacturer or for a subsequent actor in the food chain, usually a retailer (for example when a new type of packaging entails better storage), and/or b) the change in objective quality leads to a change in subjective, user-oriented quality.

Figure 18. Types of quality



Subjective quality characteristics can also be divided into search, experience and credence characteristics. Search characteristics (eg price, colour of meat, amount of fat etc.) can be evaluated before the purchase. Experience characteristics (eg taste, tenderness, succulence etc.) can only be evaluated after the purchase. In the latter case consumers will try to infer the quality from surrogate indicators like for example brand or level of fat. As mentioned in section 3.4 consumers often infer quality from the amount of fat in the beef. Credence characteristics (eg ecologically produced, no animal parts in fodder etc.) are characteristics of a product which are not reflected in physical characteristics of the product and which are either impossible to verify due to lack of tracing possibilities or may be verifiable only at prohibitive costs to the consumer.

Ideally, a beef producer would be able to provide the consumer with a beef product with the desired subjective quality by manipulating the standards for product and process-oriented quality. The situation in the beef market, though, is far from ideal.

Some of the most important subjective characteristics of a piece of beef like taste and tenderness cannot, with the present knowledge and technology, be directly and unambiguously related to any objective quality characteristics as for example an instrumental measure of tenderness and taste. Instrumental measures of taste and tenderness would allow slaughterhouses to sort beef into quality categories based on the measures. Taste and tenderness are probably determined at least partially by other product and process-oriented quality characteristics which have the potential of being manipulated by farmers, slaughterhouses and retailers in order to improve subjective quality. It is known for example that tenderness has a tendency of decreasing with the age of the cattle, and that taste tends to increase with age, whereas the race of the cattle has no distinguishable effect on tenderness. It is also known that the animal being under stress before slaughtering has a negative effect on the tenderness of a piece of meat (K-orientering, The Danish Institute of Meat Research, 1993). But a lot remains to be learned about the complex effects of feeding, breeding,

age, down-cooling and maturation on the subjective quality. But even if such determinants of subjective quality were very well known, the quality of the meat would still vary around some expected quality level.

One way of securing a more consistent quality of beef, without being able to sort the beef by an instrumental way of measuring "subjective" eating quality, would be to specify a standard treatment of the cattle and its meat all the way from when the cow is fertilised until the steaks lie in the retailers' cooling counter.

Initiatives to control product quality in the whole distribution chain is a development which has accelerated after the BSE crisis that made it very important to consumers that the beef possessed the credence characteristic: "not infected with BSE".

In 1990, Sainsbury established a scheme called Partnership in livestock involving farmers (in both The United Kingdom and Ireland) and cattle killing and beef packing plants owned by the largest British slaughtering company, Anglo Beef Processors. The scheme covered 9000 farms in March 1996. Safeway has operated a similar scheme since 1995. Tesco has launched a number of producer groups with until now more than 1000 farmers as members. These producer groups have been established with the aim of allowing full traceability of all beef sold through Tesco from "grass to gravy". Marks and Spencer also launched its own beef quality assurance scheme in 1996. As part of these schemes it is for example controlled for how long the cattle is on grass or stabled. It is preferred that the animals are on grass as long as possible and when stabled that they are not tied. Feeding and how the cattle is transported is also controlled by the supermarkets. The whole slaughtering process including maturation is controlled by inspectors employed by the retail chain in order to secure tenderness, texture, taste and colour of the beef.

Since the BSE crisis began, it has become very important for slaughtering companies and retailers in Germany to be able to trace the beef from the retail counter back to the birth of the animal. Besides company-specific and quality programmes introduced by all the major slaughtering companies, the CMA (Central-Marketing Gesellschaft der deutschen Agrarwirtschaft MbH) in 1992 introduced a CMA-Prüfsiegel for beef from controlled breeding and fattening operations. This was done in co-operation with scientists and representatives of the agricultural sector and the meat industry. Both farmers, slaughtering companies and retailers can participate in the programme. It is checked that all participants in the programme live up to a set of requirements that cover all links in the food chain namely breeding and fattening, animal transport, slaughtering and cutting and retailing. Members of the quality programme using the CMA-mark commit themselves to regular checking by neutral institutes. The market share for CMA-marked beef is around 5%.

A programme of integrated quality control of beef, similar to the CMA program, was set up in 1994 in the Netherlands by the Dutch Meat and Livestock Board. The programme, which is known as IKB, is a voluntary programme that can be joined by slaughterhouses. The basic standards of the IKB scheme specify requirements relating to traceability by means of an identification and registration which include system, housing, feed, hygiene and use of pharmaceuticals. Participants in the IKB system are subject to independent control.

In Denmark, the Danish Meat and Livestock Board is also working on a programme called IPOS, comparable to the Dutch system on integrated quality. However, the Danish project includes the ambition of developing a sorting system for the beef at the slaughterhouses, which is supposed to reflect eating quality and which could be used by retailers in a quality marking of beef. This ambition makes the Danish project different from other quality assurance schemes which tend primarily to focus on credence characteristics like food safety and animal welfare.

The BSE crisis has induced most governments in Europe to improve their legislation on ear-tagging and registration of information necessary for the tracing of animals, and it is now considered at EU level to make cattle passports compulsory in the EU countries (Morgenavisen Jyllands-Posten, 1997).

In the beef sector there is no single actor that one could call the beef-producer and who is able to fully control the quality of the beef products that are sold from the cooling counter in the supermarket or from the butcher's counter. The farmer, the slaughtering company, the wholesaler and the retailer all affect the quality of the final product by their handling of the animal or the beef. At each level in this chain there are interests, incentives or basic conditions that affect the quality of the final beef product. These are outlined in the following.

As mentioned, beef production is mostly a by-product of dairy farming and only a small part of the farmers' income originates in beef production. The focus of the activities at a dairy farm is of course the production of milk and not of beef. The cattle is fed and bred with the purpose of maximising milk production. The farmer is paid for the animals delivered for slaughtering on the basis of the animal's weight and EUROP classification. Partly due to the price support system of the common agricultural policy in the EU, the differences in prices between the EUROP categories are quite small, which makes the incentive to supply cattle of a certain standard quite weak. Weight and EUROP classification can be regarded as objective, product-oriented quality characteristics, but the links from these objective characteristics to user-oriented quality, as defined above, are weak. The EUROP classification system has not been created to reflect differences in user-oriented quality but rather to reflect differences in muscle volume. At the slaughterhouse the beef is normally sorted into different quality categories primarily on the basis of the EUROP classifications which are then also usually the basis of the settlement of prices with the retail trade (Plichta, 1995). The range of variation in important user-oriented quality characteristics like tenderness and taste is probably quite large within the slaughterhouses' quality categories and that could be one of the reasons why retailers do not use the quality categories provided by the slaughtering companies as a basis for a quality marking of their beef.

Companies' views on product quality

The views of companies reflect the situation in the beef market described above quite well.

Is it your impression that suppliers deliver beef of a consistent quality?

RC1-DK: No

RC2-DK: No, they don't supply meat of a consistent quality. We need a uniform standard, which is consistent and which everybody can use. It would be beneficial to all parties. It's a big problem that a quality standard which could be communicated to the consumer does not exist.

RC-UK: Yes, it has been possible to achieve a more consistent quality by polarising on certain suppliers.

RC-GR: The quality is not consistent. They do not always have the quality we want. Even if the meat is in the same EUROP grading it can be different.

Three out of four of the interviewed retailers are not satisfied with the consistency of the beef quality. Only the UK retailer thinks that it has been possible to achieve a more consistent quality by focusing on certain suppliers.

What are the main points on which the quality of beef could be improved to meet the demands of consumers?

TO-DK: The problem with quality is that currently there is no way of measuring tenderness in meat before it has been cut. It's difficult because the variations are substantial between individual cows, much larger than between individual pigs or chicken. There is no doubt that if the farmer finishes his animals instead of sending them to the slaughterhouse right away, we would have a better quality. The slaughterhouses could also introduce quality control (which they do now).

TO-UK: If we had a more objective grading system like with pigs where you can now differentiate on a grading basis by 2 mm. The grading system on cattle is still on a visual basis (EUROP). Until we have that it will be very difficult to progress as fast as we could. Breed has no discernible difference. There is more variation within a group than there is between species in terms of eating quality.

SC2-DK: It would be very good if we could get the farmer to finish all their animals before they deliver them to us. The problem is that 70 or 80% of the milk farmer's income comes from milk. That means that he is not very motivated to feed the cow to make it worth eating. He just wants to get rid of it and replace it with a new high yielding cow which gives him a higher return than feeding on the cow to make it a bit fatter. The price difference between a cow which has been properly finished and a non-finished cow is too small to make it worth while. The new quality system (IPOS) is supposed to lead to a widening of the price difference.

SC-UK: A main way of improving quality is represented by the improvement of shelf life. With more attention to slaughtering conditions and temperatures it will be possible to extend beef products' shelf life. This requires processors and retailers to work together in a co-ordinated process.

SC1-GR: You can improve the meat quality by making the right animal crossings.

SC2-GR: Tenderness could be improved.

RC2-DK: Danish beef is at a very low level because most of the meat produced is from cows. It's too varying. The farmer is under a large financial pressure and he does not have the time for finishing his beef. Instead he sends it to the slaughterhouse when he needs money. That is reflected in the quality. Pork on the other hand is of a very uniform, consistent quality.

RC-UK: Consistent meat texture, flavour and level of fats are the mostly addressed issues.

RC-GR: At the moment the quality of beef is very good.

How could these improvements be achieved? What are the critical activities to be performed at various levels of the distribution chain?

TO-DK: The slaughterhouse sorts the meat in qualities, but we don't think the sorting which is made at the moment (more or less based on EUROP) is sufficient in relation to eating quality. We may have found a way to measure the general amount of intramuscular fat in an animal, which is a good predictor of tenderness, that would be very valuable. It will also require an education of the consumer, that intramuscular fat is good. If the slaughterhouses introduce quality control systems and stick to them, if the retailers make sure that they let the meat mature properly and the farmer finishes his cattle then we have a potential which will raise the quality level.

SC2-GR: In order to get tender beef we should take care of some things: If the animals make a long journey before they get to the slaughterhouse, it is very important to let them rest and relax for a while and then slaughter them. In the slaughterhouses we should avoid cattle getting frightened and stressed. All these things contribute to the meat's tenderness, which is something that we should improve in Greece.

A consistent quality seems to be important to the consumer of beef. Why isn't it always achieved? What could be done to make quality consistent?

SC1-DK: The problem in Denmark is that even if a retail chain has a policy of selling only good quality meat, there may be a local shop manager or butcher in a shop who looks at the prices and is tempted to buy beef at a lower quality in order to lower costs. He thinks: If I buy beef of a somewhat lower quality, I might be able to balance budgets. We see that a lot. We mark beef in five different quality categories, but when you go to the store, you never see beef marked that way. O.K. why do we produce these cows when we can't eat them. Well, they are not produced for the sake of the beef but for the milk. We then have a by-product called beef. When it doesn't pay off for the farmer to put some meat on the milking cow before slaughtering, he just delivers it for slaughtering right away. The result of slaughtering an animal without one gram of fat on it is beef of poor eating quality.

SC2-DK: In my opinion it's the retailers' fault. They do not use our quality sorting in the cooling counters. For twenty years we have done a lot to sort animals according to different criteria, but the retailers don't use this sorting so we have good quality beef and bad quality beef lying next to each other in the cooling counter. We also have to shoot at ourselves in the industry because the individual slaughtering companies don't use the same quality criteria. If we through the IPOS project can use the same criteria across the industry it will be easier to insist that retailers use the quality sortings in marking the meat.

SC2-GR: If we talk about the Greek market, that cannot be feasible, because in many circumstances the conditions under which sales are conducted, are unacceptable. Let's think of the public markets. The meat lies on a table and it is not even protected from the sun.

The industry interviews reflect the fact that at least the eating quality of beef is quite neglected. The cattle delivered to the slaughterhouse are enormously variable with respect to eating quality, and since there is currently no way of measuring the tenderness or taste at the slaughterhouse or at the retailer's, the final product offered for consumption is of a quite variable quality as well.

4.6 New product development

In general, product development in the beef market happens at a very low rate. Neither slaughtering companies nor retail chains have been very active in developing new beef products. One of the major successful product developments introduced in recent years is the introduction of controlled atmosphere in the packaging of beef. Another success is the introduction of a small 500 g mini-roast in the United Kingdom. The mini-roast is marketed as suitable for one or two persons and is addressing the problem of the roast as being an inconvenient product in contemporary households, see the industry interviews below. Several industry and retail respondents mention that product development in the direction of more convenient beef products would be a good idea. The mini-roast is an obvious example of a product development which seems to be beneficial to the beef sector in general. The benefit to the beef sector of developing ready-meals, however, seems to be a more ambiguous area. There is already a market for ready-made burgers, meat sauces and other products with mince, which could perhaps be expanded. But mince is already the most popular type of beef and it is usually made using the rather inexpensive forequarters of the animal.

There are also the more valuable hindquarters of the animals which are used primarily for steaks and roast. Using these parts of an animal in a ready meal would make the meal rather expensive, and the question is whether the consumer is ready to pay for an expensive ready-meal containing for example sirloin. It may be difficult for the consumers to associate an expensive piece of meat with a ready meal.

Do you see any possibilities for new product development in the beef market? Which?

SC-UK: Convenience is very important when developing new products. For example we could market thinner slices of meat which are easier to cook and take less time. Another way is to develop products such as mini-joints suitable for one or two people. We are experimenting with ways of shredding meat instead of mincing it.

SC1-GR: The processed meat products are getting more and more popular. People like to go to the supermarket to buy one or two beef steaks or hamburgers or ready-to-cook beef products.

TO-DK: A Danish meat research institute has tested a special way of making steer meat. They let the animals on grass and give them extra feeding to make meat with a lot of intramuscular fat. This treatment makes the meat so tender that

you don't need a knife to cut it. It's expensive meat but you can even make roastbeef from the forequarters of these steers. I'm afraid though that Denmark is not big enough to use this idea. It really requires a lot of money to make enough steers to create a position.

TO-UK: They might swing back to in-store butcheries. Might try to capture the premium end of the market. Slaughtering companies are moving down the right track. They have introduced controlled atmosphere, they have put beef in a box which can be stacked on top of each other. You can put recipe leaflets on them. Quality on distribution and handling is quite good now.

RC1-DK: Microwave dishes.

RC2-DK: Consumption is going towards ready meals. If we look at the United Kingdom they have a large market for ready meals which are either ready to be put in the oven or partly ready so that you need to add only a few things. The question is if these meals will contain a lot of beef.

RC-UK: In the case of beef it's better to provide the consumer with further information such as recipes etc. rather than to try to develop new prepared products or ready meals. We have tried to sell beef together with a ready-made pepper sauce, but it hasn't worked. People want to prepare their own pepper sauce or they can buy it separately.

RC-GR: A few years ago we could buy beef only at the butcher's. Now we can buy it self-service in the supermarkets.

Do you see new product development in the area of processed beef (hamburgers, ready-meals, canned beef) as a way of increasing the consumption of beef? Why/why not?

SC2-DK: Maybe. The problem is that beef is relatively expensive compared to other meat products. That is you start with an expensive raw material which has to make an expensive finished product. Then it is difficult to compete with a cut up chicken in a tray which is very cheap. That's the problem. If you want good beef – the hindquarter – it's expensive.

TO-UK: Mini joints, hamburgers, mince. You have to remember that you have to make equally good use of both ends of the animal. You could lose whatever gain you got on the forequarter on the hindquarter.

SC1-GR: It might happen but it hasn't happened yet.

SC2-GR: No, these products are not as popular in Greece as elsewhere. Thraki has always been interested in new products, but it is more interested in natural processing methods. We follow more traditional ways of selling beef in Greece.

RC2-DK: I think you can. I think that consumption to a larger extent goes towards ready meals. If we look at the UK they have a huge market for products like that. It's doubtful though that you can increase the consumption of beef that way.

RC1-DK: People buy themselves time, and there is no doubt that you will see the easy dishes grow. People come home late from their jobs and, they want cooking to be easy so it goes into the microwave. We have seen it with other products.

RC-GR: Not in Greece. There are no companies in Greece making that kind of products. I believe that we will keep the traditional way of trading beef for many years.

4.7 Competition in the beef market

A consequence of the lack of branding, the lack of differences in product quality and the lack of new product development in the beef sector is that competition between both slaughtering companies and retailers to a large extent will focus on price. When the differences in the average quality of the products offered by slaughterhouses and retail chains are small, the competition will tend to focus on price. This is confirmed by the industry interviews with one exception, namely the Danish retail chain that by integrating backwards has been able to control the quality of the beef at least to some extent. According to the representative from the Danish trade organisation, the cause of the intense price competition in the beef sector is that the consumers do not demand quality products.

What is the competition in the beef market based on?

TO-DK: I have the impression that the competition is conducted on the retailers' conditions. The only parameter seems to be price because customers and consumers do not demand quality. The Danish or Nordic consumer is more interested in getting some ground beef in a hurry and it should be as inexpensive as possible. The retailers take advantage of this. Beef is always on sale to attract customers.

TO-UK: Price, scale, reputation, efficiency.

TO-GR: Price is the main factor.

RC1-DK: Nationality branding. Quality has become more important in recent years, people are ready to pay more for high quality. Price is of course also important.

RC2-DK: Price is definitely most important.

RC-UK: Competition is based on price.

RC-GR: The most important factor is price.

4.8 The role of retail chains

The demands and preferences of large retail chains often have the power to influence the behaviour and organisation of the links backwards in the distribution chain. It is therefore interesting to know what preferences retail chains have with regard to the suppliers and their products.

The mentioned study on the beef sector by Grunert, Skytte and Baadsgaard (1993) also included an analysis of the distribution chain including interviews with a number of retail chains in the four countries covered by the study. Interviews were conducted with 13 retail chains in the United Kingdom, 9 in Germany, 13 in France and 13 in Spain. This study showed that in general the relations between retail chains and slaughtering companies are quite informal although long-term. It is the retail chains that prefer to keep relations informal⁷. The retail chains tend to buy their beef from the same suppliers each

⁷ Contracts have been set up in connection with for example the quality assurance schemes in the UK, but the quantity of meat going through these schemes only represents a fraction of the production of the participating slaughtering companies. There are no contracts on the remaining beef according to industry interviews.

time they order; but they prefer to be able to switch suppliers because they want to be able to shop around for the most attractive offer. Prices are negotiated each week on the basis of auction prices.

The industry interviews conducted for this report confirm that informal but long-term relations between slaughtering companies and the retail chain are the norm.

Question for trade organisations:

What kind of relations do slaughterhouses have to their customers (short or long term)?

TO-UK: The contracts are usually informal, which of course annoys the abattoirs, because they can be manipulated on price. But there are also agreements between abattoirs and retailers for example between ABP and Sainsbury's. Sainsbury wants to differentiate their market and they set up a beef club where beef is produced under specifications. They call it "heritage beef" or something like that, which is extra mature beef (representing maybe 10-15% of the abattoirs' total offer). But the supermarkets won't give the abattoirs a contract on the rest of their beef, which is the large bulk end of the market. They'll be moving around, they'll be putting pressures on their suppliers and they'll negotiate prices weekly. Some supermarkets now say that they have single preferred suppliers but they haven't said what that covers.

Question for slaughtering companies

Do you tend to have short or long-term relations with your customers?

SC1-DK: Retailers shop for lowest price.

SC2-DK: We have more or less the same customers all the time – at least on the export market. Some customers shop around for the lowest price but 90-95% of our customers are always the same.

SC-UK: Relationships with both suppliers and retailers are informal arrangements based on reputation and reciprocal trust. Only the specifications concerning the assurance scheme (ie hygiene conditions) are defined by contract. No prices are settled by contract.

SC1-GR: Long-term.

SC2-GR: Long-term.

Question for retail chains:

Do you use the same beef suppliers each time you order or do you often switch? Why?

RC1-DK: We have the same suppliers each time we order. You know who you are dealing with.

RC2-DK: We have a large net of suppliers so it can change a bit from week to week depending on the prices.

RC-UK: Yes, the relationships with suppliers are quite strong and based on reciprocal trust.

RC-GR: Thraki is our own supplier

The buying criteria for the retailers differ but after the BSE crisis, traceability is becoming more important. Reliability of delivery (ie that suppliers are able to supply the demanded amount of beef) and price also seem to be important buying criteria.

Buying criteria for retailers (different questions were put to the different kinds of respondents)

SC1-DK: Price and Danish origin. Reliable delivery. The most difficult thing in Denmark is to find the amount of beef that retailers need. Retailers have campaigns where they sell only one part of a cow, eg roasts.

SC2-DK: Supply reliability is very important. It is important that the customer can be certain that we have what they need and that quality is consistent. Price is becoming more important in the south (referring to export customers).

SC-UK: Price is the buying criterion for customers. Origin.

SC1-GR: Quality, price, ways of payment.

SC2-GR: The relation between price and quality is important.

RC1-DK: Animals less than three years old, steers, heifers, young cows which have had one calf at the most. Only want Danish or German beef.

RC2-DK: Each week we define quality and we fill up from the less expensive end. We buy where it's cheap without compromising on the quality. We define quality in terms of weight, fatness and colour.

RC-GR: We only have one supplier which is in our group of companies.

5. CONCLUSIONS

Fresh beef is to a large extent an un-branded, un-promoted commodity type product. The degree of differentiation is very low, the quality of the products is quite variable, and the competition in the market is consequently mainly focused on price.

These conditions can be explained by a large number of interrelated factors, the most important being the following: Firstly, loose relations between the links in the distribution chain from farmers through slaughtering companies to retailers make it very difficult to control beef quality. Secondly, beef production is largely a by-product of milk production and subsequently the focus of farmers is not on beef but on milk. A third factor is the lack of an instrumental way of measuring some of the most important user-oriented quality characteristics like tenderness and taste. In the present situation attempts to sort the beef which is usually of a very variable quality into quality categories have been based on sorting criteria

(usually EUROP-based) that have virtually no relation to user-oriented quality. Fourthly, product development initiatives aimed at satisfying the needs (eg convenience needs) of the contemporary households have been scarce.

Especially after the BSE crisis a number of initiatives have been launched in the European Union to produce beef under specifications which are set up for all links in the distribution chain. Such schemes are able to reduce the variation in the quality of beef. Until now these schemes appear to have been aimed primarily at assurance of credence characteristics of beef such as food safety and animal welfare, but they could perhaps be extended to include also important experience quality characteristics like tenderness and taste.

Quality control and product development seem to be the keys to differentiate the market and ease the price competition among slaughtering companies and retailers.

The main trends and characteristics of the market in the EU can be summarised as follows:

- The basic product types within the area of fresh beef do not vary much between countries in the EU. Minced beef, beef steaks, beef joints, cubed beef and offal are product types known to most consumers in Europe. The consumers in southern Europe are used to beef of a lighter colour than northern Europeans. There seems to be a trend away from beef joints towards mince.
- Average meat consumption in the EU has been increasing steadily since the 1960's from around 50 kg/head/year to around 85 kg/head/year. Average beef consumption on the other hand has been rather stable around 20 kg/head/year in the period, resulting in a decrease in beef's share of meat consumption. According to industry interviews the consumption of beef will continue at the present level or show a slightly falling trend.
- The point of purchase is rapidly changing in Europe. The importance of butchers in Europe is steadily declining although still important in southern European countries. The butchers' share of the market is taken over by the large retail chains which are offering a more convenient way of buying beef.
- Studies indicate that beef consumption tends to increase with age; the heavy users are found among middle aged men. Beef consumption also increases with income and social class. An increasing number of women in paid employment and growth in the number of one- or two-person households are factors that have probably caused the increase in the demand for the convenient minced beef at the expense of the more inconvenient large-size beef joint.
- The consumption level of meat has traditionally been explained by factors like price and per capita income, but a study shows that these economic demand analyses are able to explain a rapidly decreasing share of the variation in meat consumption.
- The most important user-oriented quality characteristics determining the consumers' value perception of a piece of meat appear to be fat, tenderness, taste and freshness. One study shows that the amount of fat (both fat rim,

fat lumps and marbling) that a consumer perceives in a piece of beef is the most important search characteristic in forming the consumers' expectations about quality. The result shows considerable consumer uncertainty. Fat content is actually not a good predictor of the perhaps most important quality aspects consumers are interested in, namely tenderness and taste, and to the extent it is, the prediction goes the other way round than consumers suppose. Especially a certain degree of marbling is actually a factor that contributes to tenderness, taste and juiciness, whereas consumers seem to think it detracts from it.

- The primary production of beef is quite fragmented in most European countries and the average number of cattle at a European cattle farm is only slowly rising. Two thirds of the cows are dairy cows which goes to show that milk production is in the main focus for most European cattle farmers who receive only a small part of their income from beef production.
- The concentration in the beef slaughtering industry is increasing and beef slaughtering has become a quite concentrated industry at least at the national level. At the European level the concentration is small with the largest slaughtering company slaughtering only 3% of the total. The range of activities performed by the beef slaughtering industry is increasing as they have taken over a lot of wholesaling and are starting to move into consumer packaging operations, which have traditionally been undertaken by retailers. The slaughtering companies have no slaughtering operations in other countries than their own.
- The relations between slaughterhouses and farmers tend to be quite loose compared to other agricultural markets (eg the milk market). The co-operative share of the market is quite low primarily because farmers prefer to retain a degree of freedom to sell their cattle to the highest bidding buyer which can be a slaughterhouse or a cattle-buyer at the cattle auction markets. Cattle markets are still quite important although the share of cattle going through markets is declining.
- Product quality has been very difficult to control in the beef sector. The cattle supplied for slaughtering is of a very varying quality with regard to important user-oriented quality characteristics like tenderness and taste, and the lack of instrumental measures of these characteristics has made the sorting into quality categories impossible. Since the beginning of the BSE crisis there have been initiatives in several countries to produce beef under certain controlled conditions with the aim of assuring a certain quality, mainly with regard to credence characteristics regarding food safety and animal welfare. These schemes involve participation of all links in the distribution chain from farmers to retailers.
- Partly as a result of the fact that beef has been so undifferentiated in terms of quality, there is very little branding going on in the beef market, and to the degree there is, it is usually national or regional branding of beef which is done by retailers. There are only few manufacturers' brands in the market, mainly in France and recently in Germany.

- New product development in the beef market has been very scarce. Two examples of successful innovations in recent years are the introduction of controlled atmosphere packaging of beef and the introduction of a mini-roast in the United Kingdom which meets the convenience demands of consumers.
- As a consequence of the low degree of differentiation between fresh beef products in the market, the competition at both the level of slaughtering companies and the level of retailers tends to focus on price. For most actors in the industry, the only way of differentiating themselves from competitors is by using the price parameter.

REFERENCES

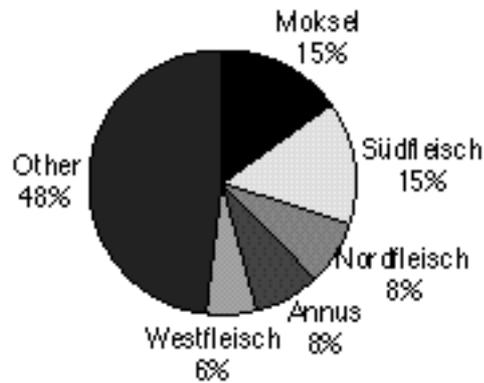
- Anderson, E. W. & Shugan, S. M. (1991). Repositioning for changing preferences: The case of beef versus poultry. *Journal of Consumer Research* 18, 219-232.
- Audenaert, A., Steenkamp, J-B E. M. & Vanden Abeele, P. (1996). Consumer behaviour with respect to beef in the EU. Scientific report for Task I of this project.
- Azzam, A. M. & Schroeter, J. R. (1997). Concentration in beef packing: Do gains outweigh losses? *Choices (First quarter)*, 26-31.
- Baadsgaard, A., Grunert, K. G. & Skytte, H. (1993). Alternativ afsætning af dansk ungtyre kød [The market for Danish young bulls' meat in Europe]. The Aarhus School of Business.
- Bansback, B. (1993). Meat demand economics. In: *Meat consumption in the European Community*. Brussels and Luxembourg: The European Commission.
- Bansback, B. (1995). Towards a broader understanding of meat demand – presidential address. *Journal of Agricultural Economics* 46 (3), 287-308.
- Crédoc (1993). *The beef market in France* Paris.
- DATA (1993). *The distribution channel structure of the beef market in Spain* Madrid.
- Dransfield, G. R. et al. (1984). Beef quality assessed at European research centres. *Meat Science* 10, 1-20.
- EIU Retail Business (1987). *Meat market overview* No. 354, 30-41.
- EIU Retail Business (1991). *Beef and veal; meat, part 2*. No. 403, 20-30.
- EIU Retail Business (1995). *Meat, part 2: Beef and veal* No. 444, 84-105.
- European Economy (1994). *EC Agricultural policy for the 21st century* Luxembourg, European Commission.
- EUROSTAT (1996). *Panorama of EU-industry 1995-1996*. Luxembourg: The European Commission.
- Grunert, K. G., Hartvig Larsen, H., Madsen, T. K. & Baadsgaard, A. (1996). *Market orientation in food and agriculture*. Boston, MA: Kluwer Academic Publishers.
- Grunert, K. G. (1996). What's in a steak? A cross cultural study on the quality perceptions of meat. MAPP working paper no 39, Aarhus: The Aarhus School of Business.
- Grunert, K. G. (1993). Food-related lifestyle: Development of a cross-culturally valid instrument for market surveillance MAPP working paper no 12, Aarhus: The Aarhus School of Business.
- Hobbs, J. E. (1996). Transaction costs and slaughter cattle procurement: Processors' selection of supply channels. *Agribusiness* 12(6), 509-523.
- IEFS (1996). *Institute of European Food Studies*, Ireland.
- K-Orientering (1993). 18(4), The Danish Institute of Meat Research.
- MAFF (1997). *BSE: A summary of developments over the past twelve months*, Ministry of Agriculture, Fisheries and Food (UK), the World Wide Web.
- Mintel (1994) *Red meat*, London.
- MLC. *Market overview Issues 1994-1995*, The Meat and Livestock Commission, The United Kingdom.

- Møller, T. H. (1997). Styr på køerne. *Morgenavisen Jyllands-Posten* 19 February.
- Plichta, K. (1995). Magtag-systemet og den markedsorienterede kvalitetskontrol Muligheder inden for den danske oksekødssektor [The MAGTAG-system and market-oriented quality control: Possibilities in the Danish beef sector], MAPP project paper, Aarhus: The Aarhus School of Business.
- PVV, Livestock, meat and eggs in the Netherlands Issues 1994-1996, Product Boards for Livestock, Meat and Eggs in the Netherlands, the Netherlands.
- Richardson, N. J., Shepherd, R. & Elliman, N. A. (1993). Current attitudes and future influences on meat consumption in the UK. *Appetite* 21, 41-51.
- RMM (1993). The market for beef in Germany Hamburg.
- Santos, M. L. S. & Booth, D. A. (1996). Influences on meat avoidance among British students. *Appetite* 27, 197-205.
- Sapp, S. G. (1991). Impact of nutritional knowledge within an expanded rational expectations model of beef consumption. *Journal for Nutrition Education* 23, 214-222.
- Shepherd, R. & Stockley, L. (1985). Fat consumption and attitudes towards food with a high fat content. *Human Nutrition: Applied Nutrition* 39A, 431-442.
- Shepherd, R. & Towler, G. (1992). Nutrition knowledge, attitudes and fat intake: application of the theory of reasoned action. *Journal of Nutrition and Dietetics* 5, 387-397.
- Spitters, P. (1993). Image and meat consumption. In: *Meat consumption in the European Communities, Brussels and Luxemburg*: The European Commission.
- Steenkamp, J.-B. E.M. & Van Trijp, H. C. M. (1996). Quality guidance: A consumer-based approach to food quality improvement using partial least squares. *European Journal of Agricultural Economics* 23, 195-215.
- Taylor Nelson (1993). The channel structure for beef in the UK Surrey.

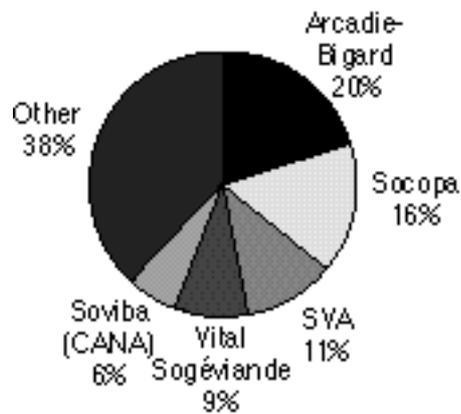
APPENDIX

The five largest companies in the slaughtering of adult cattle in 1995 and their share of the total number of cattle slaughtered – illustrated for eight countries

Germany – The five biggest companies' share of total adult cattle slaughterings



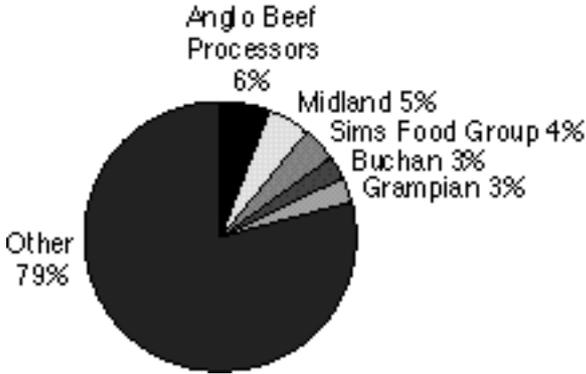
France – The five biggest companies' share of total adult cattle slaughterings



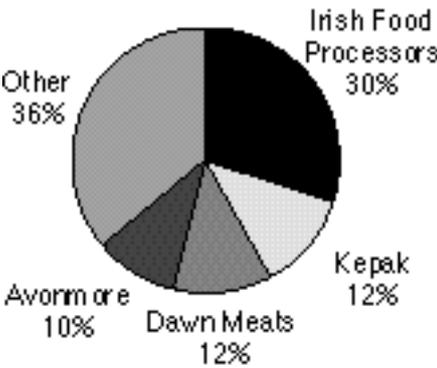
Italy – The four biggest companies' share of total adult cattle slaughterings



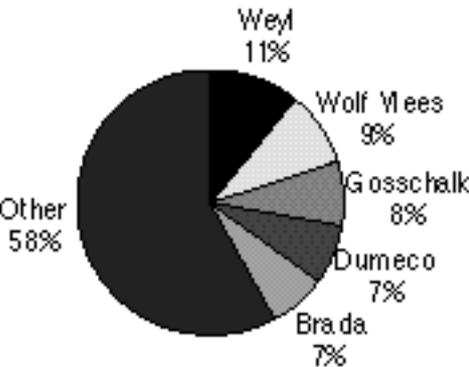
United Kingdom – The five biggest companies' share of total adult cattle slaughterings



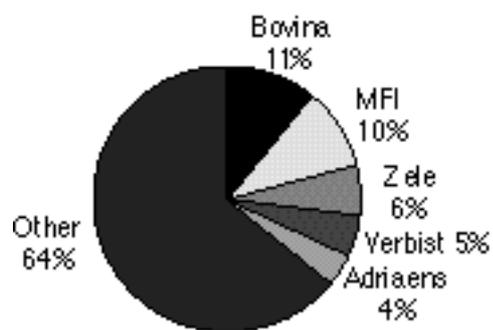
Ireland – The four biggest companies' share of total adult cattle slaughterings



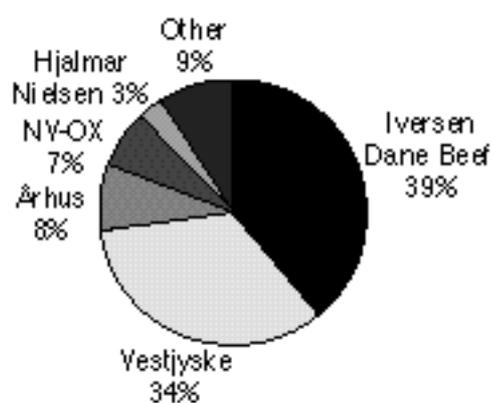
The Netherlands – The five biggest companies' share of total adult cattle slaughterings



Belgium – The five biggest companies' share of total adult cattle slaughterings



Denmark – The five biggest companies' share of total adult cattle slaughterings



Source: PVV, 1996

COMPANIES INTERVIEWED

SC: Slaughtering Company, RC: Retail Chain, TO: Trade Organisation

In the UK

SC-UK: Large beef slaughtering company, the person interviewed is Director and Deputy chief executive

RC-UK: Large retail chain, The person interviewed is senior buyer of meat

TO-UK: Meat and Livestock Board

In Denmark (DK)

SC1-DK: Large Danish slaughtering company. Serve both domestic and export markets. The person interviewed is Director of the beef division

SC2-DK: Large Danish slaughtering company. Serve both domestic and export markets. The person interviewed is Director of the beef division

RC1-DK: Large retail chain. The person interviewed is senior buyer

RC2-DK: Large retail chain. The person interviewed is senior buyer

TO-DK: Beef trade organisation

In Greece (GR)

SC1-GR: Large slaughtering company, also imports beef

SC2-GR: Small slaughtering company

RC-GR: Large retail chain

TO-GR: Trade organisation

TASK IIIA

GUIDELINES FOR INTERVIEWS IN THE BEEF MARKET

The aim of these interviews is to provide information which could fill gaps in the beef report. A key consideration in a development of successful marketing strategies for actors in the beef market seems to be the relations/integration between the different links in the distribution chain. The interviews will therefore concentrate not only on the determinants of competition which are likely to differ between different links in the chain but also on the characteristics of the relationships between these links.

- Four interviews are conducted in each country. Two or three of the large slaughtering companies, a major retail chain, and if possible a trade organization should be selected for interviews in each of the three countries. The programs for quality assurance through the whole distribution chain initiated in the United Kingdom by the large retail chains (eg Sainsbury, Tesco, and Marks and Spencer) are very interesting and it would be interesting to know more about how these schemes work. In the United Kingdom therefore, a retail chain should be chosen for interviewing, which operates such a scheme, and also a slaughtering company which participates in the scheme.
- In the slaughtering companies, interviews should be conducted with the marketing director or the general manager. In the retail chain, interviews should be conducted with the person responsible for the purchases of beef in the chain.
- The interviews should ideally be tape-recorded and a transcript of the interviews conducted in Greece and the United Kingdom sent to Aarhus.
- Please, if you get any relevant pieces of information or material which could be included in the report and which are not mentioned in the questionnaire, please take a note of them at the end of the questionnaire.

Interview with a retail chain

Function and responsibilities, of the person interviewed:

1. General trends in the market

1. Do you expect beef consumption in this country to grow, remain stable or decrease during the next five years? Why?
2. In your opinion what are the main explanations for the fact that beef's share of meat sales have been decreasing in most countries in the EU for the last 20 years (show figure) despite a positive image in the eyes of the consumer who regard beef as being healthy, tasty and versatile according to some surveys (conducted before the BSE crisis).
3. Could this development be reversed and how?
4. The relative prices of beef compared to other meat types like pork and poultry have been increasing during the last decades. What is the explanation for that in your opinion?
5. What is the share of beef sales sold through service meat counters in retail chain as opposed to self-service meat counters? How is the trend in retail chains in general?
6. Will the BSE crisis affect beef sales in the long run? What long-run impact, if any, will the BSE crisis have on the structure of the beef market? (industry concentration, integration between links in the distribution chain, legislation etc.)

2. Relations with suppliers

1. From which sources do large retail chains in your country normally purchase beef? (Directly from slaughterhouses, from wholesalers)
2. In what form do retail chains normally buy their beef (carcasses, retail packages, consumer packages)?
3. Who take care of the distribution of the beef from the suppliers to the store?
4. Do you find it important that suppliers are able to offer a broad range of meat types (beef, pork, sheep etc.)?
5. Do you use the same beef suppliers each time you order or do you often switch? Why?
6. Do you keep yourself informed about new suppliers/brands on the market? How?
7. How are beef-suppliers selected in the first place? What criteria do they have to meet (in order of importance)?

8. To what extent do suppliers actually meet these requirements?
 9. Do you expect any marketing activity from your suppliers? Which?
 10. Do you buy beef from non-domestic suppliers? Why?/Why not? From where (if applicable)?
 11. What do you know about the incoming beef in terms of origin, age, food safety (hormones BSE etc.), feeding and breeding, maturity of meat, eating quality (tenderness, taste)?
 12. How often are prices negotiated with suppliers? On what basis are they determined?
3. Product quality improvements and product development
1. Is it your impression that suppliers deliver beef of a consistent quality? Has quality become more or less consistent in recent years?
 2. What are the main points on which the quality of beef could be improved to meet the demands of consumers?
 3. How could these improvements be achieved? What are the critical activities to be performed at various levels of the distribution chain?
 4. Which important innovations in the beef market have been launched in recent years?
 5. Do you see any possibilities for new product development in the beef market? Which?
 6. At what link in the distribution chain should the initiative for an innovation be taken? (retailers or slaughtering companies)
 7. Do you see any important differences between the conditions for product development in the beef market compared with the conditions in the markets for other meat types eg pork or poultry? which?
4. Marketing activities, branding
1. How (if at all) does promotion of beef take place (general promotion of beef, per store, per brand)?
 2. Which message elements should promotion of beef include: (Product attributes, recipes, health, consumer lifestyle)
 3. In general how are beef sales distributed on branded versus un-branded beef? What is the trend?
 4. What percentage of branded beef sales are own retailer brands and what percentage are suppliers brands? What are the prospects regarding the division between retailer's brands and suppliers brands?

5. In your opinion is branding effective in achieving customer loyalty? Why? Why not?
5. Quality assurance program (if the company participates in such a program)
 1. When and why did the chain launch the quality assurance program?
 2. How does the program work?. What is assured, how and by whom? (at each level of distribution: farmers, slaughterhouse, retailer)
 3. Do all assured products have a quality assurance label or is it a general assurance on all beef products sold in the stores?
 4. What advantages for you do you see in such a program? Are there any disadvantages?
 5. Do you distinguish between quality assurance with regard to food safety and quality assurance with regard to eating quality?
 6. How is the development in the sales of your quality assured beef. What is its approximate share of sales? Has this share changed since the 1996 BSE crisis?
 7. In your opinion, will beef sourced through these kind of programs increase in the future?
6. Market competition
 1. The competition between retail chains for beef/meat buyers is based on which factors (price, quality, health, traceability, convenience)? What factors are most important?
 2. What do you do to meet or beat the competition?

Interviews with slaughtering companies

Function and responsibilities, of the person interviewed:

1. Description of company

Name:

Legal status:

How many plants does the company operate?

What functions do they have?

How many employees does the company have?

How is the distribution of company slaughterings on different animals (cattle units, turnover).

2. General trends in the market

1. Do you expect beef consumption in this country to grow, remain stable or decrease during the next 5 years? Why?
2. In your opinion what are the main explanations for the fact that beef's share of meat sales have been decreasing in most countries in the EU for the last 20 years (show figure) despite a positive image in the eyes of the consumer who regard beef as being healthy, tasty and versatile according to some surveys (conducted before the BSE crisis).
3. Could this development be reversed and how?
4. The relative prices of beef compared to other meat types have been increasing during the last decades. What is the explanation for that in your opinion?
5. Will the BSE crisis affect beef sales in the long run? What long-run impact, if any, will the BSE crisis have on the structure of the beef market? (industry concentration, integration between links in the distribution chain, legislation etc.)

3. Functions performed by slaughtering companies

1. What are the different functions your company performs in processing and distributing beef (slaughtering, cutting, deboning, packaging, meat products manufacturing, transportation etc.)?
2. What type of customers do you have (retail chains, butchers, wholesalers, meat products industry, export) in order of importance?
3. Do you tend to have short or long term relations with your customers?

4. At what stage of processing (carcasses, quarters, retail packages, consumer packages) do the sales take place? And does it differ with type of customer?

5. Has there been any general change in the degree of processing (cutting, packaging) performed by slaughtering companies in the past? Do you expect changes in the future?

4. Marketing activities, branding

1. How do slaughtering companies in general promote their beef to customers/consumers?

2. What types of promotion with regard to beef is most useful?

3. To what extent do slaughtering companies market their own company brands (percentage of sales)? What are the future prospects regarding this share in your opinion?

4. What percentage of your sales is branded beef?

5. What type of products are branded?

6. To what extent could branding be used in order to achieve market power via customer loyalty towards beef products from a specific slaughtering company like yours? What type of products could be branded?

5. Sourcing of cattle/beef

1. From which sources do you purchase cattle, in order of importance (directly from farmers, producer groups, cattle auction markets)?

2. What type of sourcing do you prefer? What kind of relationships do you have with the suppliers (delivery on contract, loose relations)?

3. What type of relationship would you ideally prefer and why?

4. On what basis are suppliers paid (EUROP grading, other)?

5. What do you know about the incoming cattle in terms of origin, age, feeding and breeding. Do you also buy carcasses or quarters for further processing? From which sources?

6. What long-run impact, if any, will the BSE crisis have on the way beef is sourced by slaughterhouses?

6. Product quality improvements and product development

1. A consistent quality seems to be important to the consumer of beef. Why isn't it always achieved? What could be done to make quality consistent?

2. In your opinion, what are the main points on which the quality of beef could be improved to meet the demands of consumers? (taste, tenderness, juiciness etc.)

3. How could these improvements be achieved? What are the critical activities to be performed at various levels of the distribution chain?
 4. Which important innovations in the beef market have been launched in recent years?
 5. Do you see any possibilities for new product development in the beef market? Which?
 6. At what link in the distribution chain should the initiative for an innovation be taken?
 7. Do you see any important differences between the conditions for product development in the beef market compared with the conditions in the markets for other meat types eg pork or poultry? which?
7. Market competition and competitive factors
1. What is competition in the beef market based on?
 2. What are the most important buying-criteria for your customers. Do they differ with type of customer? Has there been any development/change in customers' buying criteria in recent years?
 3. Which demands from customers are hardest to meet?
 4. Is it relevant for slaughtering companies to collect information on the preferences of consumers concerning beef? Why/why not?
 5. Who normally takes the initiative when a new beef product or service is added to your offerings? yourself, your customers or pressure from competitors?
 6. Is domestic or EU regulations influencing your competitiveness? In what ways?
 7. What factors determine international trade in beef? (both inside and outside the EU)
8. Quality assurance program (if the company participates in a program)
1. How does the program work?.
 2. What is assured and how? (at each level of distribution, farmers, slaughterhouses, retailers)
 3. In what form (carcasses, retail package, consumer-package) is the meat when supplied to the customer?
 4. What advantages do you see for your company in the program? Are there any disadvantages?

5. Development in the sales of quality assured beef. What is its share of your sales?
6. Which changes if any do you wish to see in the program in the future? Why?

Interviews with trade organisation

Function and responsibilities, of the person interviewed:

1. The role of the trade organization

1. What is the role of your organization?
2. What kind of initiatives do you take?
3. Could you give a brief description of some of the initiatives and their results?

2. General trends in the market

1. In your opinion what is the main challenge for the beef industry in the next decade?
2. Do you expect beef consumption in this country to grow, remain stable or decrease during the next 5 years? Why?
3. In your opinion what are the main explanations for the fact that beef's share of meat sales have been decreasing in most countries in the EU for the last 20 years (show figure) despite a positive image in the eyes of the consumer who regard beef as being healthy, tasty and versatile according to some surveys (conducted before the BSE crisis).
4. Could this development be reversed and how?
5. The relative prices of beef compared to other meat types have been increasing during the last decades. What is the explanation for that in your opinion?
6. Will the BSE crisis affect beef sales in the long run?
7. What long-run impact, if any, will the BSE crisis have on the structure of the beef market? (industry concentration, integration between links in the distribution chain, legislation etc.)
8. What type of companies in the industry are most successful? Why?

3. Functions performed by slaughtering companies

1. What are the different functions a typical slaughtering company is performing in the distribution of beef (slaughtering, cutting, deboning, packaging, meat products manufacturing etc.)?
2. What are the most important customers of slaughtering companies (retail chains, butchers, wholesalers, meat products industry, export (before the export ban)) in order of importance?
3. At what stage of processing (carcasses, quarters, retail packages, consumer packages) do the sales take place? And does it differ with type of customer?

4. What kind of relations do slaughterhouse have to their customers (short or long term)?
 5. Has there been any general change in the degree of processing (cutting, packaging) performed by slaughtering companies in the past? Do you expect changes in the future?
4. Marketing activities, branding
1. How do slaughtering companies in general promote their beef to customers/consumers?
 2. What types of promotion with regard to beef is most useful?
 3. To what extent do slaughtering companies in your country market their own company brands (percentage of sales)? What are the future prospects regarding this share in your opinion?
 4. What percentage of your sales are branded beef?
 5. To what extent could branding be used in order to achieve market power via customer loyalty towards beef products from a specific slaughtering company like yours? What type of products could be branded?
5. Sourcing of cattle/beef
1. From which sources do slaughterhouses purchase cattle, in order of importance (directly from farmers, producer groups, cattle auction markets)?
 2. What type of sourcing is preferred? Why?
 3. What kind of relationships do they have with the suppliers (delivery on contract, loose relations)?
 4. Is the present type of sourcing optimal? If not how should it ideally be changed?
 5. On what basis are suppliers paid (EUROP grading, other)?
 6. What long-run impact, if any, will the BSE crisis have on the way beef is sourced by slaughterhouses?
6. Product quality improvements and product development
1. In your opinion, what are the main points on which the quality of beef could be improved to meet the demands of consumers?
 2. How could these improvements be achieved? What are the critical activities to be performed at various levels of the distribution chain?
 3. Which important innovations in the beef market have been launched in recent years?

4. Do you see any possibilities for new product development in the beef market? Which?
5. At what link in the distribution chain should the initiative for an innovation be taken?
6. Do you see any important differences between the conditions for product development in the beef market compared with the conditions in the markets for other meat types eg pork or poultry? which?
7. Branding
 1. To what extent could branding be used in order to achieve market power via customer loyalty towards beef products from specific slaughtering companies. What type of products could be branded? How?
8. Market competition and competitive factors
 1. What is competition in the beef market based on?
 2. Is it your impression that slaughtering companies collect information on the preferences of consumer concerning beef? Is it relevant for them? Why/why not?
 3. Who normally takes the initiative when a new beef product or service is introduced? The slaughtering companies or their customers?
 4. Is domestic or EU regulations influencing the competitiveness of beef slaughtering? In what ways?
 5. What factors determine international trade in beef? (both inside and outside the EU)