
Support for Farmers' Cooperatives

EU synthesis and comparative analysis report Food Chain

Rainer Kühl

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Preface and acknowledgements

In order to foster the competitiveness of the food supply chain, the European Commission is committed to promote and facilitate the restructuring and consolidation of the agricultural sector by encouraging the creation of voluntary agricultural producer organisations. To support the policy making process DG Agriculture and Rural Development has launched a large study, “Support for Farmers’ Cooperatives (SFC)”, that will provide insights on successful cooperatives and producer organisations as well as on effective support measures for these organisations. These insights can be used by farmers themselves, in setting up and strengthening their collective organisation, and by the European Commission in its effort to encourage the creation of agricultural producer organisations in the EU.

Within the framework of the SFC project this “EU synthesis and comparative analysis report – Food Chain” has been written.

Data collection for this report has been done in the summer of 2011.

In addition to this report, the SFC-project has delivered 27 country reports, a report on policies for cooperatives in non-EU OECD countries, 8 sector reports, 5 other EU synthesis and comparative analysis reports, 33 case studies, a report on cluster analysis, and a final report.

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1. Introduction

1.2 Objective of the report

This report has been written in the framework of the EU-funded research project “Support for Farmers’ Cooperatives”. This project was commissioned by the European Commission DG Agriculture and Rural Development, and carried out in 2011 and 2012 by a large consortium of researchers from various European universities and research institutes.¹ The main objective of the EU wide research project is to provide insights on successful cooperatives and producer organisations as well as on effective support measures for these organisations. These insights can be used by farmers themselves, in setting up and strengthening their collective organisation, and by the Commission in its effort to encourage the creation of agricultural producer organisations in the EU.

In the context of this research project, data has been collected in all of the 27 Member States of the European Union, on the evolution and development of agricultural cooperatives and producer organisations, but also on the policy measure and legal aspects that affect the performance of these organisations. This data has been one of the main sources of information for this report. In addition, other literature on the topic has been used to assess the situation in one or more EU member states or in particular sectors of the European agrifood industry.

This report provides an EU level synthesis of the Position in the Food Chain

1.3 Analytical framework

For this EU wide research project we have developed an analytical framework about the determinants of the success of cooperatives and producer organisations in current food chains. These determinants relate to (a) position in the food supply chain, (b) internal governance, and (c) the institutional environment. The position of the cooperative in the food supply chain refers to the competitiveness of the cooperative vis-à-vis its customers, such as processors, wholesalers and retailers. The internal governance refers to its decision-making processes, the role of the different governing bodies, and the allocation of control rights to the management (and the agency problems that goes with delegation of decision rights). The institutional environment refers to the social, cultural, political and legal context in which the cooperative is operating, and which may have a supporting or constraining effect on the performance of the cooperative. Those three factors constitute the three building blocks of the analytical framework applied in this study (Figure 1).

¹ See Appendix X for a list of all partners in this project.

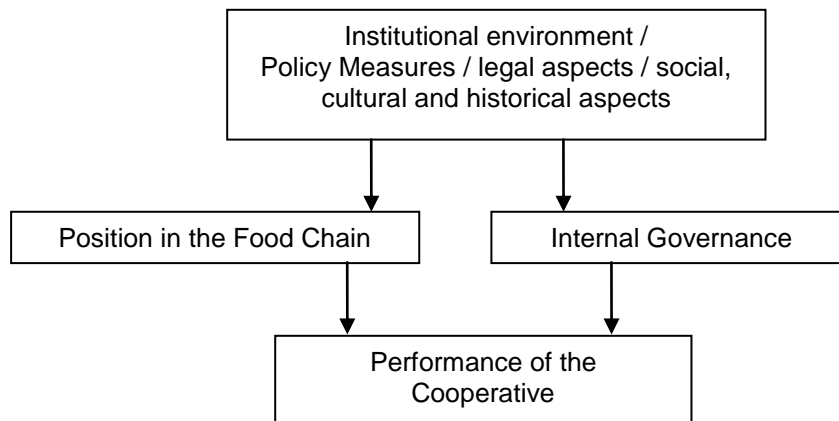


Figure 1. The core concepts of the study and their interrelatedness

1.4 Position in the Food Chain

The changing structure of agriculture, the size attained by some cooperatives as well as growth in cooperatives' market share have led competitors and other critics to question whether the performance of cooperatives is such that existing policy is justified. Much of what has been argued by both critics and defenders of cooperatives suffers from a lack of objective measurement. These policy related discussions most often have been based on assumptions and deduction rather than actual performance because measurements of performance is a challenging task and have not been made to a large extent. Some firmly held opinions regarding relative performance will be shown inconsistent and not supported by facts. The objectives of the study were (1) to identify dimensions of cooperatives performance relevant to its position in the food chain, the agricultural producers, (2) to assess the performance of cooperatives with respect to these dimensions in selected commodity sectors representing a variety of conditions, and (3) to develop ideas for the future development of cooperatives positions in the various supply chains. This analysis will serve as a building block for additional studies on cooperatives' performance and for political implications.

1.5 Definition of the cooperative

In this study on cooperatives and policy measures we have used the following definition of cooperatives and Producer Organisations (POs). A cooperative/PO is an enterprise characterized by user-ownership, user-control and user-benefit:

- It is user-owned because the users of the services of the cooperative/PO also own the cooperative organisation; ownership means that the users are the main providers of the equity capital in the organisation;
- It is user-controlled because the users of the services of the cooperative/PO are also the ones that decide on the strategies and policies of the organisation;
- It is for user-benefit, because all the benefits of the cooperative are distributed to its users on the basis of their use; thus, individual benefit is in proportion to individual use.

This definition of cooperatives and POs (from now on shortened in the text as cooperatives) includes cooperatives of cooperatives and associations of producer organisation (often called federated or secondary cooperatives).

1.6 Period under study

This report covers the period from 2000 to 2010 and presents the most up-to-date information. This refers to both the factual data that has been collected and the literature that has been reviewed. For EU Member States that joined in 2004 and 2007 the focus is on the post-accession period.

1.7 Structure of the report

The report has several objectives that determine its structure. A first we identify dimensions of performance by which cooperatives and IOFs position in the food chain may be compared. The second objective is to identify perceptions of actual performance by cooperatives in various sector and country settings. Another aim is to show and analyse differences between regions and sectors that might contribute to performance of cooperatives in various settings.

2. Literature review

The development of agricultural cooperatives has, as a matter of public policy, long been encouraged in the EU. It is clear that cooperatives have played a role of growing importance not only in the EU food system but also in the academic literature.

A firm, an industry or the entire food system may be evaluated in terms of dimensions of performance. Given multiple performance dimensions, some of which are very difficult to measure, and conflicting interests among food system participants, the concept of good or optimal performance is difficult to define in any operational or interpersonally valid sense. The sources of these difficulties briefly are listed below.

Performance measures: Performance dimensions such as production efficiency are easily measured. But such performance dimensions as the farmer's perceived control over his own destiny are difficult to measure. At best, proxies for farmers control of or influence on a firm (cooperative) would be used as indicators of control. As Marion et. al. have pointed it out in their book on the organization and performance of the U.S. food system 25 years ago, that one of the most difficult problems in the field of market organization is developing performance measures that accurately reflect the dimensions in question (Marion et. al., 1986, p. 69).

Performance norms: Given an accepted measure of a performance dimension, it remains difficult to say what level of performance is desired. Performance in one dimension is frequently achieved only at the expense of performance in another dimension. For example, a food system, a firm (cooperative) or an industry which provides consumers with a wide array of choices may do so only be foregoing economies (lower unit costs) achievable through reduced product variety. The absence of interpersonally valid common denominators by which to compare the benefits for one system or firm group participants to those of another precludes comparisons of performance in different dimensions. There is no economic basis, for example, upon which to compare the benefits to farmers from firm specialization with the benefits to consumers resulting from increased product variety.

Thus, research on cooperative-IOF firm performance may prove useful in several ways. Such research may lead to the definition of performance dimensions, the development of performance measures, the measurement of trade-offs between and among various performance dimensions, and the identification of the incidence of benefits and costs to system participants. This information may be provided to policymakers to facilitate informed public choices. But outside the political arena, performance research cannot conclude (except for dimension by dimension comparisons) that cooperatives or IOFs contribute more to the food supply chain performance.

In this literature review we focus on those studies that are addressing the performance dimensions and aspects that are subject of our project. This will include branding problematic of cooperatives, cooperative size effects, strategy and position in the food chain, relative position to IOFs, chain performance and relation of chain performance and policy measures. We put our emphasis on the literature that has been recently (within the last 10 years) being published

Theoretical papers that were selected covers the following subjects

Position of cooperatives versus IOFs was subject of different theoretical based articles. In 2001 Fulton and Giannakas examined the issue of member commitment in the context of a mixed oligopoly where co-ops and investor-owned firms (IOFs) compete with each other in supplying a consumer good. They took a model of mixed oligopoly in order to analyse the success of a firm group depends on the perception of consumers. And this perception is one of the main sources member/customer loyalty. They assume that the degree to which the cooperative is differentiated from the IOF is a measure of member commitment. They came up with the result that the quality of the cooperative organization is perceived to be high when, *ceteris paribus*, the members purchasing from the cooperative believe that the co-op is operating on their behalf.

Quality is perceived to be low when the members believe that the cooperative is not operating in their interests. Another theoretical industrial economics approach is that of Higl (2007) who analyses cooperative behaviour and performance in different oligopoly settings.

Hueth and Marcoul (2006) studied incentives for information sharing among agricultural intermediaries in imperfectly competitive markets for farm output. Information sharing always increases expected grower and total surplus, but may reduce expected intermediary profits. Even when expected profits increase with information sharing, intermediary firms face a prisoner's dilemma where it is privately rational to withhold information, given that other firms report truthfully. They derive and explain how bargaining institutions (cooperatives) can improve their position towards their members and in comparison to other types of firms under the condition that internal governance of information is more towards sharing and not withholding. and This equilibrium can be avoided if firms' information reports are verifiable, and if firms commit to an ex ante contract that enforces participation in information sharing. We show how agricultural bargaining legislation can implement such a contract with the bargained farm price representing a sufficient statistic of all information held by intermediary firms.

The success of cooperative in the markets substantially depends on the member behaviour towards the cooperative firm. The study of Bhuyan (2007) examines the role of the member factors in a sample of fruit and vegetable growers' cooperatives. in the Mid-Atlantic United States. Although the Theory of Planned Behavior is used as the framework of analysis, the objective of this study was not to test the theory. Study findings provide additional insights into how cooperative members' beliefs and knowledge may shape their attitudes and the consequent behavior. Given the gradual decline of both cooperative memberships and the number of cooperatives in a number countries, a good understanding of members' attitudes and behaviors is necessary because a cooperative's success may depend on it. Members' attitudes, perceptions, and in consequence the volume of patronage play a significant role in the performance of cooperative organizations. See also for the incentive to invest in cooperative and the likely financing constraints the work by Rey and Tirole (2007).

The recently published study of Graubner et. al. (2011) approached cooperatives performance from a different angle. They modelled cooperative bargaining competition in the raw milk market and investigated spatial competition between dairies under the presence of marketing cooperatives. They compared spatial cooperative price matching with non-cooperative Hotelling-Smithies behaviour. Utilising a vector error correction model they show that the often criticized low price transmission in dairy cooperatives in Germany seems rational since it increases processors' profits. They assumed that characteristics that deviate from the traditional cooperative model. They conclude that in the light of the abolition of the quota system may increase price transmission.

Another theoretical paper is on chain interdependencies and efficient governance structure and a comparison of the performance between IOFs and cooperatives recently published by Feng and Hendrikse (2011). Based on a multi-task principal-agent model, they model captures that cooperatives are not publicly listed and their CEOs have to bring the downstream enterprise to value as well as to serve upstream member interests. Cooperatives are uniquely efficient when the upstream marginal product multiplied with a function increasing in the strength of the chain complementarities is higher than the downstream marginal product. Two organizational features of cooperatives: cooperative structure (in terms of control, ownership, and cost/pricing policies resulting in traditional and re-engineered co-ops) as well as entrepreneurial cooperative firm culture and their effect on the market orientation and performance of the cooperative firm were tested by Kyriakopoulos et al. (2004) on a sample of Dutch cooperatives. They found a significant influence of individualized member ownership on performance and of cost/pricing policies on market orientation. Entrepreneurial firm culture has a significant effect on both market orientation and performance

The relation between downstream market activities of cooperatives and its upstream business on farm input markets is subject of another theoretical paper recently published by Linnerud and Vagstad (2010). It is especially on pricing behaviour and it shows that the optimal price on the input factor – the access price – discriminates against the rival because rent is more valuable in the cooperative, and the regulator, therefore, sacrifices some cost efficiency in order to shift rents.

The empirical contributions consist of the following literature:

Branding: With respect to empirical research on cooperatives the first paper to be mentioned is the one on “Cooperatives as Marketers of Branded Products” by Hardesty (2005). He started his analysis from the observation that only few agricultural marketing cooperatives have nationally prominent brand names. Instead, they tend to concentrate in commodity-oriented markets, which can be attributed to the cooperative principles. However, these structural disadvantages can be overcome. He suggested to convert the user-benefit principle into an advantage by using the cooperative identity as a marketing strategy, and the horizon problem can be remedied by implementing a delivery-rights system. Cooperatives’ limited access to capital is attributable to the user-financed principle. Joint ventures, legislative reforms to expand cooperatives’ sources of equity capital and preferred stock offerings can be used to overcome this constraint. While this paper addresses the weaknesses of cooperatives Gruber et al. (2000) put the question if agricultural marketing cooperatives advertise less intensively than investor owned food-processing firms. A common belief is that agricultural marketing cooperatives advertise less than their investor-owned counterparts, holding other factors constant. By using performance measures like cooperative’s advertising-to-sales (A/S) ratio their empirical research results do not support the conventional wisdom that cooperatives advertise less. The appearance that cooperatives advertise less is due to their predominance in industries with low margins and little product differentiation, factors that are associated with low advertising intensity regardless of a firm’s organizational form.

Competitive Size: In a case study of Irish dairy cooperatives Briscoe and Ward (2006) questioned the conventional management wisdom that considerable economies of scale are essential if producer cooperatives in the agribusiness and food sector are to meet the needs of their members and survive in a globalized economy. In an effort to achieve these economies of scale, many of Ireland’s agricultural cooperatives have chosen over the years to merge with more and more of their neighbours. This article addresses the question of how small to medium-sized cooperatives are able to grow into larger size categories without an adaptation of IOF governance and organizational structures. Some of the biggest of these merged coops have chosen to raise money on the stock exchange in order to have the funds needed to finance substantial, international acquisitions. A recent study, commissioned by government and the industry, has argued that merger has not gone far enough and has called for even more consolidation among Irish dairy cooperatives. For the same sector and quite the same problem Krogt et. al. (2007) conclude that cooperative firms’ choice of interfirm consolidation and collaboration strategies can be explained by two attributes, inherent in the cooperative business form, namely, risk aversion and equity capital constraints. They used empirical data originate from the 15 largest EU dairy firms during a 5-year period (1998–2002) and showed that cooperative firms prefer mergers, collaboration agreements, joint ventures, and licensing. All of these are relatively low in terms of both performance risks and relational risks, and they demand limited amounts of equity capital. Investor-owned firms focus on take-over strategies—acquisitions and share holdings. Other indicators of risk aversion are that cooperatives tend to collaborate with other cooperatives and that they prefer partners in their own home market. Nearly to the same subject Hedberg (2004) discusses the consequences of the realization of economies of size in farmer dairy cooperatives and in case there are economies of size in processing, if a cooperatively organized processing industry may be socially preferable when compared to an investor-owned processor with monopsony power. This study investigates whether cost structure can be used as an efficiency argument for the cooperative dairy industry

in Sweden. The results indicate economies of size in milk processing and, accordingly, marketing cooperatives appear to be a socially efficient form of business organization. For the cereals marketing cooperatives Thomsen and Eidman (2004) tested scale efficiency of local supply and grain marketing cooperatives. Consolidation has been a trend among local cooperatives for most of the past century. Cooperative growth and consolidation can only be realized when cooperatives face size-related economies. These effects are expected to help cooperatives to improve their efficiency and competitiveness. Their results suggest that many local cooperatives are at or near an efficient scale of operation.

Chain Performance: The challenges of globalization, technological developments, and consumer concerns forces farmers and food producers to enhance product innovation and to seek more efficient production and distribution structures. These changes in agrifood markets shift the relative importance of the investments by different chain partners. It may therefore be necessary to change the allocation of ownership of essential assets to induce agents to make those investments that generate the chain optimum. The study authored by Hendrikse and Bijman (2002) analyzes the impact of ownership structure on investments in a three-tier supply chain from an incomplete contracting perspective. Circumstances are determined in which a marketing cooperative is the unique first-best ownership structure. High productivity performance and also good environmental performance has influenced rely to a great extent on the cooperative sector's ability to adapt to new market conditions. These challenges have led marketing cooperatives in the fruit and vegetables sector to consider improvements in productivity and sound environmental performance. The study of Galdeano-Gómez et. al. (2006) analyses the total factor productivity related to environmental variables in this sector using a parametric-stochastic approach and panel data on Spanish cooperatives over the period 1994–2002. Additionally, the determinants of environmental productivity are examined econometrically. The estimates obtained show an increase in efficiency for the period under study and a relationship between productivity changes and management factors, such as labour quality, capital intensity and environmental spillover. For different sectors of cooperative activity we find four contributions that are discussing the role of cooperatives in various supply chains and made suggestions how to improve performance in order to sustain the domestic and international competitive forces (see Hanf and Kühl, 2004, 2008; Theuvsen and Franz, 2007 and Theuvsen and Ebneith, 2005, Heyder et. al., 2011). The paper of Drivas et. al. (2010) develops game-theoretic models of heterogeneous consumers to analyse the effect of cooperatives on quality-enhancing product innovation activity, the pricing of food products and the welfare of the groups involved, in the context of a mixed duopoly where an open-membership consumer co-op competes with an investor-owned firm in markets for horizontally differentiated products. Analytical results show that the involvement of the member welfare-maximising co-op in innovation activity can change the nature of product differentiation and the structure of the market, and be quality and welfare enhancing by increasing innovation activity and reducing the prices of food products. The effects of co-operative involvement are shown to depend on the degree of consumer heterogeneity and the size of innovation costs.

Coop versus IOF: The European dairy industry is facing a number of challenges related to policy changes and global trends that add pressure on their economic performance. The study made Soboh et. al. uses logistic regression to analyze differences in financial and performance indicators between European dairy cooperatives and investor-owned firms. The investigated indicators are profitability, debt, operational efficiency, equity growth, size, and country dummies. The empirical application uses data from 170 European dairy firms. Cooperatives are on average less profitable, operate more efficiently, and have a stronger financial position than investor-owned firms. Using the above-mentioned financial and performance indicators, cooperatives appear to be well equipped to cope with the challenges to come. For the French wine sector Barिताux et. al. (2006) showed the role of cooperatives in the French wine broker sector. With transaction cost approach and a logistic regression model the study tested the importance of wine brokers as independent matchmaker intermediaries. In their study cooperatives have a good performance because their results show that if the sellers do not

belong to a cooperative production structure and if the buyers do not belong to the productive sphere it increases the recourse to brokers. Also, the extent of the production area and the potential quality variance among wine growers and the size of the contract positively influence the use of brokers. For the Greek dairy industry we find a similar approach in Notta and Vlachel (2007).

Policy Measures: Kalogeras et. al. (2009) studied the heterogeneity in the preference structure of cooperative members. Using conjoint analysis the utility that members attach to intra-organizational and strategic attributes of their cooperative is elicited. Recognizing that members are not homogenous, a concomitant finite-mixture regression model is employed to allow preferences to vary across different member segments. With data from 120 cooperative members, we find that most members demonstrate rather similar preferences for strategic attributes but differ with respect to the intra-organizational attributes of control and management. Members' preference structures are affected by business size and attitudes towards risk.

For the analysis of the performance measures and the market structure implications we used Schmalensee (1985) on the question if markets differ much, Geroski (1988) on his creatively thinking about markets and finally Porters concept of competitive advantage (1985).

3. Data and methods

3.1 Data collection

This EU level synthesis report is mainly based on data collected in the Spring of 2011 in 27 EU Member States (by an expert on cooperatives in each of the Member States). In addition an inventory of policy measures at EU level was used. In collecting the data, multiple sources of information have been used, such as databases, interviews, corporate documents, academic and trade journal articles. The databases used are Amadeus, FADN, Eurostat and a database from DG Agri on the producer organisations in the fruit and vegetable sector. Also data provided by Copa-Cogeca has been used. In addition, information on individual cooperatives has been collected by studying annual reports, other corporate publications and websites. Interviews have been conducted with representatives of national associations of cooperatives, managers and board members of individual cooperatives, and academic or professional experts on cooperatives.

3.2 Data analysis

Descriptive statistical analysis was used to estimate the impact of cooperatives' turnover, market shares, type of business (primary or secondary cooperative). Mean and standard deviation were also used. Several attempts have been made to support the analysis with a cluster procedure. With the given data we did not derive any plausible and significant results. It was the problem with finding adequate clusters with the available data (see comment in chapter 5 Discussion).

4. Results

As it will be pointed out at the following analysis the performance of producer marketing organisations varies significantly between countries and sectors.

This part addresses the question of whether the cooperatives have participated in the overall improvement in economic performance that has characterized the different sectors in the food industry in Europe 27. To assess the performance of the cooperatives in various sectors is a multifaceted phenomenon. Only a limited number of dimensions of performance are covered in this report, with special attention paid to long-term economic and institutional trends and that are likely to persist for quite a while. Long-term growth is one of performance, and growth is explored in detail using developments in market shares, turnover and other growth factors as measures.

Other performance-related factors are examined: market position in the food chain, international linkages of the cooperatives.

The role of the cooperatives in the food system is important because the cooperative serve different stages in a vertically connected system of industries that stretches from farms to grocery stores and foodservice places. Each stage of this closely related systems performs a unique set of functions that transform raw farm products into consumer-ready comestibles.

The best overall indicator of economic contribution of cooperatives to the whole food system would be value added. The value added by a firm represents the firm's contribution to an industry's value added. Another way of showing the relative importance of food processing within the system is employment. Both of these interesting indicators are not explicitly available for the European cooperative system.

Performance Dimensions: Identification of performance dimensions used in this study focused on differences between cooperatives and IOFs. Based on the given form of data acquisition (country reports of 27 EU members and eight sectors per country) we identified a limited number of factors of performance

Performance of cooperatives is the appraisal of how the cooperatives satisfy specified goals, including but not limited to, efficiency, growth, equity, and employment, or membership relations. In order to make performance judgements, normative economics must be utilized. The only way we can assess the "goodness" or "badness" of the cooperatives' performance is by first postulating normative goals or by placing values implicitly or explicitly on the costs and benefits of different outcomes of the sector structure cooperatives are part of and the conduct cooperatives are carrying out. Performance relates to the record of the cooperatives in terms of benefits which they generate for its various stakeholders (members). Formally, cooperatives are owned by members (to some extend shareholders) and thus the first aspect of performance is the cooperative profitability. Since profits can arise from market power as well as from efficiency, care must naturally be taken not to equate high profits with good performance. Analogously, normal profits cannot be taken to indicate a competitive and efficient industry, since monopoly revenues may be frittered away in high costs such as excessively-high salaries. Economists are thus interested in the efficiency of the industry as well as its profitability. Also of interest are its ability to provide stable, adequately-paid employment and its technological progressiveness (in terms both of developing new products and of using new technology). A final aspect of performance is an industry's record in the field of international trade, that is, trends in its exports and of foreign imports into the home market and, of course, the net trade balance for the industry.

This section is on important structural and statistical aspects and we try to quantify some of these aspects with respect to the most relevant general statements concerning the position of the cooperatives within the food chain and its role in relation to IOFs. We also will highlight key differences between the experience in individual member states and sectors. Thereby the analysis takes into account the specific character of the products in the different sectors. We examine some of the results of the changes and the processes over time for the period of year 2000 to 2010. The empirical results of our studies examine the interrelationship between some performance measures, like market shares, innovation, size and growth of cooperatives.

The role of the cooperatives in the food system is important because the cooperative serve different stages in a vertically connected system of industries that stretches from farms to grocery stores and foodservice places. Each stage of this closely related systems performs a unique set of functions that transform raw farm products into consumer-ready comestibles. The presentation and comparison sector by sector gives answers to the question to what extend is there a demand for the cooperatives (demand to use them as a self-help marketing institution). Hence, the nature of farmers demand shapes the strength of the relations between farmers and their cooperative, and shapes the strategies, activities, and market channels used by the cooperatives. The results on the growth strategies of the cooperatives can be taken as an indicator of the changing needs and wants of the members. As farmers (members) interests have become more numerous and diverse, market channels and cooperatives have evolved to cater to emerging segments.

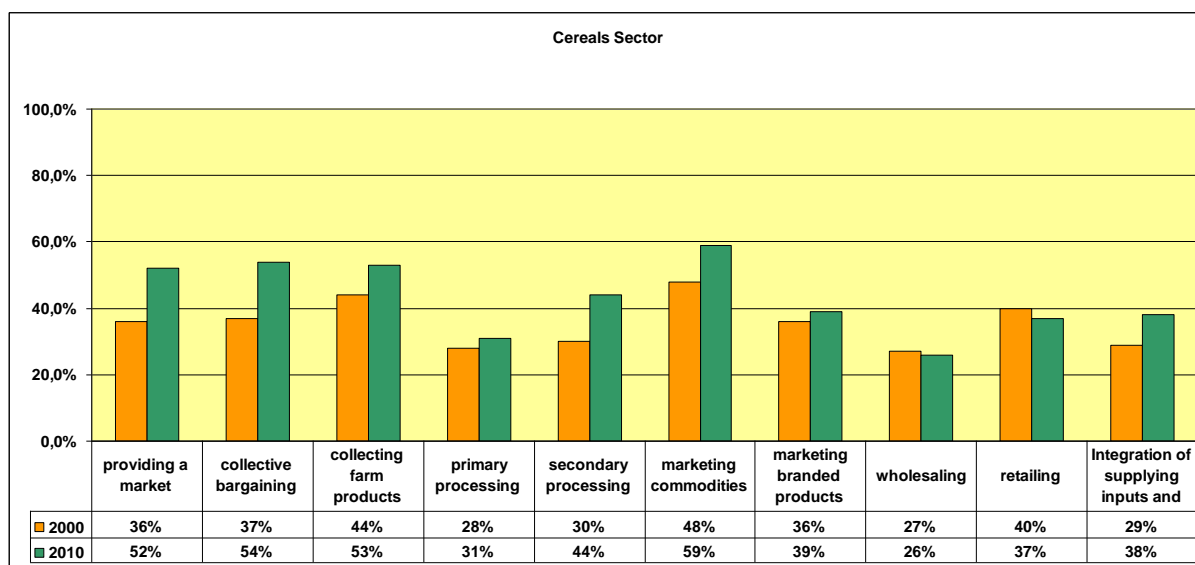
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In the questionnaire country experts were asked to evaluate the position of each cooperative in the assigned sector by indicating the relevance of the assigned functions for the single cooperative. Here, we present the changes in the relevance of the function for the cooperative for the years 2000 and 2010. For reasons of clarification we are presenting these changes only for those that were indicated as the “most relevant” ones.

When we focus on the top cooperatives per sector that is covered within the framework of this study and we analyse the data obtained from the questionnaires submitted to the biggest cooperatives per sector, we are presented with a different picture however.

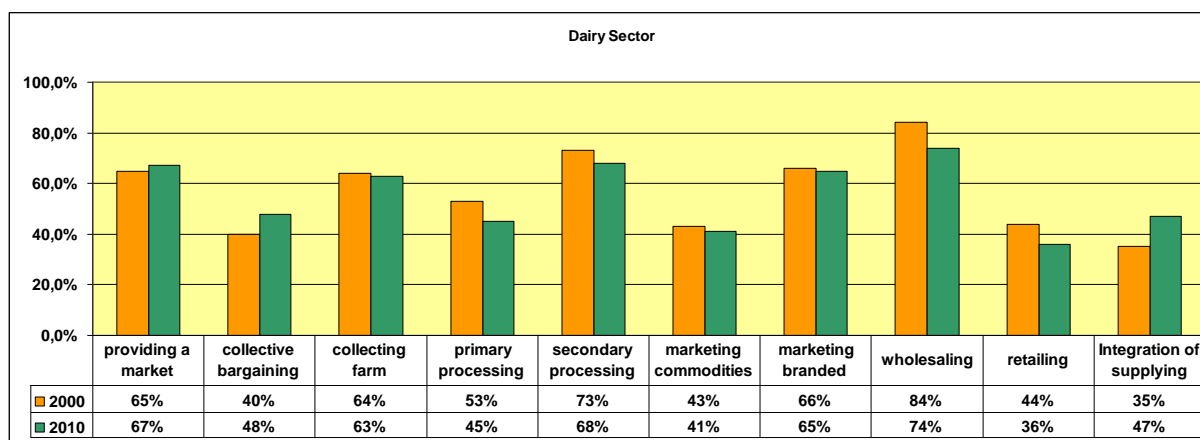
Position of cooperatives in the cereals sector:

Most of the cooperatives` activities studied in the country reports are the provision of a market, collecting/bargaining of agricultural raw materials. Marketing of cereals are also important activities. Primary and secondary processing and retailing end up at the bottom of the scale. What can be observed furthermore is a general tendency to expand these activities. Over the period we looked at nearly all functions grow in relevance for the cooperatives. Several of the cooperatives broadened their scope by choosing to add primary (and/or secondary) processing. But it is also obvious that there is still as strong focus on marketing of commodities.



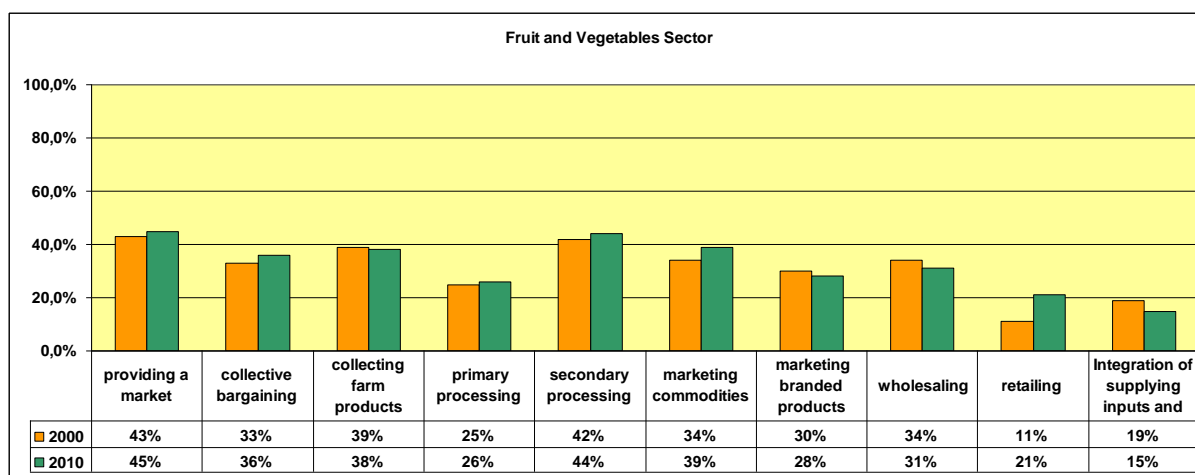
Position of cooperatives in the dairy sector:

The position of producer organisations in the food chain varies significantly among sectors. The strongest marketing cooperatives are in the dairy sector. Dairy cooperatives are active in almost the total food chain. They are providing markets to their members as well as producing branded products or private label products and selling these directly to retailers. Interesting to note that for the reporting period the regional experts saw a slightly decrease in the relevance of the performed functions.



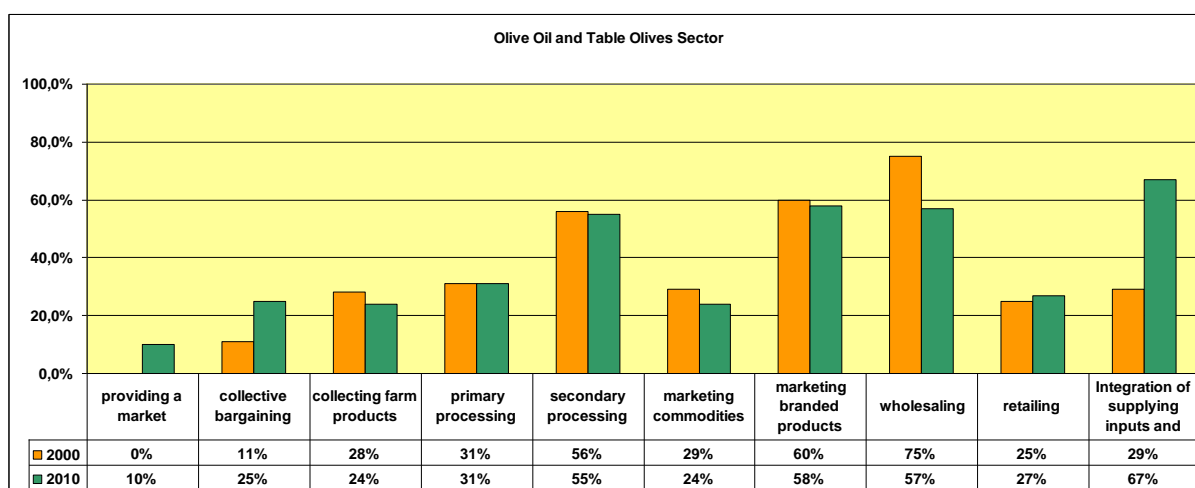
Position of cooperatives in the fruit and vegetable sector:

The producer organisations in the fruit and vegetable sector cover the whole range of different functions with the most important in providing markets, collecting and marketing farm products, and also in the secondary processing in order to increase the value derived from the agricultural products of their members. There has been as an small increase in the importance of these activities.



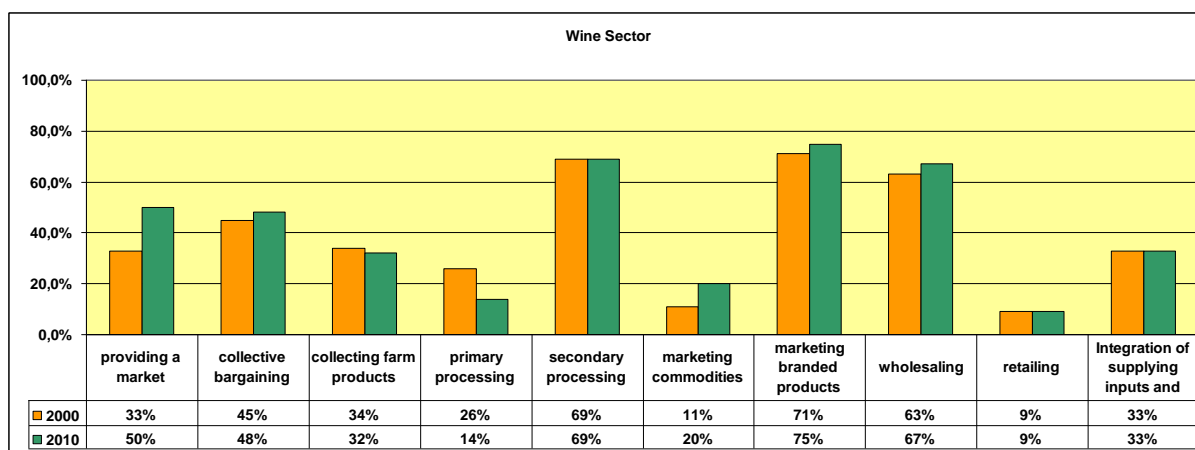
Position of cooperatives in the olive oil sector:

Interesting to note that European cooperatives seem to have a strong position in the functions that are further downstream the food chain. Wholesaling is a strong activity, but value-added activities are in the main focus of these cooperatives. Secondary processing and the branding of their products are important activities.



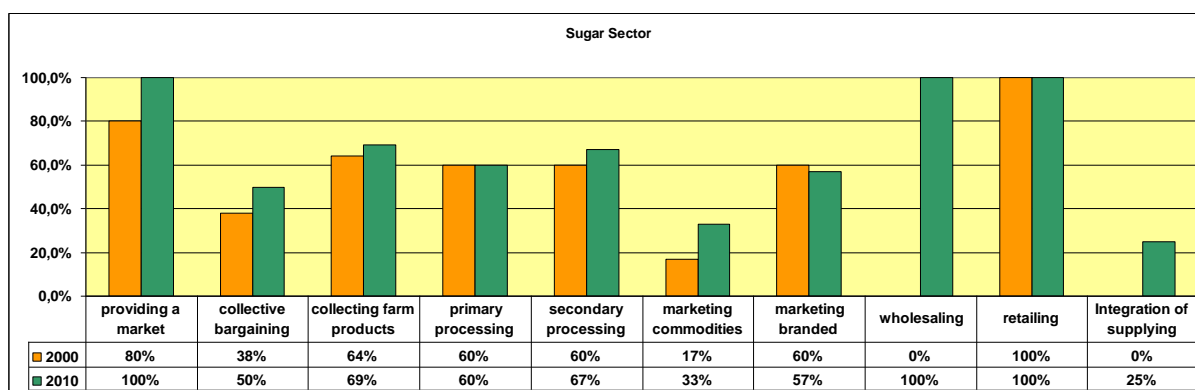
Position of cooperatives in the wine sector:

The main functions cooperative organisation perform are those that are close to agriculture and first handling, like providing a market, collective bargaining. The wine sector is also characterized by secondary processing and strong position in branding activities and in wholesaling of the processed products. It is not a big surprise that the wine sector in general is characterised by a high level of vertical integration. In this sector the majority of the cooperatives is covering the whole food chain from the producer to the retailer/consumer. Especially, the three main activities processing, marketing brand products, and wholesaling are of great relevance to mostly all cooperatives.



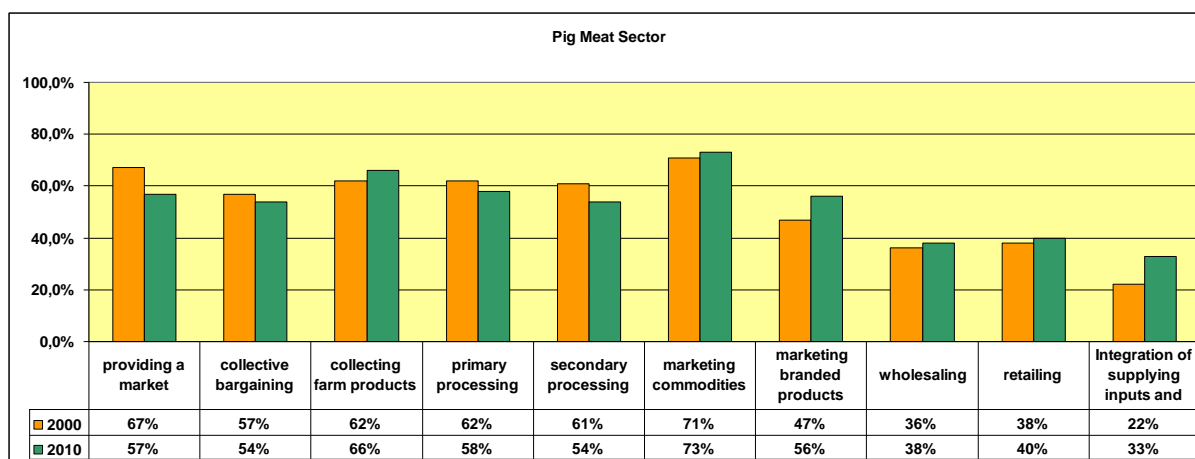
Position of cooperatives in the sugar sector:

The sugar sector is to some extent different from the other sectors due to its high regulation and on a European scale minor incentive for establishing cooperatives. There were only few countries reporting on the position of the cooperatives in this food chain. Those who have reported indicated that the producer based sugar refineries seem to have a strong position. They cover nearly every function in the food supply chain. For regulatory reasons sugar organizations provide markets for their members and they are also strong in processing and marketing of branded products and retailing. The results for wholesaling and integration can be explained by missing data for the year 2000.



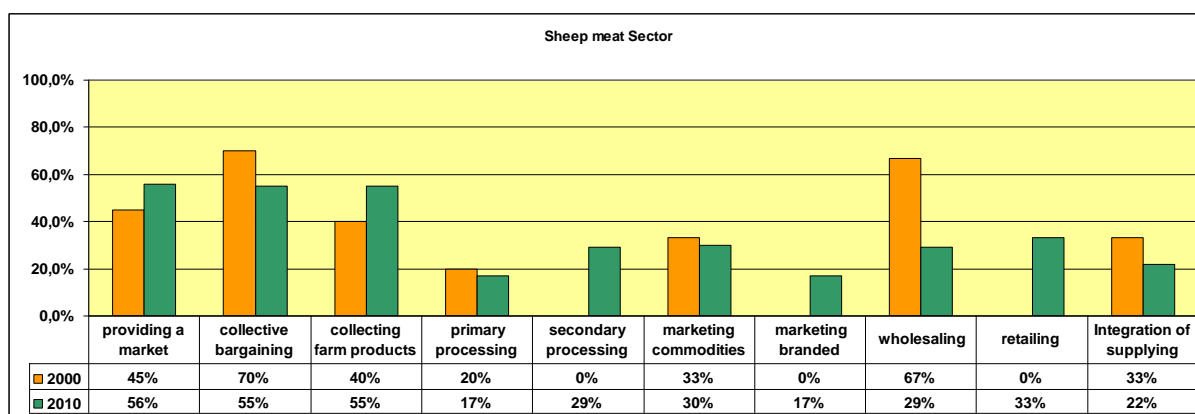
Position of cooperatives in the pig meat sector:

If cooperatives are active in the pig meat sector in Europe then they are involved in nearly every function of the food chain. They cover activities as transport and storage, primary processing, secondary processing, marketing branded products, wholesaling and retailing. These co-operatives focus their activity on intermediate, first-transformation products that are then sent on to other industrial entities. There seems to be also some more activities to put more relevance on the marketing of commodities and branded products.



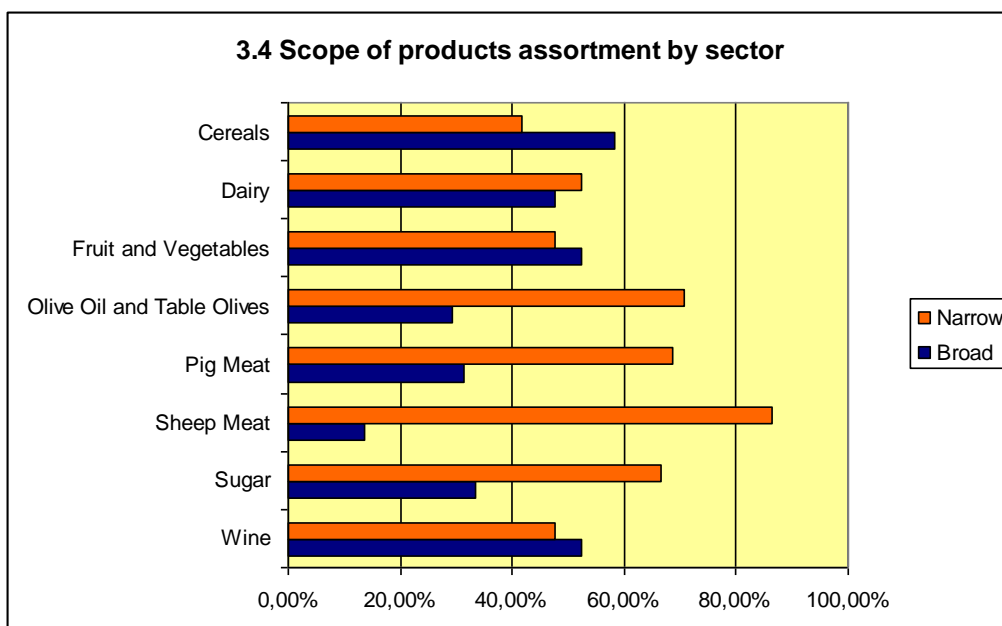
Position of cooperatives in the sheep meat sector:

The sheep meat sector has not great relevance for many countries in the EU. For those countries who have reported the main functions of cooperatives are close to agriculture and consist of market provision, collecting members' products, and wholesaling. The function of branded product marketing is extremely rare as secondary processing.

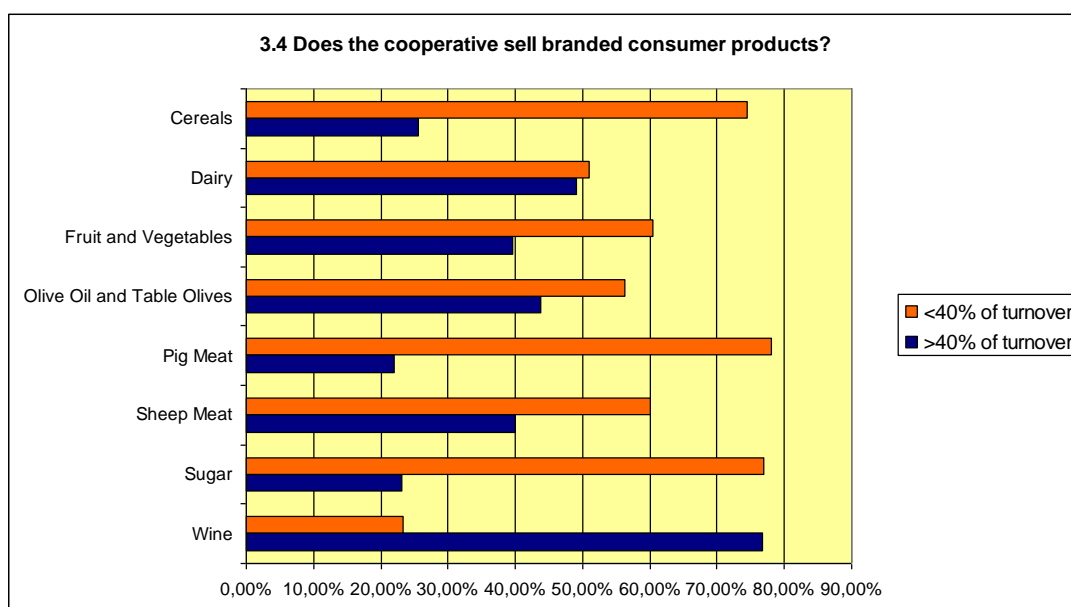


The activities carried out by agricultural cooperatives and their position in the food chain is closely related to the sector that they operate in. In general it can be affirmed that the European cooperatives cover large parts of the food chain. In many sectors cooperatives providing access to markets for their members through collective bargaining and commodity trading as a wholesale function. There are increasing activities in the transformation of primary products to processed and branded goods.

In line with the aforementioned results on the different functions cooperatives perform we complete the statistical analysis with a brief analysis of two other aspects asked for in the questionnaire. The scope of products assortment is an interesting indicator for the differentiation activities of the cooperatives in association with the sector they are in. The results on the question of "...how many different products does the cooperative sell?" support to some extent what has been already known. In the dairy, cereals, wine, and fruit and vegetable sectors cooperatives offer a larger variety of products to the market ("broad assortment") than in the remaining sectors where there is the supply of a more "narrow" assortment on the agenda.



An analysis of the range of branding activities performed by cooperatives shows sector specific differences. In the wine sector cooperatives' turnover is basically the result of sales of branded products. In this sector the establishing of own brands has a long tradition and it is in the focus of most cooperatives. The dairy cooperatives invest and promote also their own brands, but there are still a larger number of cooperatives with a smaller proportion of branding activities. In both sectors cooperatives are part of the final market where the supply of own brand products and the ability to produce private label products is a requirement. Sector specific characteristics explain the low degree of branding activities in the cereals, sugar, sheep and pig meat sectors.



How do the considerations on the cooperatives' position in the food explain the performance of the cooperatives? The role will be explained by the market shares the experts identified for the cooperatives in each country and sector. Market share could be used for describing the position in the food chain and the position versus cooperatives and IOFs. The latter will be the main subject of this section.

The **cereals sector** has been described in the sector report as one of the most important sector in the food complex. Traditionally, this sector has always focused on the storage and commodity trading of cereals along with the supply of farm inputs to farmer-members. In this sector, transformation and processing activities have always had a less important role as compared to their role in other sectors. Within this sector cooperatives' performance measured by market shares is quite strong. This applies particularly to the Scandinavian and West-European countries. For the period reported cooperatives could extend their market in some countries.

Cereals sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Denmark	n. a.	80
2	France	74	74
3	Austria	50	70
4	Netherlands	n.a.	55
5	Germany	45	50
6	Finland	40	49
7	Slovenia	28	42
8	Latvia	30	37,3
9	Spain	35	35
10	Italy	25	25
11	Slovakia	3	15,9
12	Hungary	11	12,2
13	Estonia	7,7	10
14	Czech	n. a.	10
15	Poland	n.a.	7
16	Belgium	n.a.	4,7
17	UK	n.a.	2,4
18	Greece	49	n.a.
Ireland, Lithuania, Luxembourg, Malta, Portugal, Romania, Sweden, Bulgaria			n.a. / n.r.

For the dairy sector we can conclude that cooperatives in Europe perform quite well. In this sector they have large or very large market shares measured in most reports in terms of first-handling and processing of milk. But, we have to bear in mind that there are differences of cooperatives' successful performance as further we go along the food chain towards processing and branding activities. In some countries market shares of cooperatives as far as value-adding is concerned is decreasing on stages downwards the food chain. There is also a high degree of membership organisation. Cooperatives could increase their market shares versus IOFs except for Latvia and those countries where cooperatives already had a high market share.

Dairy sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Sweden	n.a.	100
2	Ireland	99	99
3	Finland	96	97
4	Austria	92	95
5	Denmark	n. a.	94
6	Malta	89	91
7	Netherlands	83	80
8	Slovenia	80	78
9	Poland	n.a.	72
10	Portugal	65	70
11	Czech	n. a.	66
12	Germany	60	65
13	France	47	55
14	Italy	40	42
15	Spain	40	40
16	Estonia	33	35,1
17	Latvia	50	33,3
18	Hungary	27,5	30,8
19	Lithuania	n.a.	25
20	Slovakia	9	24,5
21	Belgium	n.a.	12,5
22	UK	n.a.	5,5
23	Greece	20	n.a.
Luxembourg, Romania, Bulgaria		n.a. / n.r.	

Except for The Netherlands, Denmark, and Slovenia in the **fruit and vegetables sectors** there are several competing companies (IOFs) in every European country. This competitive situation affects the market share performance of cooperatives in these countries. Fruit and vegetable sectors (and cooperatives) are exposed to an intensive international trade competition in this sector which puts pressure on cooperatives. On the other hand there is market potential for cooperatives' share to increase because in most countries of the EU, consumption levels of fruit and vegetables will increase.

Fruit and vegetable sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Netherlands	71	95
2	Denmark	n.a.	70
3	Slovenia	n.a.	68
4	Italy	44	50
5	Austria	n.a.	50
6	Germany	35	40
7	Czech	n.a.	35
8	France	30	32,5
9	Spain	30	30
10	Portugal	35	25
11	Belgium	n.a.	22,1
12	Malta	22	21
13	Hungary	14,3	18
14	Latvia	3,3	11,8
15	Poland	n.a.	11
16	Slovakia	n.a.	10,2
17	Estonia	n.r.	4,2
18	UK	n.a.	0,5
19	Greece	30	n.a.
Ireland, Lithuania, Luxembourg, Finland, Romania, Sweden, Bulgaria			n.a. / n.r.

In contrast to the aforementioned sectors, the **olive oil and table oils sector** has only for a limited number of countries any meaning. The position of the cooperatives in these countries is different. In Italy the cooperatives were not able to create significant added value to the product and consequently, their market share dropped. The country report gives some explanations for this development and for the better performance of IOFs: the tradition and culture of self-consumption in many areas; the entrance into the sector of foreign investors (IOFs) with higher productivity and modern processing capacity (see CR Italy, p. 32). Spanish cooperative still have the highest market shares but, as well as in Italy and Portugal they are losing their market share.

Olive oil and table olives sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Spain	75	70
2	Portugal	35	30
3	Slovenia	n.a.	25
4	Italy	13	5
5	France	49	n.a.
6	Greece	60	n.a.
Austria, Estonia, Germany, Ireland, Lithuania, Luxembourg, Malta, Belgium, Czech, Finland, Hungary, Latvia, Netherlands, Poland, Romania, Slovakia, Sweden, UK, Bulgaria, Denmark			n.a. / n.r.

The **wine sector** in general is characterised by a high level of vertical integration. In some countries we find a so-called dual structure. I. e. a coexistence between a group of dynamic market oriented cooperatives that have managed to deal with market changes and strong branding and marketing activities in contrast to many cooperatives that are dedicated to production and collecting/bargaining products (see CR of Italy, Portugal or Germany). These are the reasons for decreasing market shares.

Wine sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Slovenia	n.a.	71
2	Malta	n.a.	70
3	Spain	70	70
4	Italy	56	52
5	Portugal	54	42
6	France	38	38
7	Germany	35	33
8	Austria	20	15
9	Czech	n.a.	10
10	Hungary	6,1	8,9
11	Greece	50	n.a.
Slovakia, Estonia, Ireland, Lithuania, Luxembourg, Bulgaria, Denmark, Netherlands, Belgium, Finland, Latvia, Poland, Romania, Sweden, UK			n.a. / n.r.

For The Netherlands, France, Hungary, and Spain producer organisations in the **sugar sector** play an important role. Due to large sizes of processing capacity in order to exploit economies of scale there is not much room for many factories. In most countries IOF based operations are in place. In countries with cooperative sugar refineries they have a large market share (see The Netherlands and France). For Italy it is reported that cooperatives play an important role in the sugar sector. But, we have to keep in mind that the sector consists of just three companies, one of which is a co-operative with a market share of about 20%.

Sugar sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Netherlands	63	100
2	France	62	62
3	Hungary	26,1	30,1
4	Spain	28	28
5	Italy	7	20
6	Belgium	n.a.	1,6
Austria, Estonia, Germany, Greece, Ireland, Latvia, Lithuania, Luxembourg, Malta, Poland, Slovakia, Finland, Portugal, Romania, Slovenia, Sweden, UK, Bulgaria, Czech, Denmark			n.a. / n.r.

For the **pig meat sector** we conclude that there are five countries in Europe in which cooperatives have a dominant position measured in market shares (Malta, France Denmark, Finland, and Sweden). Cooperatives have reached market shares of more than 80% and have

outperformed private companies. In all other countries cooperative performance versus IOFs is not a success story and they could not gain any relevant position in any stage of the food chain between 2000 and 2010. One of the explanations is that the pig meat sector is characterized by a large scale and international business. For foreign investors that already have good success in the food chain it is not necessary to build or join in cooperatives.

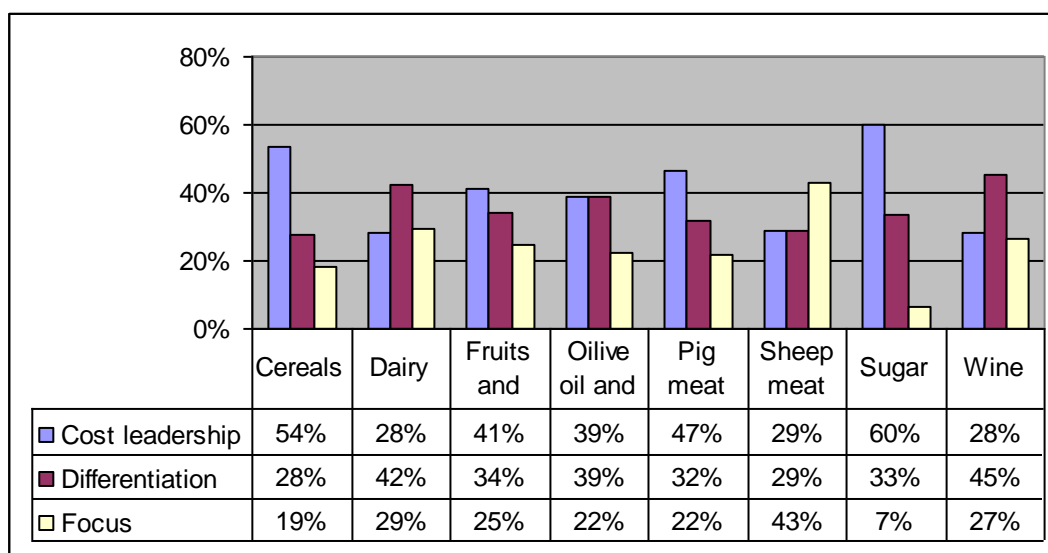
Pig meat sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Malta	100	100
2	France	91	94
3	Denmark	n. a.	86
4	Finland	71	81
5	Sweden	n.a.	51
6	Czech	n. a.	25
7	Spain	25	25
8	Slovenia	n.a.	25
9	Hungary	19,5	24,9
10	Belgium	n.a.	20,8
11	Germany	20	20
12	Slovakia	2	11,1
13	Poland	n.a.	7
14	Latvia	3,3	5,9
15	Greece	5	5
16	Estonia	17,7	0,8
17	Netherlands	34	n.r.
Ireland, Lithuania, Luxembourg, Bulgaria, Austria, Portugal, Romania, UK, Italy			n.a. / n.r.

Sheep meat production is concentrating only in a very limited number of countries. Data availability is poor and with the existing data we are not in the position to say anything on the development of the market position of the cooperatives. In most countries the sector is not well developed as far as production and processing is concerned. In most countries the sheep meat production takes place in small operations. The large number of small producers and the low level of consumption make organisation of large scale production even more complex. Most of the production is marketed locally or in direct marketing by farmers. These are the reasons for only a small participation of the cooperatives in this sector.

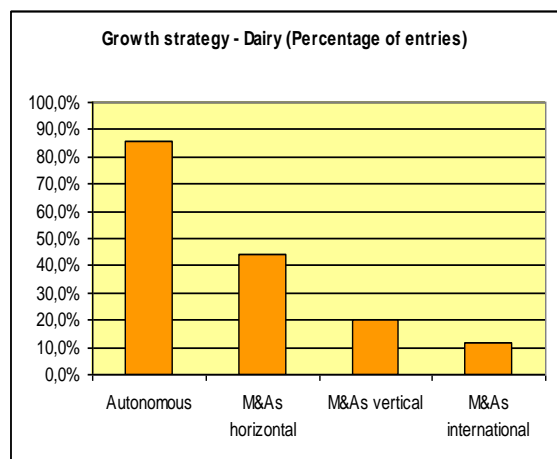
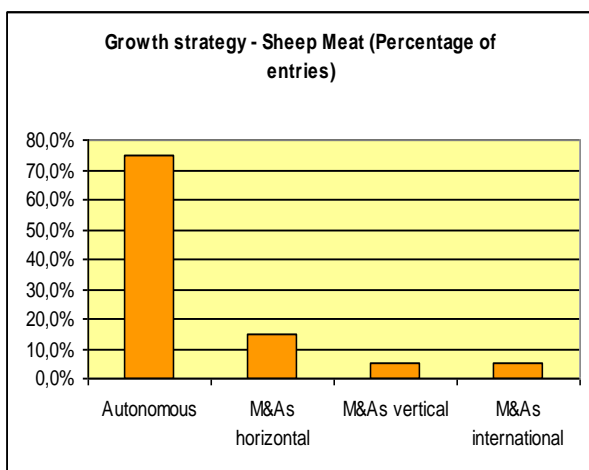
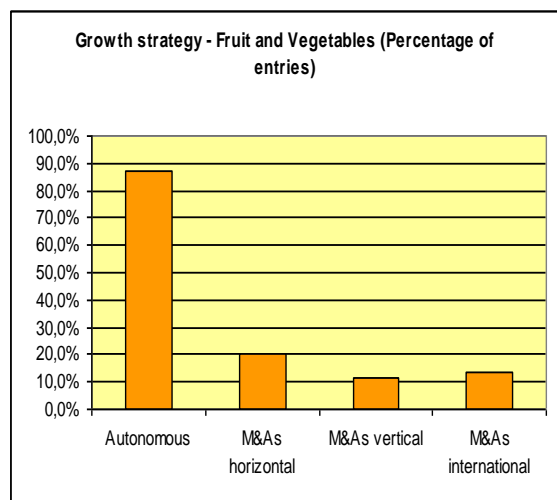
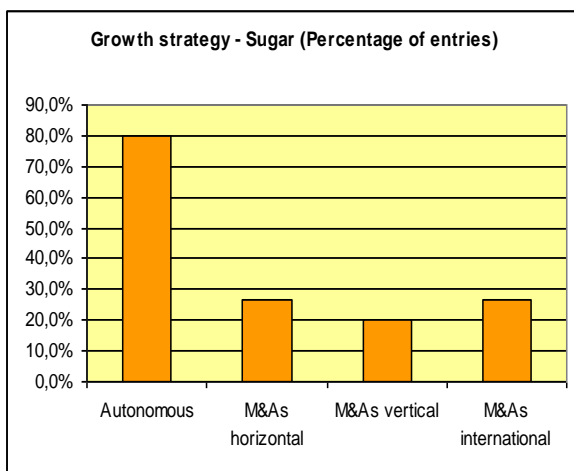
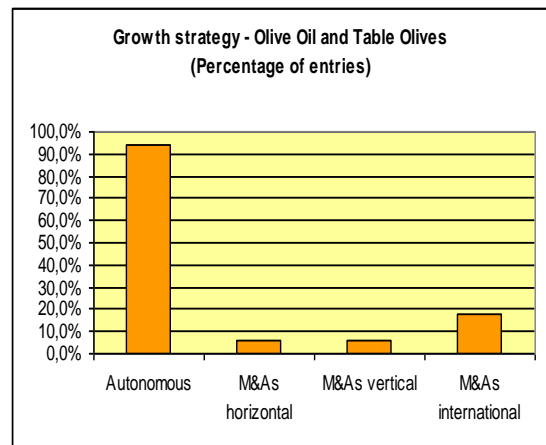
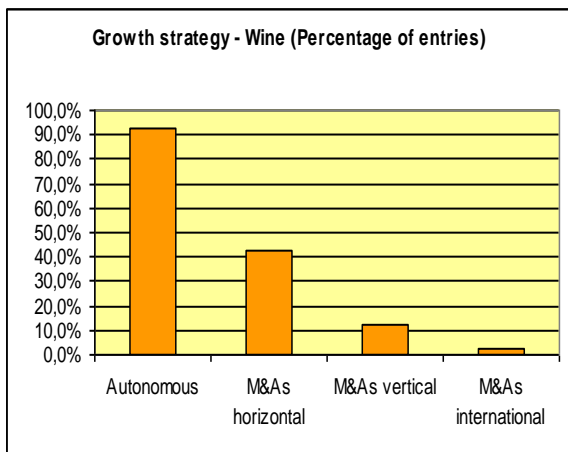
Sheep meat sector			
Rank	Country	Market Share 2000 (%)	Market Share 2010 (%)
1	Sweden	n.a.	55
2	Spain	n.a.	25
3	Czech	n.a.	20
4	Hungary	18,9	19,5
5	Latvia	3,3	5,9
6	Belgium	n.a.	0,01
7	Slovakia	1	n.r.
Austria, Estonia, Germany, Ireland, Lithuania, Luxembourg, Malta, Poland, Finland, France, Greece, Italy, Netherlands, Portugal, Romania, Slovenia, UK, Bulgaria, Denmark			n.a. / n.r.

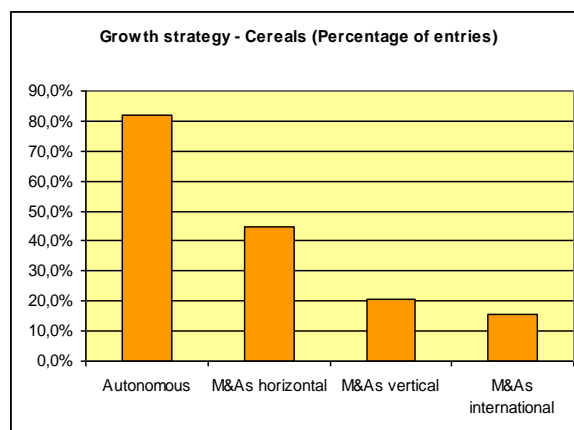
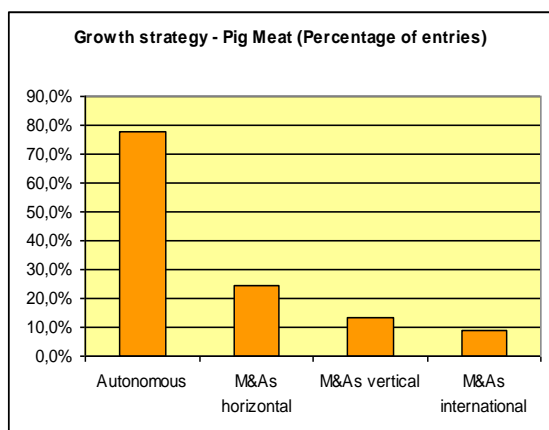
To sum up, the best performance for a great group of countries were seen in the cereals, dairy, fruit and vegetable, wine sectors in which the market share held by cooperatives is high or very high compared to IOFs. But, we have also great differences in the performance of the cooperatives between sectors and countries. It would be to some extent very optimistic to describe the position and the success or failure of the cooperatives in general terms. Many different socio-political interventions, historical path dependencies, traditions and single success stories require a proper and distinct interpretation of the current data. Reducing diversity to just some condensed information or a description of general trends based on some selected performance measures bears always the danger of oversimplification. To prevent from this effect it would be necessary in any case to refer to the country and sector reports and not solely on these brief comments.

Growth Strategies: The tables on the market shares and the changes over the last ten years raise the question on which competitive and growth strategies cooperatives focus on. To start with we present for all sectors the main important generic strategy types that cooperatives have implemented. It is notable that for the cereals, sugar, and to a minor extend for the pig meat sectors cooperatives consider low cost to be the key competitive advantage for success as opposed to the dairy and the wine sector who highlight value creation by product or service differentiation. Cooperatives in the olive oils and fruit and vegetable sectors use both strategy types, while the cooperatives in the sheep meat sector focus on a niche market with serving a narrow set of customers.



With the foregoing analyses of the market shares we explained the position of the cooperatives versus IOFs and we also demonstrated the development of growth over time. We then were interested in the way cooperatives realized their growth. Four different options are seen as possible growth patterns: autonomous growth, horizontal and vertical merger & acquisitions, and international merger & acquisitions. A bit of a surprise is that for all sectors growth strategies rely to a high degree on autonomous growth (increasing turnover by extending the current market and selling more or attracting new members). Given the concentration process in the cooperative sector in many countries in Europe it was expected that the common way of growth was merger (with neighbouring cooperatives) and not autonomous growth. For the cereals and dairy sector horizontal M&A is the second most important strategy. Not surprisingly, vertical and international mergers and acquisitions explain cooperatives' growth only to a minor extend. It would be interesting to observe if international acquisition will gain in importance considering the size of some cooperatives in various sectors and the constraints national law of competition puts on domestic mergers and acquisitions.





Taken our performance measures and the results of the analysis of the competitive position of cooperatives in the food chain an interesting issues could be an analysis of the impact of various policy measures on these position on various sectors and countries. Up to now it is not very clear if policy measures (and probably which) have the ability to play a significant role in improving farmers` competitive position in the food chain via cooperatives. Some of these issues has been raised and controversially discussed in several country reports (see e.g. CR Greece, p. 59; CR Romania, p. 26).

In a competitive environment, both IOF and cooperative firms would be forced to produce at competitive levels and to price at cost (including a normal return to capital) for all goods or services provided. The cooperative may have different organizational objectives than the IOF – perhaps to provide services that would not otherwise be available. During the ongoing research in this project it would also be interesting to identify these services or special contributions that (could) differentiate cooperatives form IOFs (the impact of quality assurance schemes on the competitive market position of cooperatives; provision of information or advises and education). These and other aspects could probably be part of the case studies.

We were discussing cooperative success factors. The analysis in this reports uses at several the terms success or failure. How should we measure them. Given an accepted measure of a performance dimension (e.g. market share), it remains difficult to say what level of performance is desired.

If one of the goals of this research project is to explain cooperatives` performance in the food chain would we be able at the end to describe or to formulate an institutional environment that would be “quite favourable for cooperatives” (CR The Netherlands, p. 56)?

The position of producer marketing organisations in the food chain varies significantly among sectors, sub-sectors and countries. The country and sector reports provide us with rich information and explanations on the development of the cooperative system. Several institutional, environmental and governance issues were discussed. The relative position of the players depends on a number of facts:

- market structure
- relative size of the agricultural producers
- nature of the product
- nature of the “social capital”

just to name only a few. We know that there are a lot differences and sector and country specificities that are interdependent connect and cannot easily being analysed separately. Let us take for example the characteristics of the farm structure in different countries. They are to some extent important for the willingness of farmers to join cooperatives. The path for the evolution of farm structures in the CEE countries were very diverse and so are the resulting farm

and cooperative structure. One can find relatively large and efficient agricultural enterprises in the Czech Republic, subsistence-oriented farm households in north-east Bulgaria, highly specialised large family farms in the New German Bundesländer, and diversified small-scale family farms in Slovenia. Although this fact is not often pointed out, it is evident that there existed a considerably heterogeneity among CEE countries in terms of economic status, land tenure and endowment, and contribution to the economic development of the food system. This is only a small piece of an even larger picture of the combination of description of 27 countries/regions times eight sectors with at least five cooperatives per sector. One can derive numerous very interesting and different combinations of regions, sectors and cooperatives. This makes it very difficult (not to say nearly impossible) to identify interesting differences between regions and sectors. That is why we merge both subsections (regional and sector considerations) to one section.

It might be interesting to look at the following issues:

In general the cooperatives cereals sector is described as a relatively straightforward system. The most common marketing channel used by the majority of farmers is to deliver their production to a cooperative for storage and first marketing. There are a few second degree cooperatives which are active in storage and trade in cereals. Participation of cooperatives in further processing is not very common in this sector. Except for some interesting examples given by France, Estonia, Latvia, and also in Italy. In these countries we find for a larger group of cooperatives (France) or for single, but large cooperatives (Estonia, Latvia, Italy) different forms of vertical integration the downstream stages of the chain in order to create more added value to their members' products. It would be interesting to find out what the main reasons are for these strategies. **Why is there nearly no vertical integration in the cooperative fruit and vegetable sector into processed fruits and vegetables markets?**

The economic analysis of the market position of cooperatives showed that cooperatives in the northern European countries (Sweden, Finland, and Denmark) had a strong position measured by market shares. One of the explanations for that result was the cooperatives' long tradition and the strong business orientation of the cooperatives efficient. There are other countries and regions with the same long tradition (Greek and its agricultural cooperatives' history or Lithuania). Is there a possibility to separate the single effects that have caused the successful or the non-successful developments?

In The Netherlands, Denmark there are not many opportunities to grow in the domestic markets. They have kept their large market shares at the domestic market and at the same time they have strengthened their position in the global market. There are not much growth possibilities in the domestic market. The food consumption does not increase either in amount or in quality. And the cooperatives market shares are also so big that neither that way cooperatives could look for domestic growth. Thus, the only way to grow is to seek growth from the global market. Thus far, the Danish cooperatives have been very strong. The same happens with cooperatives from the Netherlands. It would be interesting to find explanations why cooperatives of the same size and market dominance (e.g. like the German cooperatives in the cereals or the dairy sector) do not exploit such growth strategies.

In the pig meat sector our analysis came up with a market dominance of cooperatives in this food chain for the countries France, Denmark, Finland, and Sweden. They have high market shares and opposite to this situation in the rest of the European countries market shares of cooperatives are relatively moderate. Why is there given a very differentiated and uneven farm structure all over Europe an obviously general low willingness to cooperate in a producer organisation?

Sugar sector: In some countries (The Netherlands, France) cooperatives are an active participant in the sugar refining and marketing sector. In other countries with a high level of sugar production cooperatives are not playing any role.

Another aspect of the position in the food chain might be interesting to look at. Two examples are given in the table below. They are representing two different sector and country situations. Based on the turnover of the largest sector cooperative the relative distance of the next important cooperatives are calculated. Which factors could explain why we find in specific countries/regions and/or sectors a more even (dairy) distribution and in other contexts a more concentrated (cereals) distribution of the cooperatives.

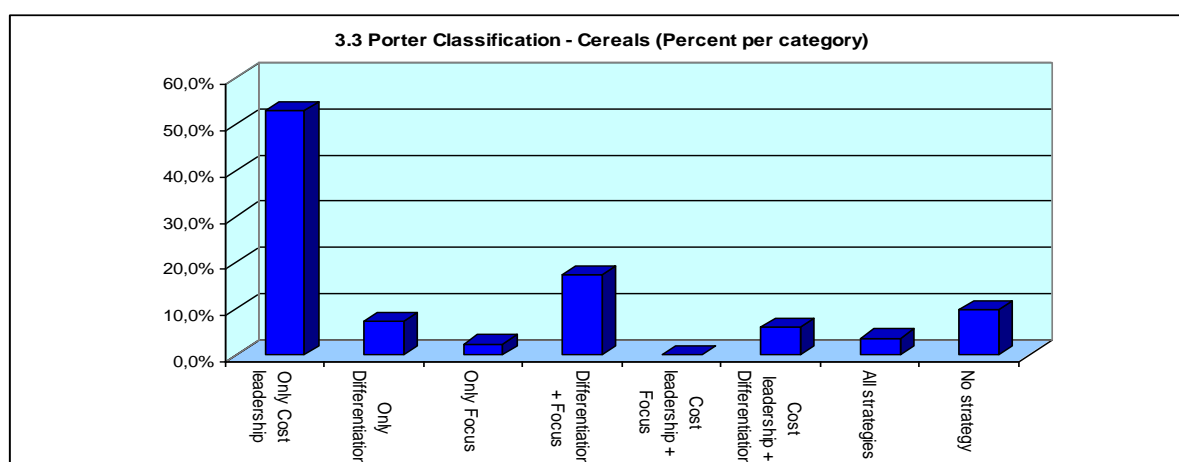
Top 5 dairy cooperatives in Germany		Turnover (Idx.)	
		2000	2010
1	Nordmilch eG	100	100
2	Humana Milchunion eG	64	91
3	Hochwald Nahrungsmittel-Werke GmbH	13	57
4	FrieslandCampina Germany GmbH	19	47
5	Bayernland eG	20	33

Top 5 cereals cooperatives in France		Turnover (Idx.)	
		2000	2010
1	AXEREAL	n.a.	100
2	CHAMPAGNE CEREALES	100	45
3	UNEAL	12	13
4	SCAEL	n.a.	8
5	ARTERRIS	n.a.	9

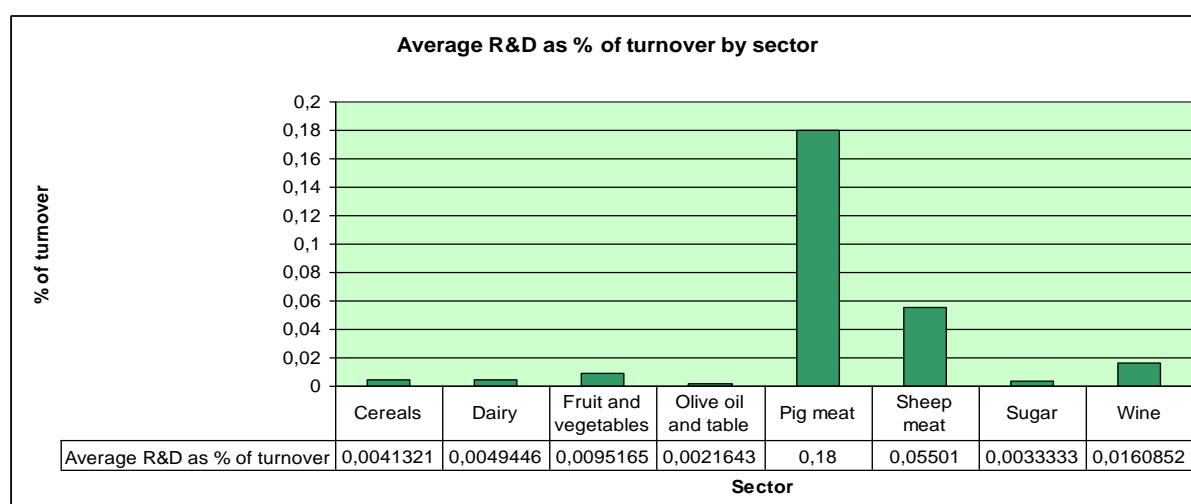
5. Discussion

During our analysis we find a number of discrepancies between the data provided in the country reports and the questionnaire. Taken the data on the turnover of individual cooperatives in both sources we find numerous deviations. That made the statistical analysis on market shares a bit puzzling.

Another aspect is the interpretation of the results we derived from the questionnaire on the strategic concepts cooperatives use. For every cooperative of the Top 5 in each sector the general generic strategy should be indicated. When looking and analysing the entries made by the experts the results are hard to interpret. Below you will find an example we generate and by the best of our knowledge could not explain. We summed up the entries for the cooperatives of the cereals sector:



Last, but not least it should be noted that we did not use the results on investments in R&D for the sectors or countries. For us they did not seem very consistent with that what we think is reality. We really could not explain the very high R&D expenditures in the pig and sheep meat industry compared to the other sectors.



And finally, we refer to the data analysis procedures again. We tried to make cluster analyses, but were not very successful with. We did not find any real good grouping good criteria in the data we processed. Our suggestion is to start with various other attempts again by using the results of the reports of the other building blocks. It might be useful to cluster on the basis of institutional environment and internal governance structures and policy measures.

6. Conclusions

We used several performance measures in our analysis but concentrated primarily on market shares of cooperatives in different institutional and sector settings. Then we processed results on the position of cooperatives in the food chain and cooperatives versus IOFs.

There are quite a large number of differences of the cooperatives' position within single countries and between sectors. It is nearly impossible by given sector-, country- and firm-specific differences to process an overall assessment of the performance of cooperatives or POs. The following general results can be addressed:

Position of cooperatives in the cereals sector: Cooperatives position in the food chain is basically in the provision of market access to their members, in collecting/bargaining of agricultural raw materials. In the period we observed nearly all functions grow in relevance for the cooperatives. Several of the cooperatives broadened their scope by choosing to add primary (and/or secondary) processing. Within this sector cooperatives' performance measured by market shares is quite strong. This applies particularly to the Scandinavian (Denmark 80%) and West-European countries (France, 74%; Austria, 70%; The Netherlands, 55%). Cooperatives could increase their shares.

Position of cooperatives in the dairy sector: Marketing cooperatives in the dairy sector are strong competitors on the markets. Dairy cooperatives are active in almost the total food chain. They are providing markets to their members as well as producing branded products or private label products and selling these directly to retailers. Dairy cooperatives in Europe perform quite well. In thirteen EU-countries they provide more than 50% of the market shares (measured in milk volume collected on first-handling and processing stages). In the Scandinavian countries (Sweden, Denmark, Finland) and in Ireland and Austria market shares exceed the 90%-level. There is also a high degree of membership organisation. Cooperatives could increase their market shares versus IOFs in those countries where they had a high market share.

Position of cooperatives in the fruit and vegetable sector: The producer organisations in the fruit and vegetable sector cover the whole range of different functions with the most important in providing markets to their members, collecting and marketing farm products, and also in the secondary processing. Cooperatives in three countries have a comparable high market share (The Netherlands, 95%; Denmark, 70%, and Slovenia 68%). In all other European countries cooperatives are exposed to several competing companies (IOFs). Fruit and vegetable sectors (and cooperatives) are exposed to an intensive international trade competition in this sector which puts pressure on cooperatives. On the other hand there is market potential for cooperatives' share to increase because in most countries of the EU, consumption levels of fruit and vegetables will increase.

Position of cooperatives in the olive oil sector: European cooperatives have a strong position in the processing functions that follow the first-handling stage within the food chain. Wholesaling is a strong activity, but value-added activities are in the main focus of these cooperatives. Secondary processing and the branding of their products are important activities. The position of the cooperatives in the olive oil producing countries is different. In Italy the cooperatives were not able to create significant added value to the product and consequently, their market share dropped (from 13% in 2000 to 5% in 2010). Spanish cooperative still have the highest market shares (70%) but, as well as in Italy and Portugal (from 35% in 2000 to 30% in 2010) they are losing their market share. Greek numbers for 2010 are missing, but in 2000 cooperatives' market share was 60%.

Position of cooperatives in the wine sector: Two types of cooperatives exist in the European wine sector. We find a so-called dual structure. I. e. a coexistence between a group of dynamic market oriented cooperatives that have managed to deal with market changes and strong

branding and marketing activities in contrast to many cooperatives that are dedicated to production and collecting/bargaining products. Compared to IOFs wine cooperatives perform (measured in market shares) well in Slovenia (71%), Spain and Malta (70%), and Italy (52%).

Position of cooperatives in the sugar sector: There were only few countries reporting on the position of the cooperatives in this food chain. Those who have reported indicated that the producer based sugar refineries seem to have a strong position and they cover nearly every function in the food supply chain. For regulatory reasons sugar organizations provide markets for their members and they are also strong in processing and marketing of branded products and retailing. For The Netherlands (100%), France (62%), Hungary (30%), and Spain (28%) producer organisations in this sector play an important role.

Position of cooperatives in the pig meat sector: Cooperatives in this sector are serving nearly every stage of the food chain, from transport and storage, to primary and secondary processing, marketing of brands, wholesaling and retailing. Cooperatives in five European countries have a dominant position measured in market shares (Malta, 100%; France, 94%; Denmark, 86%; Finland, 81%, and Sweden, 51%). In these countries cooperatives have more or less outperformed private companies. In all other countries cooperative performance versus IOFs is not a success story and they could not gain any relevant position in any stage of the food chain between 2000 and 2010.

Position of cooperatives in the sheep meat sector: The sheep meat sector has not great relevance for many countries in the EU. For those countries who have reported the main functions of cooperatives are close to agriculture and consist of market provision, collecting members' products, and wholesaling. The function marketing of branded products is as rare as secondary processing. Most European countries did not report any data about this sector. If cooperatives are participating in the sector their position in the food chain is rather weak (with market shares in the Czech Republic of 20%, in Spain of 25%, and in Hungary of 20%). Except for Sweden with reported market shares of 55% cooperatives are only marginal participating in these food chains. The large number of small producers and the low level of consumption make organisation of large scale production even more complex.

Four different options for **growth strategies** were identified: autonomous growth, horizontal and vertical merger & acquisitions, and international merger & acquisitions. A bit of a surprise is that for all sectors growth strategies rely to a high degree on autonomous growth (increasing turnover by extending the current market and selling more or attracting new members). Given the concentration process in the cooperative sector in many countries in Europe it was expected that the common way of growth was merger (with neighbouring cooperatives) and not autonomous growth. For the cereals and dairy sector horizontal M&A is the second most important strategy. Not surprisingly, vertical and international mergers and acquisitions explain cooperatives' growth only to a minor extend.

The analysis of the **branding activities** performed by cooperatives shows sector specific differences. In the wine sector cooperatives' turnover is basically the result of sales of branded products. In this sector the establishing of own brands has a long tradition and it is in the focus of most cooperatives. The dairy cooperatives invest and promote also their own brands, but there are still a larger number of cooperatives with a smaller proportion of branding activities. In both sectors cooperatives are part of the final market where the supply of own brand products and the ability to produce private label products is a requirement. Sector specific characteristics explain the low degree of branding activities in the cereals, sugar, sheep and pig meat sectors.

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List of Abbreviations/Glossary

A/S ratio	advertising-to-sales ratio
CEE	Central and Eastern European
CEO	Chief Executive Officer
COGECA	General Committee for Agricultural Cooperation in the European Union
COPA	Committee of Professional Agricultural Organisations
CR	Country Report
EU	European Union
FADN	Farm Accountancy Data Network
IOF	investor-owned firm
n. a.	not available
n. r.	not relevant
PO	Producer Organisation
R&D	Research & Development