
Support for Farmers' Cooperatives

Country Report Denmark

Perttu Pyykkönen
Stefan Bäckman
Heli Kauriinoja



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The project is managed by Wageningen UR’s Agricultural Economics Research Institute LEI and Wageningen University. Project managers: Krijn J. Poppe and Jos Bijman.

Other members of the consortium are:

- Pellervo Economic Research PTT, Finland: Perttu Pyykkönen
- University of Helsinki, Finland: Petri Ollila
- Agricultural Economics Research Institute, Greece: Constantine Iliopoulos
- Justus Liebig University Giessen, Germany: Rainer Kühl
- Humboldt University Berlin, Germany: Konrad Hagedorn, Markus Hanisch and Renate Judis
- HIVA Katholieke Universiteit Leuven, Belgium: Caroline Gijssels
- Rotterdam School of Management, Erasmus University, The Netherlands: George Hendrikse and Tony Hak

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Perttu Pyykkönen

Pellervo Economic Research PTT, Finland

Stefan Bäckman

Pellervo Economic Research PTT, Finland

Heli Kauriinoja

Pellervo Economic Research PTT, Finland

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Corresponding author:

Perttu Pyykkönen

Pellervo Economic Research PTT

Eerikinkatu 28

00180 Helsinki

Finland

Email: perttu.pyykkonen@ptt.fi

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 country report on the evolution of agricultural cooperatives in Denmark has been written.

Data collection for this report has been done in the summer of 2011. The authors thank Mr. Esben Tranholm Nielsen (Landbrug&Fødevarer) and his colleagues for providing extremely valuable help on data collection as well as on preparing an earlier draft of this report. Also the comments and support from professors Jerker Nilsson and Petri Ollila are highly appreciated.

In addition to this report, the project has delivered 26 other country reports, 8 sector reports, 33 case studies, 6 EU synthesis reports, a report on cluster analysis, a study on the development of agricultural cooperatives in other OECD countries, and a final report.

The Country Report Denmark is one of the country reports that have been coordinated by Perttu Pyykkönen, Pellervo Economic Research PTT. The following figure shows the five regional coordinators of the “Support for Farmers’ Cooperatives” project.

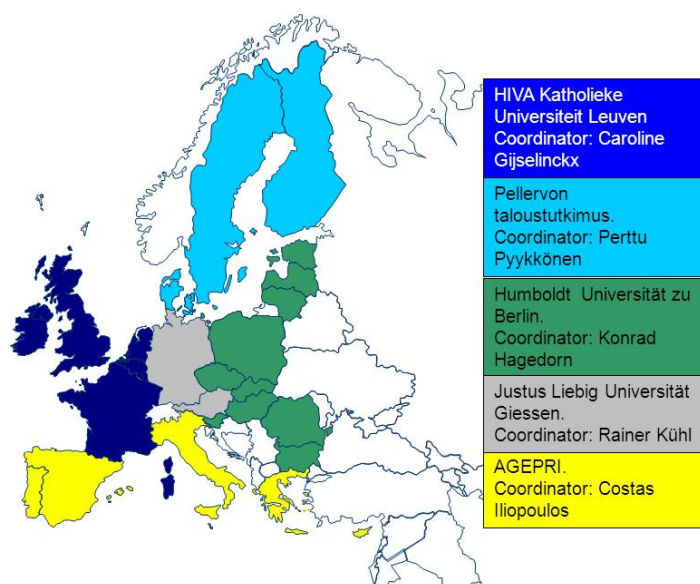


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1 Introduction

1.1 Objective of the study

The imbalances in bargaining power between the contracting parties in the food supply chain have drawn much attention, also from policy makers. The European Commission is committed to facilitate the restructuring of the sector by encouraging the creation of voluntary agricultural producer organisations. DG Agriculture and Rural Development has launched a large study, “Support for Farmers’ Cooperatives (SFC)”, that will provide the background knowledge that will help farmers organise themselves in cooperatives as a tool to consolidate their market orientation and so generate a solid market income. In the framework of this study, this report provides the relevant knowledge from Denmark.

In this context, the specific objectives of the project, and this country report, are the following:

First, to provide a comprehensive description of the current level of development of cooperatives and other forms of producer organisations in Denmark. The description presented in this report will pay special attention to the following drivers and constraints for the development of cooperatives:

- Economic and fiscal incentives or disincentives and other public support measures at regional and national;
- Legal aspects, including those related to competition law and tax law;
- Historical, cultural and sociologically relevant aspects;
- The relationship between cooperatives/POs and the actors of the food chain;
- Internal governance of the cooperatives/POs.

Second, identify laws and regulations that enable or constrain cooperative development and third, to identify specific support measures and initiatives which have proved to be effective and efficient for promoting cooperatives and other forms of producer organisations in the agricultural sector in Denmark.

1.2 Analytical framework

There are at least three main factors that determine the success of cooperatives in current food chains. These factors 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).

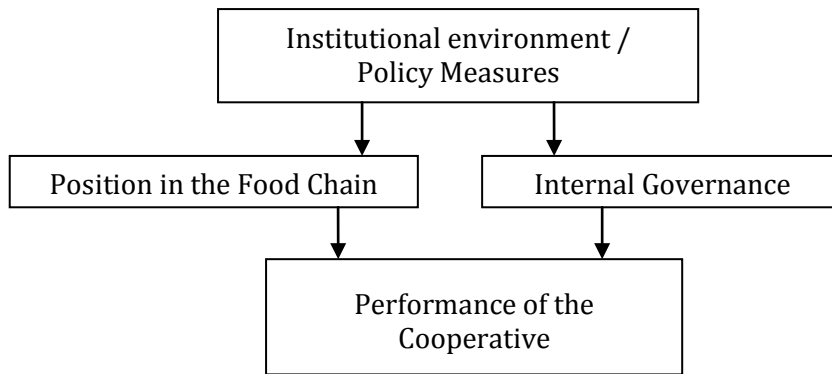


Figure 1. The core concepts of the study and their interrelatedness

1.3 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).

1.4 Method of data collection

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.

1.5 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.

2 Facts and figures on agriculture

2.1 Share of agriculture in the economy

A study of farmers' cooperatives can best start at the farmers' side, in agriculture. In 2007 agriculture is 1.05% of GDP (Figure 2). The share of agriculture has steadily decreased from around 3 % in 1995 to 1 % in 2007. In early 2000 there was small increase in the agricultural share of GDP but after that the share has continued to decrease. The decrease of agriculture has been in both relative and absolute numbers. Meanwhile the total economy has increased steadily.

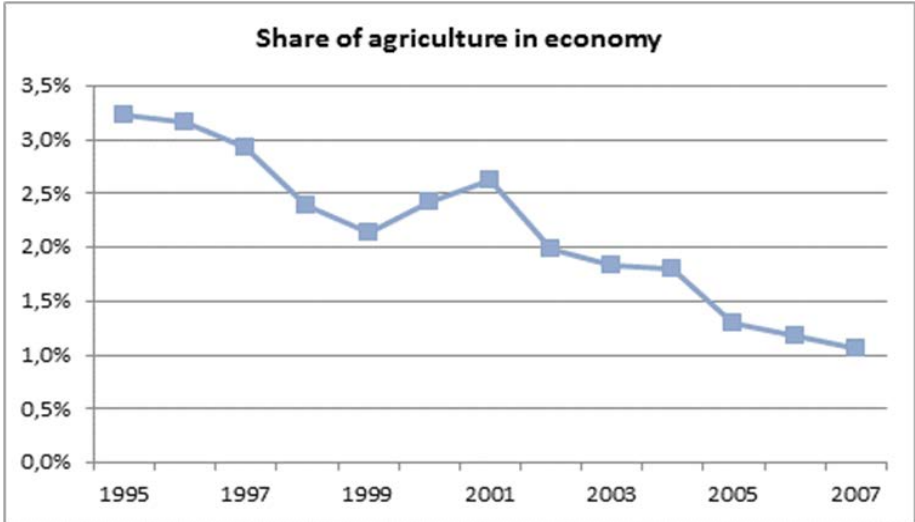


Figure 2 Share of agriculture in GDP. Source: Eurostat Nat. Accounts

2.2 Agricultural output per sector

Within agriculture several sectors exist. Figure 3 provides information on the main sectors in Denmark. Traditionally the pig sector has been strong in Denmark and has been growing steadily since the 1980s. The milk sector has been very stable during the last 30 years. The cereal production has been varying but there is no clear trend in the output. The size of the animal production is much larger than the size of the crop sector. The sheep sector is very small in Denmark and there is hardly any production of wine and no production of olive oil.

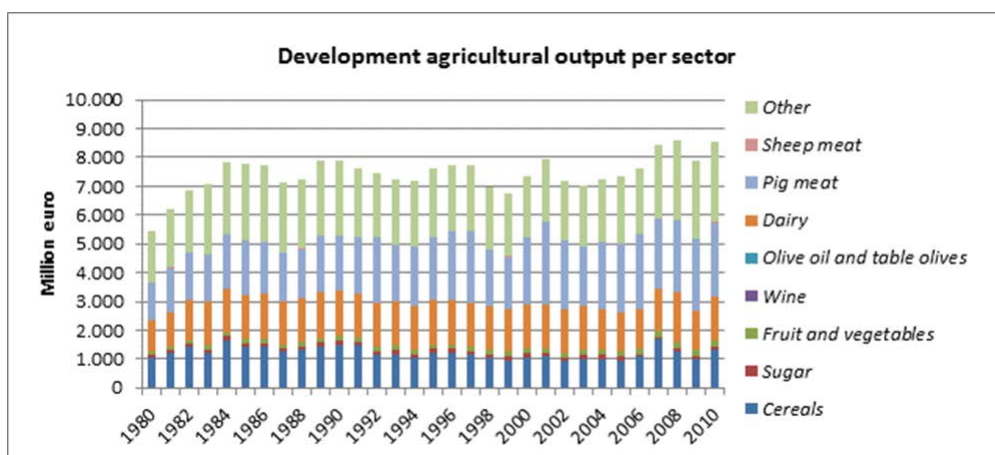


Figure 3 Development of the different sectors in agriculture, value of production at producer prices, in millions of Euro. Source: Economic Accounts of Agriculture, Eurostat

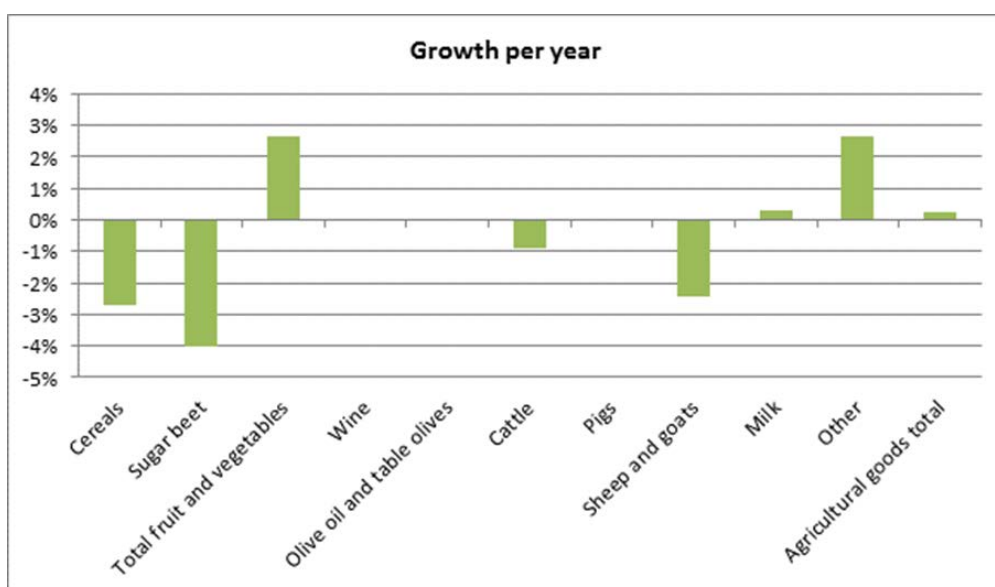


Figure 4 Trend in output per sector "2001" - "2009". Source: Economic Accounts of Agriculture, Eurostat.

Based on a three years average there has been a decrease in the cereal, sugar beet, cattle and the sheep and goat sectors. The sugar sector has decreased the most. The vegetable sector on the other hand has increased by around two per cent. The figures in the Figure 4 are taken from EAA accounts at current basic prices. Thus, the change includes not only the change in production volume but also the price changes as well as changes in coupled support measures.

2.3 Development in the number of farms

The number of farms in Denmark is given in Table 1 and Figure 5. The number of farms has decreased steadily. The numbers of pig farmers has decreased the most. The number of pig meat producers has been halved during the period 2000-2007. There has been almost the same trend for the milk production. The sheep meat and beef sector, however, has been strengthened.

Table 1 Number of farms

	2000	2007	% change per year
Cereals	21 550	16 690	-3.59
Sugar	7 110	7 560	0.88
Pig meat	3 600	1 820	-9.28
Sheep meat	1 830	3 100	7.82
Total fruits and vegetables horticulture	1 420	1 060	-4.09
fruit and citrus fruit	1 110	760	
Olive oil and table olives	310	300	
Wine	0	0	
Dairy	0	0	
Dairy	8 660	4 460	-9.04
Beef	700	1 280	9.00

Source: Eurostat, Farm Structure Survey.

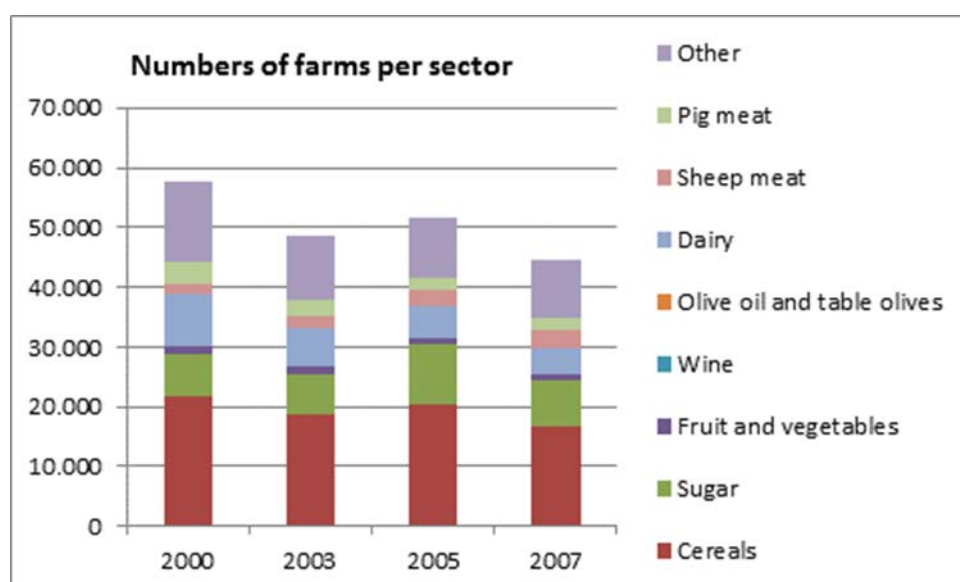


Figure 5 Number of farms 2000 - 2007 with data per specialist type of farming. Source: Eurostat, Farm Structure Survey.

2.4 Size of farms

Farms come in different sizes from small part-time farms to large exploitations. Figure 6 shows the distribution of farms per size class, measured in European Size Units (ESU). The largest farms are in the pig meat and milk sector. Also the vegetable sector has large farms while the sheep sector has the smallest farms.

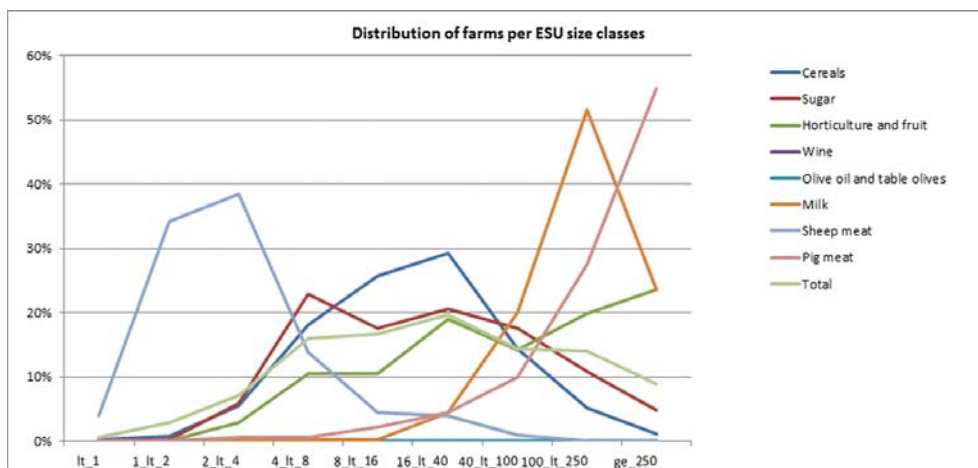


Figure 6 Number of farms per size class, measured in ESU, per specialist type of farming. Source: Eurostat, Farm Structure Survey.

2.5 Age of farmers: distribution of farms to age classes

The age of farmers differs. More than 40 % of the farmers are over 55 year in Denmark. More than 20 % are over 65 years old. Less than 6 % are 35 or younger.

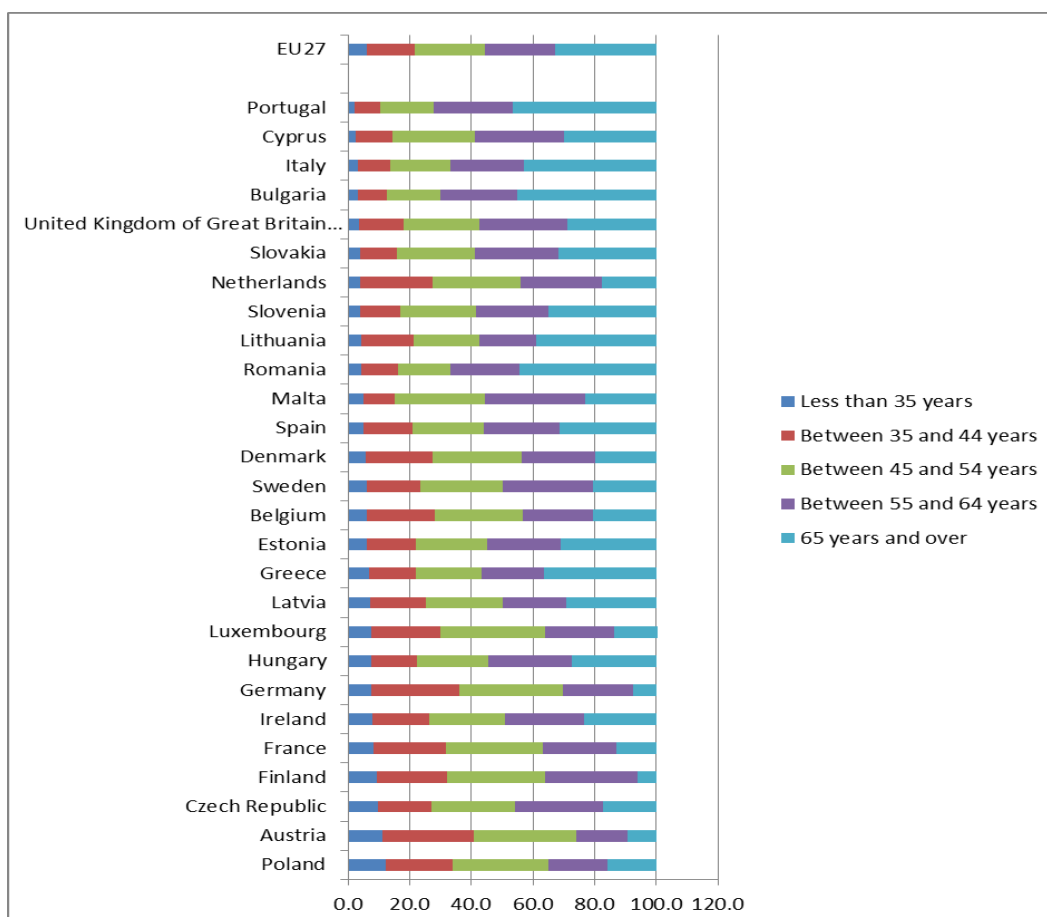


Figure 7 Percentage of farmers per age class, per Member State and EU27, 2007 (ranked with countries with the lowest percentage of young farmers on top). Source: Eurostat, Farm Structure Survey.

2.6 Specialisation of farm production

Cooperatives might not only have member-farmers with different farm sizes or different age. Farms also have a different composition of their production and therefore their input. This is even true for specialist farms, where e.g. some so called specialist dairy farmers also have beef or sheep or sell hay. In addition to that a lot of mixed (non-specialized) farms exist. The heterogeneity of farming in terms of specialisation can be estimated by calculating the share that specialized farms have in the total production. This is what Figure 8 (split in 8A for plant production and 8B for animal production) shows.

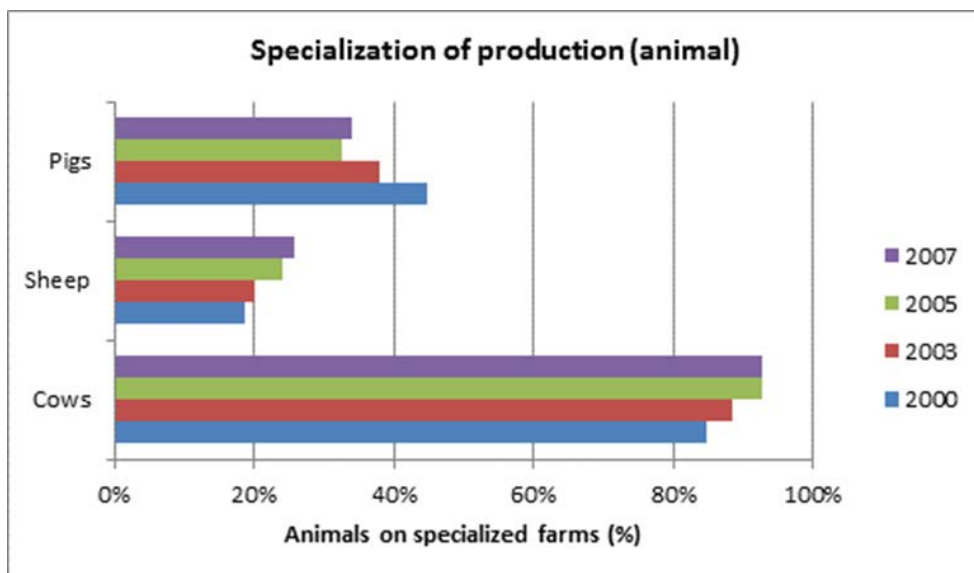
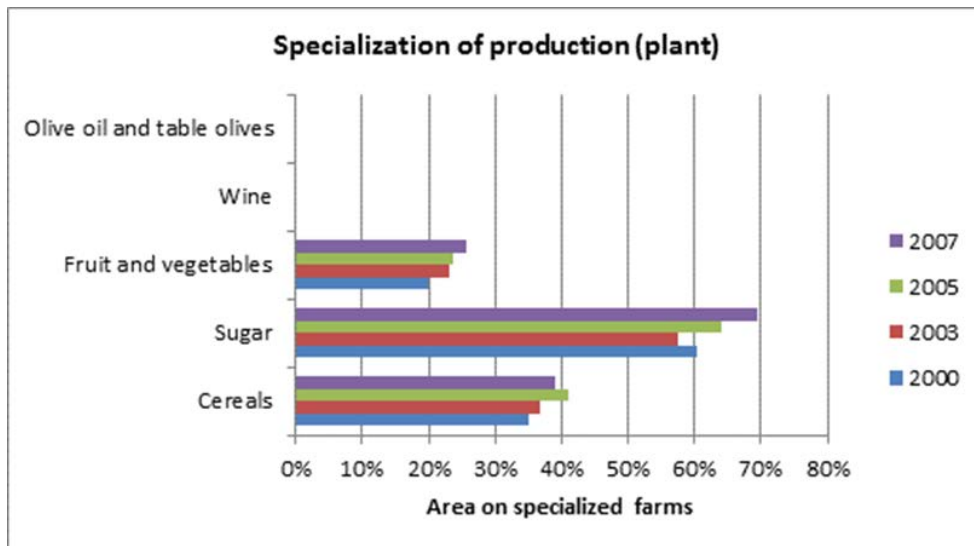


Figure 8 A & B Heterogeneity in farm production: the share of specialist farm types in total production. Source: Economic Accounts of Agriculture, Eurostat.

2.7 Economic indicators of farms

The description of agriculture is concluded with some economic indicators (Table 2). These indicators focus on the net value added and income from farming for farmers, as well as the level of their investment. Some of this investment might be in equity of the cooperatives, but far the most will be in farm assets. The dairy and pig farms are the largest ones. The fruit and vegetable farms also have large output with over 500 000 €. The largest investors are also in dairy and pig sector followed by the sugar producers. The largest group presented is the cereal producers and these farms are a bit smaller in average. The olive oil and wine sectors are not important and the sheep sector is also very small and FADN data is not available.

Table 2 Economic indicators for farms

	Cereals	Sugar	Fruit and vegetables	Olive oil and table olives	Dairy	Wine	Pig meat	Sheep meat
Economic size - ESU	41.77	83.03	281.71	-	198.83	-	354.27	-
Total labour input - AWU	0.87	1.14	5.77	-	2.23	-	3.46	-
Total Utilised Agricultural Area (ha)	59.49	89.79	19.32	-	117.57	-	108.20	-
Total output €	119 139	185 712	595 443	-	516 926	-	867 627	-
Farm Net Value Added €	44 778	73 585	249 648	-	178 384	-	171 811	-
Farm Net Income €	251	636	27 724	-	23 586	-	-94 634	-
Total assets €	1 356 466	1 954 128	1 227 257	-	2 957 057	-	3 874 841	-
Net worth €	839 673	1 121 867	584 987	-	1 104 864	-	1 115 436	-
Gross Investment €	27 429	43 583	60 609	-	242 705	-	292 941	-
Net Investment €	9 756	18 083	16 391	-	190 639	-	196 197	-
Total subsidies - excl. on investm. €	20 276	35 212	11 411	-	63 091	-	36 893	-
Farms represented	12 610	5 380	920	-	4 447	-	1 773	187

note: less than 3 years available

Source: DG Agri, FADN.

3 Evolution, position and performance of cooperatives

3.1 Types of cooperatives¹

There are three important phenomena behind the start and success of the cooperative movement in Denmark. Firstly, the enclosure movement aimed to reunify the fields and award them to one owner only. This land reform (around 1800) meant that any farmer would normally be awarded a coherent piece of land and perhaps an additional piece of forest. In many villages, farmers were either forced or strongly encouraged to tear down their homes and rebuild them in the middle of their new fields with the intention that this would give them easier access to every part of the field, enabling them to utilize the land more effectively. Secondly, new land was successfully reclaimed into arable production in the 19th century (areas that have been abandoned in the 14th century due to the black plague). And thirdly, the influx from Russian borderlands (Ukraine and Poland) to the grain market that decreased grain prices. All these affected the income of many Danish farmers and the result was a change in production: from grain to dairy products and meat. When a farmer couldn't sell his grain, he fed it to his cows and pigs.

This change in production resulted in a need for dairies and slaughterhouses. The only way to pay for such massive investments was for a large group of farmers to share the cost and risk between them, thus creating the cooperative dairies and slaughterhouses. The new situation implied that farmers would buy cheap grain from Russia and feed it to their livestock, selling milk, butter, eggs and meat for a much higher price.

The combination of the Cooperative Movement and the switch away from the production of grain resulted in a great increase in wealth for the average Danish farmer and it became very important in the way Danish farmers perceived themselves. Thus, Danish cooperation was developed in the last two decades of the 19th century, closely linked to processing in the domain of livestock and pork productions. The first milk cooperative center in Denmark was founded on the initiative of the local farmers in 1882. These cooperatives spread out through the whole country. In 1888 as many as 244 cooperatives were founded and shortly after one third of the Danish livestock farms delivered their milk to a cooperative center.

Since the beginning of the 1880s the English demand of bacon encouraged Danish farmers to focus their attention on pork production. The waste matter of dairies was an excellent feed for pigs and in 1887 a local farming trade union made the decision of setting a slaughterhouse in Horsens, based on the same principles as dairy cooperatives.

In 1890 there were already 10 slaughterhouses which had the control over one third of the pork production destined to export, although they had to face a strong competition from the part of privately owned slaughterhouses. They then decided to increase their capacity for processing rather than their number. Thus, whereas the dairy cooperatives were small, short of personnel and located in rural areas, the cooperative slaughterhouses actually became factories – hence, their name “bacon factories” – which employed a lot of workers and were located in towns, though out of the ordinary train or boat routes. The cooperative slaughterhouses promoted a

¹ Main source and direct quotations from Steen Busck & Henning Poulsen, "Danmarks historie - i grundtræk", Aarhus Universitetsforlag, 2002

rapid expansion of the pork livestock in cattle farms, when they achieved, by means of their dealings on the British market, an increase in the export of bacon.

The original organizing model that eventually prevailed was that of the single-purpose cooperative which only develops one type of activity. They attempted to center the efforts and resources in one sole activity with the purpose of achieving better results and leaving aside the development of scarcely efficient activities that could become a serious hinder to their functioning. However, today many cooperatives are multi-purpose cooperatives when the cooperatives have become larger not only by vertical but also by horizontal integration.

In addition to agriculture there are other important sectors where cooperatives have a significant role. The cooperative movement also resulted in a series of co-op stores, which were under the administration of the Danish Consumers Co-operative Society (FDB). FDB has today 1.7 mill. members. The stores kept a large share of the Danish consumer goods market.

Another cooperative business model typical for Denmark can be found in the energy sector. The cooperative ownership model for windmills was developed in Denmark. First, for smaller wind mills, later for wind energy farms. The share of wind electricity is about 20% in Denmark and the share of cooperative owned wind mills is today about 15%. However, when the wind business started some 30 years ago the role of cooperatives was very important. Still there are more than 100.000 families as members in wind mill cooperatives. In the insurance and banking sectors the role of cooperatives is strong as well.

There are also different kinds of cooperative communities that have a strong social character. In the late 1970's, early 80's a collective lifestyle, including cooperative production was very popular. Some of these collectives still exist. The most famous of these is the Freetown Christiania in Copenhagen. People living in these communities are often environment conscious, and join the Danish Eco village Network. Living in co-housing groups with a common ground and common house is another example of social cooperatives and they are relatively common in Denmark. The common house is used for common eatings, common washing machines, meetings and fests. There are three types of co-housing groups: One type, where the flats/houses are built by a national housing association and people are renting the flats. Another type is where people own the flats/houses and the land and the loan together. Third type, where people own the common house and the land together, but they own their own family houses.

On the other hand, cooperatively organised business activity has not caught on as part of later years labour insertions programs, or provision of social services, as is seen in other European countries, in northern Europe, e.g. Sweden, Finland and the UK. In Denmark until now, cooperatives still seem mostly associated with agriculture, consumer cooperation and housing, and credit and insurance cooperatives, all related to the old cooperative wave of the social movements from the end of 19th century. This does not mean that there does not exist cooperative structures within the social service sector, but it is not an organisational paradigm for solving social service issues in Denmark. In addition, the welfare system in Denmark acts well and thus, there is not much need to new structures in the sector. For the time being social service enterprises seem to tend to choose rather a foundation construct than a more classical cooperative construct.

The Danish Commerce and Companies Agency report about 600 cooperative companies registered at the Agency. If one takes the data published from Danmarks Statistik it gives a different number, about 1200. It is not entirely clear how this difference comes about. Some may be that certain types of cooperatives within the energy sector are not registered at the Agency.

3.2 Market share of farmers' cooperatives in the food chain

The cooperatives have a very significant role in the food chain in Denmark. Especially in dairy and meat sectors the market shares are high (see Table 3). The figures from 2000 were not available. Thus, only the 2010 figures are presented.

Table 3 Market Share of Cooperatives

Sector	"2000"		"2010"		Comments
	Number of members	Market Share (%)	Number of members	Market Share (%)	
Cereals					DLG and DLA joint share in input supply ca. 80%
Pig meat				86%	DC 78%, Tican 8%
Fruit and vegetables					
Dairy				96,5%	Arla Foods 90%

3.3 List of top 50 largest farmers' cooperatives

Since the consolidation process has been very strong among Danish agricultural cooperatives we have tried to list all Danish farmer cooperatives in the food chain. Nevertheless, we have found only 45 cooperatives in Denmark. However, some of the remaining ones are among the largest in Europe. On the other hand, some of the cooperatives are relatively small. Thus, the structure is very heterogeneous.

Table 4 The 50 largest farmers' cooperatives in the food chain of Denmark.

	name of cooperative	sector	turnover
1.	Arla Foods AmbA	dairy	6 183 076 559
2.	Danish Crown AmbA	pig meat	6 034 981 277
3.	Dansk Landbrugs Grovvarereselskab AmbA	cereals, feed	5 279 102 272
4.	Danish Agro AmbA	cereals, feed	1 789 893 651
5.	DLA Agro AmbA	cereals, feed	836 037 872
6.	Tican AmbA	pig meat	497 738 247
7.	Vestjyllands Andel AmbA	cereals, feed	141 884 907
8.	Danæg Amba	egg	134 109 380
9.	Daka AmbA	feedsstuff etc	98 778 800
10.	Kartoffelmelcentralen AmbA	potato starch	88 768 036
11.	Thise Mejeri AmbA	dairy	66 336 266
12.	Gasa Nord Grønt	fruit and vegetables	65 525 646
13.	Gasa Odense Frugt-Groent AmbA	fruit and vegetables	44 745 729
14.	Them Andelsmejeri	dairy	
15.	Bornholms Andelsmejeri	dairy	32 856 798
16.	Karup Kartoffelmelfabrik AmbA	potato starch	29 731 079
17.	Naturmælk AmbA	dairy	26 821 876
18.	Salling Grovvarer AmbA	cereals, feed	20 116 407
19.	Andelskartoffelmelsfabrikken Vendsyssel AmbA	potato starch	17 014 947
20.	Andelskartoffelmelsfabrikken Midtjylland AmbA	potato starch	14 374 624
21.	GASA Kolding	fruit and vegetables	12 999 490
22.	Andels-Kartoffelmelsfabrikken Sønderjylland	potato starch	12 533 004
23.	Næsbjerg Foderstofforening	cereals, feed	12 240 297
24.	Endrup Andelsmejeri	dairy	9 387 657
25.	Ørskov Friskfrugt AmbA	fruit and vegetables	8 767 669
26.	Vejrup Andels Grovvarforening	cereals.feed	8 448 891
27.	Producentorganisationen for Dybfrostærter AmbA	fruit and vegetables	7 171 093
28.	Hoejslev foderstofforening	cereals,feed	6 034 922
29.	Gredstedbroegnens Lokalforening AmbA	cereals.,feed	5 364 375
30.	S.A.F. Frugt AmbA	fruit and vegetables	4 978 810
31.	Danske Bær	fruit and vegetables	4 575 757
32.	L.F. Frugt AmbA	fruit and vegetables	3 814 604
33.	Nybro Tørreri AmbA	cereals, feed	3 507 631
34.	Aarhus Slagtehus Produktforening AmbA	beef	2 368 908
35.	Fyns Bærdyrkerforening	fruit and vegetables	836 061
36.	Chickpulp AmbA	feedsstuff	541 131
37.	Andelsmejeriet Sædager	dairy	
38.	Rørbæk Andelsmejeri	dairy	
39.	NAG nordsjellands Amba	cereals, feed	
40.	Asaa andelsmejeri	dairy	
41.	Bjerre Herreds Mejeriselskab	dairy	
42.	MBM, Meginfelag Bunadarmanna	dairy	
43.	Viking Genetics	breeding	
44.	Viking Danmark	breeding	
45.	Fyns Bærdyrkerforening	fruit and vegetables	836 061
46.	Sydvestjaellands andels grovvarforening AmbA	cereals, feed	

3.4 List of top 5 largest farmers' cooperatives per sector

In Denmark wine and olive oil sectors do not exist due to the natural conditions. Neither are there sugar cooperatives or sheep meat cooperatives. In the pig meat sector there are two large cooperatives which together one small beef cooperative are the only cooperative slaughterhouses in Denmark. Danish Crown and Tican both slaughter cattle and also small amounts of sheep but mainly they both are pig meat cooperatives.

Table 5. Most important cooperatives in the sectors studied in this project.

Cereals

	Cooperative	Turnover
1.	Dansk Landbrugs Grovvarereselskab Amba	5 279 102 272
2.	Danish Agro	1 789 893 651
3.	DLA Agro	836 037 872
4.	Vestjyllands Andel Amba	141 884 907
5.	Salling grovvarer Amba Næsbjerg Foderstofforening	20 116 407

Pig meat

	Cooperative	Turnover
1.	Danish Crown Amba	6 034 981 277
2.	Tican Amba	497 738 247

Fruit and vegetables

	Cooperative	Turnover
1.	Gasa Nord Grønt	65 525 646
2.	Gasa Odense Frugt-Groent Amba	44 745 729
3.	GASA Kolding AmbA	12 999 490
4.	Ørskov Friskfrugt AmbA	8 767 669
5.	Producentorganisationen for Dybfrostærter AmbA	717 093

Dairy

	Cooperative	Turnover
1.	Arla Foods Amba	6 183 076 559
2.	Thise Mejeri Amba	66 336 266
3.	Them Andelsmejeri	-
4.	Bornholms Andelsmejeri	32 856 798
5.	Naturmælk AmbA	26 821 876

3.5 Transnational cooperatives

Many cooperatives are active internationally. In most cases the foreign activities of cooperatives are limited to marketing, trade and sales. Usually they do not buy agricultural products from farmers, or supply inputs to them. However, there is a growing group of cooperatives that do business with farmers in other EU Member States. These cooperatives are called international cooperatives. They can be marketing cooperatives that buy from farmers in different countries, or they could be supply cooperatives that sell inputs to farmers in different countries. One particular group of international cooperatives is the so-called transnational cooperatives. These cooperatives do not just contract with farmers to buy their products or to sell them inputs, they

actually have a membership relationship with those supplying or purchasing farmers. In sum, a transnational cooperative has members in more than one country.

The Danish large agricultural cooperatives have been very active in internationalizing their operations (long tradition, see chapter 2.2.1). They have also been active in merging with other cooperatives or acquiring also privately owned companies. Thus, as a result there are many Danish cooperatives that have members in other countries and many cooperatives that trade with farmers in other countries. Due to the location of Denmark near Germany there are also some border crossing activities. Thus, there are several especially German cooperatives that have either members in Denmark or trade with Danish farmers and vice versa. Table 6 below presents the foreign transnational cooperatives and the international cooperatives active in Denmark. These are cooperatives from other EU Member States that have come to Denmark to directly trade with farmers, either as members or as contractual customers. Table 7 following Table 6 respectively presents the transnational and international cooperatives that have their seat in Denmark. They have gone international by taking up members in other countries and/or doing business with non-member farmers in other countries

Table 6. The foreign transnational cooperatives and international cooperatives that are trading with farmers in Denmark

Name of the Cooperative	Mother country	Sector(s) involved in:
Transnationals		
HKScan	FI	Poultry

Table 7. The transnational cooperatives and international cooperatives from Denmark that are trading with farmers in other countries

Name of the Cooperative	Host countries	Sector(s) involved in:
Transnationals		
Arla Foods	SE, DE, UK, NL	Dairy
DLA Agro	SE, NO, FI, EE, LV, LT...	Cereals, input supply
Danæg	SE	Egg
Viking Genetics	SE, FI	Genetics
DAKA	SE	By-products of slaughtering
Internationals		
Danish Crown	SE, PL, UK, ...	Pig meat
DLG	SE, DE	Cereals
GASA Nordgrønt (DLG)	DE, NL	F&V
Tican	PL	Pig meat

The transnational/international cooperatives in Danmark have emerged on different grounds. The dairy cooperative Arla Foods has full members in Denmark, Sweden and Germany. Arla Foods has also bought limited liability companies in UK, Finland and the Netherlands. Danæg has members in Denmark and Sweden through merger of Danæg and Kronæg in 2005.

Danish Crown has members only in Denmark, but it has bought slaughtering/processing capacity in Sweden and Germany and together with HKScan in Poland and furthermore processing capacity in UK.

The farmer owned DLG have members only in DK. DLG has grown very fast through acquisitions by buying majority shares in companies in Sweden, Germany and Baltic states. DLG has also expanded through joint ventures into other sectors (e.g. F&V sector). DLG is a majority owner of GASA Nordgrønt and several processing companies in this sector.

4 Description of the evolution and position of individual cooperatives

4.1 Data gathering per cooperative

The main data source is the annual reports and the websites of the cooperatives. Majority of the data was available for year 2010. Some data on for instance turnover of the cooperative, or its balance sheet were available in the Amadeus dataset. However, majority of the data has to be collected from annual reports (for years 2010 and 2000). The data and the annual reports for the largest cooperatives are usually quite easily available at cooperatives' own websites. The smaller cooperatives' information instead was gathered partly from other public, mainly Internet, sources. Different kinds of business databases are luckily available.

4.2 Position in the food chain

Cooperatives have a very significant role in the Danish food chain. As already mentioned Danish cooperatives have a very strong position also in other countries. Considerable parts of the Swedish market are in the Danish hands. Moreover, in the meat sector Danish Crown is one of the market leaders and it has a very strong position not only in Sweden but also e.g. in Great Britain and Poland.

There are several reasons for cooperatives' strong position in Denmark. Firstly, the long tradition of efficient export oriented production especially in the dairy and meat sector has given strength to the quite large cooperatives. At the same time the cooperatives have been able to grow and adjust to the changes in globalising economies. Another reason especially compared to the nearest neighbour in the north, Sweden, is the EU membership that has probably given such experience and possibilities that otherwise would have not been able to obtain. Thirdly, the advantageous location near increasing consumption possibilities has also eased the Danish food industries growth. And fourthly, the strong business orientation of the cooperatives from the very beginning has produced an efficient and competitive industry.

The market shares differ but e.g. in the dairy sector the cooperatives' market share of milk purchases is more than 95%. Arla Foods alone has a market share of 90%. In the pig meat sector the clear market leader Danish Crown has a market share of almost 80% and Tican almost 10%. Also in the cereal sector the cooperatives' position is dominant. Two big players' (DLG and DLA Group) joint share of the input (and cereal) market is almost 80%. In addition the majority of the rest is in the hands of smaller, more local cooperatives. These are the three main income sources in the Danish agriculture compounding more than 60% of the production value of Danish agriculture (EAA, Eurostat). When we add the fact the cooperatives' role is also large e.g. in fruit and vegetable as well as egg sectors we can estimate that the share of cooperative marketed farm products is at least 70% in Denmark. This figure makes Denmark (alongside Finland) perhaps the most agricultural cooperative country in Europe.

In the pig meat and dairy sectors the cooperatives are still single purpose cooperatives. In contrast to that, the input supply cooperatives have in addition to international growth in input supplying (especially feedstuff, fertilizer and cereal trade) also invested in many different sectors. The two large cooperatives (DLG and DLA) have considerable positions e.g. in egg, vegetable, plant breeding sectors as well as some interest in other than agricultural sectors such as energy, insurance etc.

4.3 Institutional environment

The Danish cooperatives are well known for their main purpose to carry out activities of commercial and industrial character. They mainly lack interest for social issues, since they have adopted the idea that efficiency of trade management is the best way to achieve benefits for their members. Even though the role of cooperatives is strong there is no specific legislation that regulates cooperation, which allows each cooperative to adopt the statutes that best fit the activity concerned. This probably gives some flexibility when the cooperatives act in different sectors and different market structures.

4.4 Internal Governance

As mentioned earlier, since there is no cooperative legislation the governance rules can vary a lot among cooperatives. Their own statutes have the key role in determining the internal governance structure. Basically, the cooperative principles e.g. one man, one vote are in use.

The size of the cooperative and the role of the cooperative in the food chain affect the internal governance choices. In the large cooperatives (Arla Foods, Danish Crown) governance structure consist of a Member Council (Board of Representatives, BoR) that elects the Board of Directors. The members are elected in regional meetings and in Danish Crown there are also rules concerning the amount of pig and cattle representatives. The Danish Crown's pig and sow producers are divided into 15 districts that compound three electoral districts. Each of these districts elects three members into the BoR. The cattle producers respectively are divided into nine districts but they compound only one electoral district which elects one member into BoR. In addition to these producer members the BoR has three employee representatives as well as two professional members from outside the cooperative. In Arla Foods the structure is pretty much similar. In the smaller cooperatives the cooperatives usually have a very basic structure with a General Assembly that elects the BoD.

In those cooperatives where there are only organisational members the votes may be divided according to their shares. Another very typical phenomenon in Danish large cooperatives is a very complicated structure of daughter companies. This is especially true with the DLA Group and DLG. Most of those daughter or associated companies are limited liability companies. Also in the vegetable sector there are different kinds of holding structures where a limited liability company takes care of the actual business and often the cooperative that has a same name is only a holding.

4.5 Performance of the cooperatives

The Danish food market as such is rather small but due to the location the market is very integrated into the European single market. Furthermore, even though the Danish market is small the Danish agricultural production is quite large and in relation to the sector size Denmark is one of the biggest exporters in Europe. Especially the pork and dairy products are important export products. The share of food export of the country's total export is the highest in Europe. Thus, due to the large market shares of cooperatives their performance has an immense influence on the entire Danish economy.

And indeed, the Danish cooperatives have performed well. 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. 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 so far, the Danish cooperatives have been very strong.

5 Sector analysis

5.1 Introduction

In this chapter we discuss the developments in the eight sectors that are central in this study. We report on trends in the markets, important changes in (agricultural) policy and we try to link this to the strategies and performance of the investor-owned firms and cooperatives in the sector. The period of observation is 2000 – 2010.

5.2 Cereals

The last decade has been very peculiar in the cereal sector. During the years 2000-2006 the producer prices in Denmark as well as in whole EU remained relatively stable. Then we have experienced two price pikes. The first pike was in 2007-2008, which was followed by a record low price level in 2009, and again a pike in 2010.

The EU common agricultural policy was reformed in 2003 and then the Midterm review took place in the end of the study period. The important change was decoupling the support. However, the support has already earlier been tied to hectares and even though the crop requirements were abolished, the change in production was not so dramatic.

Cereal production in Denmark consists mainly of fodder grains that are important to Danish pig meat sector. This connection explains the input suppliers' interest on cereal trade. Input suppliers have considerable share in the feeding stuff manufacturing. Both large cooperatives in the sector DLG and DLA Group have a whole chain from raw material purchases (domestic grain and e.g. imported protein) to farms.

The cooperatives market share is very large in the Danish cereal business. The joint market share of these two large cooperatives (DLA actually a group of cooperatives) is almost 80%. The consolidation process has however been very strong and rapid. DLA for example was originally established as a lobby organisation of 140 input supplying cooperatives in 1975. Nine years later it started commercial operations and became a wholesaler of these local cooperatives. During the last decade the DLA has enlarged its operations into Sweden, Norway, Baltic countries and Finland.² But the local cooperatives have joined their forces and today there are only eight independent Danish cooperative members in DLA Group. In addition there are 28 members from abroad.

DLG is owned by 28.000 farmers. It is one of the largest agricultural companies in Europe. In addition to input supplying and cereal trade it is also active in food, energy and telecommunication sectors. Thus, it is a multi-purpose cooperative. In the food sector it is active e.g. in egg and vegetable businesses. As part of the consolidation process DLG and DLA have together bought several large companies in financial difficulties and shared out the facilities.

In addition to consolidation process, both of these large cooperatives have been constructing strategic alliances in order to strengthen their position in the input supply sector (e.g. contracts with Yara, feeding stuff factories, international partnerships etc.). The intensive production in Denmark together with strong cooperative tradition from 19th century has affected the strong

² In September 2012 DLA acquired 60% share of Hankkija-Maatalous, the largest input supplier in Finland.

position of cooperatives in the domestic market. In addition, the location near the large German market as well as a possibility to act as a gateway to Nordic and Baltic markets have strengthened the role of Danish cooperatives in the input supply (and cereal) sector.

5.3 Fruit and vegetables

Due to the natural conditions the wintertime production is small and competitiveness compared e.g. to the Netherlands' or Southern European production is rather weak. Market shares of domestic production of the consumption are quite small (e.g. tomato 11%, cucumber 36% in 2006). The consumption has increased (ca. 30% during the last decade) but it has mainly been covered by increased import. The cucumber production has increased somewhat whereas the tomato production has decreased. The total greenhouse production has decreased 5% during the last five years even though the producer prices have increased almost 17%. Thus, the production costs have increased more and the competitiveness of the domestic production has decreased.

The role of cooperatives and their marketing companies is also in this sector dominant. Similarly to other sectors the consolidation process has been going on and especially the two largest cooperatives are a result of mergers. The largest operator GASA Nord Groent (50/50 owned by producers and DLG) has more than 50% share of the Danish domestic vegetable market. The second largest vegetable cooperative is GASA Odense.

Similarly to other sectors, the strong history and the integrated domestic market have given a strong position for cooperatives in the F&V sector as well. Concentration on domestic market also means that the cooperatives do not seem to look for growth from international markets. However, in order to maintain their strong position in the domestic market the largest cooperatives have put much effort on environmentally friendly production (IP, organic) as well as compensated the smaller production in winter time by offering imported products to wholesalers.

5.4 Dairy

The milk sector has also experienced large price variations during recent years. The global spike in milk product prices led to the increase in producer prices in 2007-2008. This spike was followed by a "milk crisis" in Europe and the producer price was at record low level in 2009. In 2010 the global milk market recovered and the situation is just now quite stable.

The overwhelming market leader in the Danish dairy market is Arla Foods that was established as a merger of Danish MD Foods and Swedish Arla in 2001. Arla Foods has internationalized rapidly and it is now one of the largest dairies in Europe and in the world. The most recent enlargements steps have been taken in the Netherlands, Finland and Germany. The merger with German Hansa-Milch also brought German members into the cooperative. In June 2012 members of Arla Foods accepted the mergers with German and British dairy cooperatives (Milchunion Hocheifel and Milk Link). The market share of Arla Foods in the Danish market is ca. 90%. The consolidation process has been enormous since 100 years ago there were more than 1.300 dairy cooperatives in Denmark.

In order to be able to finance the growth Arla Foods has in addition to members equity started to lock investor's capital. In the summer 2011 it launched a capital loan of ca. 150 mill.€. The aim is to have Swedish institutional investors interested in investing in the dairy business. These capital loans are going to be publicly exchanged at Luxembourg exchange.

Furthermore, two thirds of the rest 10% of the Danish market is also held by cooperatives. However, these are quite small and often they are looking for niche or local markets. These mejerier and Naturmaelk are examples of dairies entirely concentrated on ecological products. Them andelsmejeri as well has ecological products. Saedager andelsmejeri is concentrated on white cheese (only 18 producers but export share of production is high). Endrup andelsmejeri (the oldest still acting dairy cooperative established in 1884) has also concentrated on cheese production. Thus, even though Arla Foods rules the market there is some room for small very specialized production.

Thus, the strong position of the cooperatives in the dairy sector is in principle based on historical tradition typical to perishable products. However, strong market (and export) orientation has also affected the performance of the cooperatives. Arla Foods' performance is based on international growth, quality products and looking for economies of scale. Arla Foods has members only in Denmark, Sweden and Germany. However, in Great Britain that is the most important market of Arla Foods (25% of total revenues) there is a supplier organization (AFMP, Arla Foods Milk Partnership) that owns 3,2% of the publicly listed company Arla Foods UK. In Finland Arla Foods as well has a supplier organization though without ownership in the Finnish subsidiary ArlaIngman. The performance of the smaller (many of them very small local) cooperatives is based on niche markets and they have managed quite well.

5.5 Pig meat

The pig meat sector is the most important agricultural sector in Denmark. The total production in Denmark is about 2 mill. ton which creates more than 30% of Danish farmers' turnover. More than 80% of the production of pig meat is exported. In absolute figures measured Denmark is the second largest exporter in the world after Germany, when including intra EU-trade. Thus, the Danish pig meat market is totally dependent on international markets. The domestic market usually (almost always) creates the best producer price paying possibilities: the farmer pays the transport to the market elsewhere. Thus, it is obvious that the Danish producer price has been below the EU average price. The price development has been however exactly the same as in Germany that is just now the biggest pork exporter in the world and the biggest pork producer in EU (Figure 9 below). However, when adjusting for other costs relating to the end price paid to the producer, the German and the Danish price has been almost the same in average since the beginning of 2011.

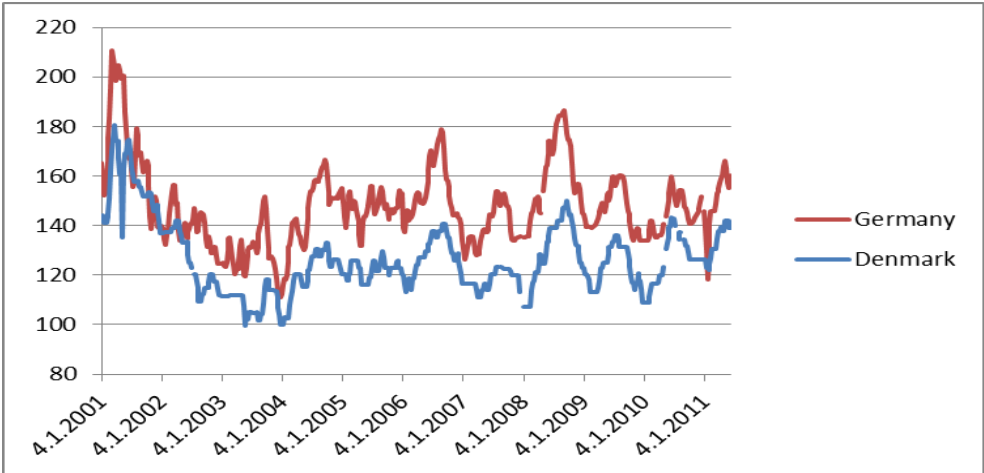


Figure 9 Producer prices of pork (€/100kg) in Denmark and in Germany in 2000-2010. Source: Eurostat.

This dependence on the world market also means that the producer prices are highly dependent on exchange rates. The €/ \$ exchange rate affects directly the Danish exporters competitiveness in the Asian export market (Danish Crown is bound to euro).

In the Danish pig meat market there are two cooperatives Danish Crown and Tican. The Danish Crown's market share of pig slaughterings is 78% and Tican's 8%. No other cooperatives exist. In addition, there are several relatively small privately owned slaughterhouses. In some of these farmers have considerable shares. The largest (and the youngest, established in 2005) private arrival of cooperatives is Jutland Meat with turnover of ca. 100 million €. In contrast to most of the other smaller companies Jutland Meat has also concentrated on international markets.

Danish Crown is one of the largest pig meat slaughterhouses in Europe. In Northern Europe only Vion from the Netherlands is larger. Danish Crown has also large international operations. The historical tradition is that Denmark is the main bacon producer for UK market. Tulip in UK is Danish Crown's most important subsidiary. Danish Crown also has subsidiaries in Sweden (KLS Ugglarp) and in Poland (Sokolow 50/50 with Finnish HKScan). In addition, it has several other subsidiaries which are usually limited liability companies. Thus, the subsidiaries' role in generating the financing is important.

During the last decade the competition situation has changed dramatically in Europe. Germany used to have less production than consumption but during the last decade situation has changed and now Germany is the biggest exporter in the world. Thus, the competition from the neighbouring country has increased. In addition to the high feeding costs since 2009, financial costs related to paying too much for arable land have also weakened the Danish pork producers' situation recently.

Again, the strong position of cooperatives in the pork sector is based on the history and strong market orientation. The establishing of cooperative slaughterhouses in order to take care of the bacon export to England was a start to meat factories. Since those times in the late 19th century the Danish pig meat sector has mainly relied on looking for economies of scale. The cooperatives have also consolidated very strongly, firstly at the national level and later at international level. Looking for the stronger position in the German market is one of the big challenges of Danish (Crown) pork sector in the future. Furthermore, the increasing competition from USA, Canada and especially from Brazil in the global market is also a big challenge to Danish pork sector. To be competitive in the bulk market is difficult.

6 Overview of policy measures

6.1 Regulatory framework

The performance of cooperatives (including producer organisations) is influenced by the regulatory framework in a country. This framework is multi-level: EU regulations, national laws and –in some countries- even regional policies influence the way cooperatives can operate. In this chapter we look especially at the regulatory framework that influences the competitive position of the cooperative versus the investor-owned firm (IOF) or the competitive position of the cooperative versus other players in the food chain (e.g. the retail sector).

These competitive positions are influenced within the regulatory framework by much more than the law that establishes the rules for running a cooperative (business organisation law). Well known other examples include agricultural policy (e.g. the EU's common market organisation that deals with producer organisations in the fruit and vegetables sector), fiscal policies (at the level of the cooperative and the way returns on investments in cooperatives are taxed at farm level) and competition policies. There are different types of policy measures in the regulatory framework (McDonnell and Elmore (1987):

POLICY MEASURE TYPE	DEFINITION
Mandates	Rules governing the actions of individuals and agencies
Inducements	Transfer money to individuals in return for certain actions
Capacity Building	Spending of time and money for the purpose of investment in material, intellectual, or human resources (this includes research, speeches, extension, etc.)
System Changing	Transfer official authority (rather than money) among individuals and agencies in order to alter the system by which public goods and services are delivered

The objective of this project / report is to identify support measures that have proved to be useful to support farmers' cooperatives. In section 5.2 the relevant policy measures and their potential impact in Denmark are identified. In section 5.3 a number of other legal issues are addressed.

6.2 Policy measures

The table below identifies the policy measures that influence the competitive position of the cooperative versus the investor-owned firm (IOF) or the competitive position of the cooperative versus other players in the food chain (e.g. the retail sector).

Table 8. Policy Measure Description

Name of Policy Measure	Type of Policy Measure	Objective of the Policy Measure	Target of the Policy Measure	Expert comment on effects on development of the cooperative
Official name of the policy measures (In English)	1. Mandate e.g. 1.1. Cooperative legislation/ incorporation law e.g. 1.2 Market regulation and competition policies 2. Inducement e.g. 2.1 Financial and other incentives 3. Capacity Building e.g. 3.1 Technical assistance 4. System Changing 5. Other	1. Correction of market or regulatory failures 2. Attainment of equity or social goals	1. Specific to cooperatives 2. Specific to an agricultural sub-sector 3. Applicable to business in general	Description on how the policy measure affects development of cooperatives, by reasoning through the building blocks: - Position in the food chain - Internal Governance - Institutional environment of the cooperative
Consolidated Act on Certain Commercial Undertakings	1.1	2	3(1)	The definition of a cooperative (a cooperative society) means an undertaking whose objects are to help promote the common interests of the members through their participation in the business activities as buyers, suppliers or in any other, similar way, and whose profit, other than normal interest on the paid-up capital, shall either be distributed among the members in proportion to their share of the turnover or remain undistributed in the undertaking.
COUNCIL REGULATION (EC) No 2200/96 on the common organization of the market in fruit and vegetables	1.2	1	2	Allows fruit and vegetable producers to organize in order to strengthen their market power in relation to private purchasers. Currently there is a political momentum in Brussels towards expanding the rules to other agricultural sectors. Denmark is – however - concerned that the political development in the EU must not result in the implementation of rules that changes existing co-operative structures or harms competition.
Council Regulation 1698/2005 on support for rural development by the European Agricultural Fund for Rural Development	2	1	2	By definition this Fund aims at improving the competitive position of the agricultural sector through financial inducement with respect to the environment and local development. This is done through 4 axes, to which a multiplicity of measures can be coupled (as will be made evident when discussing the measures at the regional levels). At this general level, the EAFRD impacts on all three building blocks.
The Competition law	1.2	1	3	The Danish Competition Act and other legislation in relation to competition are to a large degree similar to Community law. The opportunities for agricultural producers to group together are also a result of the implementation of the relevant Community law.

There are not much specific policy measures concerning cooperatives in Danish legislation. In fact, there is no cooperative law. It is the case law and cooperatives' own statutes that define the regulation of cooperatives. The cooperatives are defined in the general law concerning commercial undertakings but not even a specific legal form is required from cooperatives. Basically all cooperatives are, however limited liability cooperatives (andelsselskaber, a.m.b.a). The only exception for cooperatives is in taxation regulations. With certain conditions the taxation of cooperatives is lighter than IOF's.

The EU support measures (POs at F&V sector, RDP, as well as CAP) have a minor effect on the performance of cooperatives. Danish agricultural sector is rather competitive in European context. Furthermore, the sector is very internationally and export oriented. Thus, supporting domestic production does not give any major advantage to cooperatives compared to private companies.

6.3 Other legal issues

In general there is no legislation that would give any specific advantage to cooperatives compared with investor owned firms. Only the taxation regulation gives a minor advantage to cooperatives. There is no minimum capital requirement in establishing the cooperative but this regulation is not very important.

Since there is no specific legislation on cooperatives there is very much flexibility in establishment of the cooperative, in membership structures, in internal governance and in financing the business. Of course the cooperatives own statutes may regulate quite precisely e.g. members' obligations to deliver as well as cooperatives' obligations to buy but in general there is much flexibility.

Cooperative can also depart from "one man, one vote" principle, though this is seldomly used. Basically cooperatives are also open to new members if they otherwise accept the cooperatives rules and are located in the distance makes it possible for a cooperative to trade with the member candidate. In case of large cooperatives like Arla Foods and Danish Crown all Danish producers are able to apply and they also must be accepted as members.

The specific structure of a cooperative, organizationally speaking, is very little regulated by law. The general assembly of the members of the cooperative is recognised as the authoritative level, but whether it is with a direct representation, or through representative bodies is a matter of decision of the particular movement, the decisions of the general assembly, and the statutes. The model of governing bodies and practice adopted in the cooperative i.e. formation of the management body, an elected board/supervisory body, the relative powers attributed to each body etc., are largely determined by the cooperative organisations and the movement themselves.

One of the big issues is equity raising and attracting non-member investors. Thus far, Danish large cooperatives have decided to stay as cooperatives. Danish Crown has some capital investors and recently (summer 2011) Arla Foods is also trying to have institutional investors by offering a capital loan to them. Thus, cooperative form seems to allow enough flexibility especially in the case of large cooperatives.

From the competition policy perspective there is no special treatment for cooperatives. Thus one can conclude: cooperatives are in legal aspects very much in the same position as other legal business forms.

7 Assessment of developments and role of policy measures

This chapter provides a concluding assessment on the developments of cooperatives in Denmark. In chapter 2 the basic statistics on agriculture and farmers' cooperatives were provided. In chapter 3 data on individual cooperatives were reported, especially concerning their internal governance, their position in the food chain and the institutional environment in which they operate.

This leads to some first impressions in section 3.5 on the performance of cooperatives in Denmark in relation to their internal governance, institutional environment and position in the food chain.

In chapter 4 the data gathering and analysis was broadened by looking at the differences between the sectors and the influence of sectoral issues on the performance of the cooperatives. Chapter 5 looked into much more detail on how the regulatory framework influences the competitive position of the cooperatives in the food chain and vis-à-vis the investor-owned firms.

This final chapter assesses the (performance) developments of cooperatives and how they can be explained in terms of the building blocks (institutional environment, position in the food chain including sector specifics, and internal governance). Section 6.1 focuses on the explanation of the performance of cooperatives in terms of their internal governance, their position in the food chain (including sector specificities) and the institutional environment (including the regulatory framework). In section 6.2 an assessment is given on which policy measures in Denmark seem to benefit cooperatives and which ones have a constraining influence.

7.1 Explaining the performance of cooperatives

The cooperatives have managed well in the Danish food chain. Their market shares are dominant in the major Danish agricultural sectors, namely dairy and pig meat. Moreover, the cooperatives' role is also very large in cereal trade and input supplying. In addition, the Danish cooperatives have successfully enlarged their operations by mergers and acquisitions. They have a very strong position especially in many sectors in Sweden but also elsewhere. Arla Foods and Danish Crown as well as input supplier DLG are among the largest agricultural cooperatives in world.

There are several reasons for this success. Firstly, the long tradition of very market oriented agricultural production and the natural conditions have given a strong position for domestic production that is important for cooperatives. Secondly, and connected to this market orientation the role of cooperatives has been very strong since the beginning of the cooperative movement. The Danish farmers rapidly adapted the cooperatives as their key to better markets. Since the role of cooperatives has remained strong it also confirms the fact that the cooperatives have also been able to adapt to the changing markets and changing policies even though they have not directly affected cooperatives. Thirdly, the Danish location near large wealthy European market has also given good possibilities to enlarge production in Denmark and thus the cooperatives have been able as well increase their production.

7.2 Effects of policy measures on the competitive position of cooperatives

As earlier described in Chapter 5 the list of policy measures is very short in Denmark. There are no specific rules that would give any considerable advantage to the cooperatives. Only in taxation there is an exception for cooperatives on certain conditions.

Thus, one can conclude that perhaps the Danish tradition to put cooperatives more or less on the same line with IOFs has been good for business practices. It has not been the policy measures that have enabled the strong position in the food chain of Danish cooperatives. Instead, it has been the market together with the efficient Danish agriculture and the farmers' tradition to rely on their own cooperatives that has given them a strong position in the food chain. The flexibility in organising the cooperatives as well as their internal governance and financing has thus far supported the success of cooperatives. However, the big issue in financing the future growth of the large transnational/international cooperatives is whether the cooperative structure allows enough flexibility.

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