ORGANIC FOOD AND FARMING: BETWEEN MARKET SUBORDINATION AND RETAILER GROWTH PROSPECTS

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ABSTRACT

The paper is based on research conducted for DARCOF II (Danish Research Centre for Organic Farming, www.darcof.dk). The aim of the research project is to analyze the future development of the Danish organic food sector through focusing on two agro-commodities: vegetables and pork. Emphasis is placed on identification of economic forces within the supply chains.

The main conclusions of the paper – being the results from the organic vegetable chain – are that the rules and regulations, and the development of alternative transaction processes in organic food and farming have so far been founded on social counter reactions to the mechanisms of a free market economy that result in the marginalization of farmers, animals welfare and the environment. However, organic farming is also part of the same free market economy, and therefore will inevitably encounter some of the same problems currently facing conventional farmers – declining prices, concentration of production and shift in bargaining power to the retailers. Logically, this situation will lead eventually to increasing conflicts between organic values and their subordination to free market forces, i.e. conventionalization. In the same time retailers are in search for new products, and new ways of creating outlets that can enhance or boost their image in an increasing international competitive environment. The organic products have a well-respected brand of trust and quality, and thereby a very strong position to create new possibilities of gaining store space and growth among supermarkets and discounters. A report of the results is in printing.

Key words: political economy, institutional economics, supply chain management, organic food & farming, farmers' treadmill, retail bargain power,

The Development of organic food & farming in Denmark. A short overview.

The development of organic farming in terms of production, number of farms and arable land has so far taken the form of the traditional 'S-curve' or 'Life-cycle'. According to the 'Life-cycle theory' when new products are successfully introduced to a market it generally follows the pattern of Birth, steep growth, a period of maturity and then decline. Decline doesn't mean death, but can be followed by a new birth and growth on a higher level (Levitt,1965).

Organic farming in Denmark had its official birth in 1981 (by founding an organization with specific rules and regulations) and was followed 15 years later by a period of steep growth in 1995 to 1999, as illustrated in figure 1. From 2000 to 2002 maturation sets in - with a peak in the number of organic farms at 2.496 - turning to a decline in 2003 with 2.262 farms (FOI, 2003).

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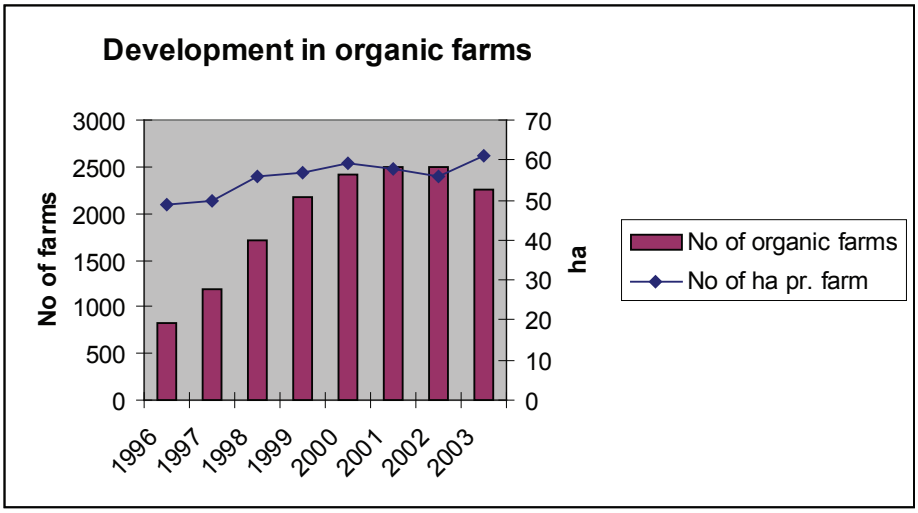
Figure 1: The 'life cycle' of Danish organic farming



What figure 1 also shows, is, that not only are the organic farms starting to decline, but also each individual farm is growing in size. In 2003 the size pr farm was 61 ha. In this regard, one could say that a "conventionalization" or "normalization" among the organic farms is beginning to take place, having the same pattern of development as the conventional farms: becoming fewer, and bigger (Kledal, 2000, 2001).

The total arable land under organic production was 138.000 ha (6-7 pct. of total arable farmland in Denmark).

The organic vegetable chain

Compared to the total organic production of 138.000 ha, organic vegetables accounted for only a very small share with its 729 ha and 160 farms.

Compared with the conventional vegetable production of 6.000 ha and 690 farms, organic vegetable producers accounted for 11 pct. of the arable land and 21 pct. of the farms.

Since year 2000 the organic vegetable area has gone down due to a large decline in the organic carrot production – one of the major crops in organic vegetable production. However, the number of organic farms growing vegetable has gone up with 18 new farms.

In table 1 the organic vegetable "top ten chart " for 2003 is illustrated. Carrots, onions, cabbage and salads dominate the picture. Potatoes do not in Danish statistics figure as a vegetable, but in 2003 organic potato production covered an area of 337 ha and supplied the consumers with 5.600 tonnes. So in terms of tonnes potatoes was the second largest vegetable produced, but came in as number one in terms of hectare used.

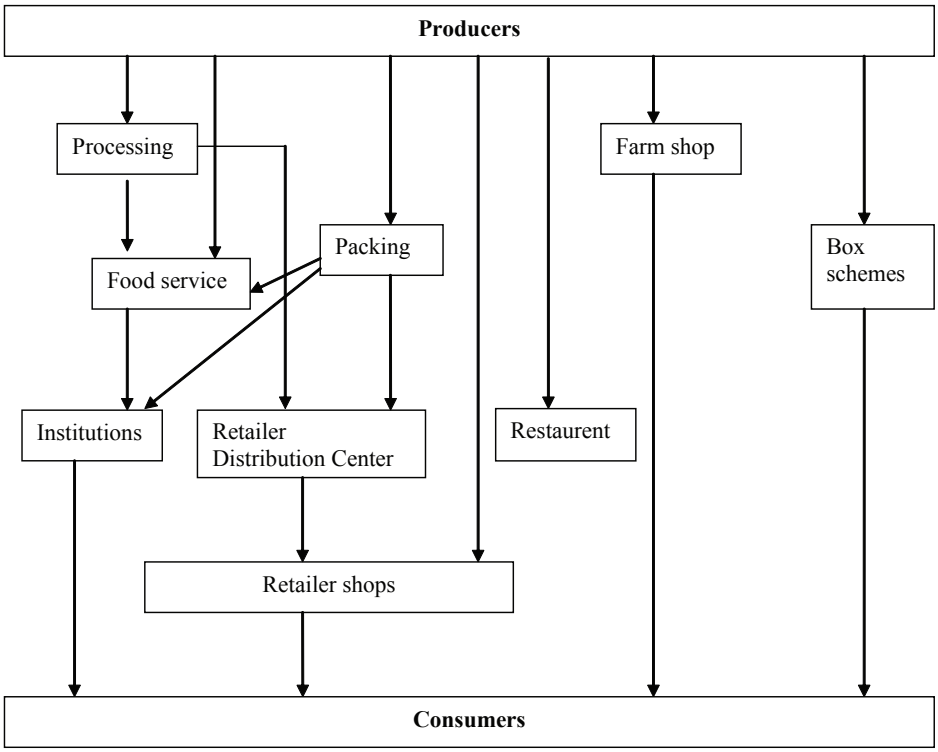
Table 1: Organic vegetable 'Top ten chart' 2003. Denmark statistics, 2003.

No.	Crop	Hectares	Tonnes
1	Carrot	218,1	9.036
2	Onion	85,1	2.096
3	Cabbage	66,6	1.223
4	Salads	57,7	872
5	Beetroot	28,9	616
6	Leek	27,5	410
7	Parsley root	27	261
8	Celeriac	22,4	330
9	Parsnip	21,8	339
10	Broccoli	18,9	51

In the research project two organic vegetables were chosen for further detailed studies: carrots and iceberg salad. Organic carrots were chosen because of its significance in production and consumption, and iceberg salad were chosen to examine if the short durability (compared to carrots) would affect the way contracts between producers and retailers were made to avoid certain 'hold up' situations. What later showed up was that going into a specific organic vegetable like iceberg salad, where numbers sold are small, collecting valuable data becomes very difficult.

The supply chain of organic vegetables is not a very long or a complex one. The links where complexity starts to rise between producer and consumers are when the vegetables are sold through retailers. Through the studies of the two chosen vegetables a general network of the Danish organic vegetable chain has been drawn and illustrated in figure 2.

Figure 2: The organic vegetable supply chain



In the network, the key agents on producer side are a few producers who individually or as a cooperative, control most of the packing and distribution node regarding supply to the retailers and their distribution centers. They could also be pronounced as the 'middle men' in the vegetable supply chain. Retailers want to keep transaction costs low, so they are interested in trading with as few producers as possible, but enough to secure themselves against 'hold up' situations. Among the retailers three chains control 87 pct. of the total food and beverage market so the Danish retail market is an oligopoly market. Since 53 pct. of all organic products in Denmark are sold through supermarkets and discount stores, the retailers have a large bargain power towards their organic suppliers.

Alternative sales channels like farmer shops and box schemes covers almost 13 pct. of the organic market, and vegetables are an important commodity sold through these channels. One Danish box scheme trading company, Aastiderne.com (season.com), sells one-third of all organic vegetables in Denmark.

Farmers who pack and sell to the retailers have the cost and duty of delivering to a retail distribution center. From there on the retailers have their own distribution and logistic programme.

Other producers have found a market for their products creating a farm shop and/or a box scheme where vegetable boxes are delivered locally or regionally to the consumers' door step. This can be either once, twice or every third week. Some producers can have a deal with a local retailer delivering directly some small amount or a special vegetable, but this is becoming more

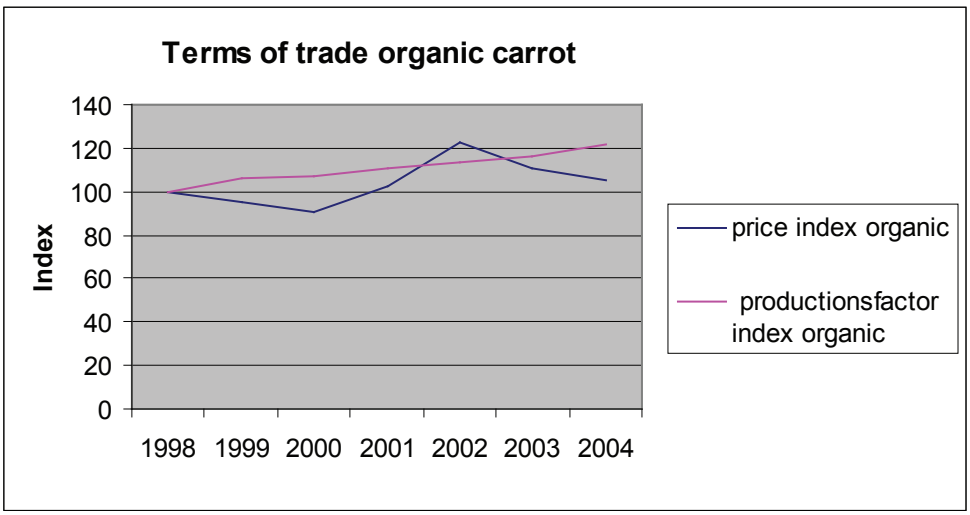
rare since independent retailers are declining rapidly. Instead they belong to various kinds of chains or buyer groups with restrictions on where and what to buy. Other producers have special customers like restaurants, a food-service company delivering to various kinds of institutions like day-care centers, schools etc. In the real world one vegetable producer will often contribute to several of the nodes along the chain. Like one producer can have a farm shop, own his own packing delivering to retail distribution centers as well as an organic food service node.

Farmers' treadmill and declining terms of trade

According to the theories of Political Economy (Kledal, 2003) and the Treadmill theory (Cochrane,1958), the terms of trade for farmers in a capitalistic market economy will over time be reduced. Organic farming can for a while distinguish themselves from similar conventional products, but the same mechanisms of technological development, human experience turned into new and better ways of organizing production etc., will over time force the organic farmers into the same treadmill of reduced prices and terms of trade.

In figure 3 the production factors and yearly average prices of organic carrots have been calculated into an index starting with hundred. What the figure shows, is, that from 1998 to 2001 the terms of trade are reduced. This doesn't mean that the farmers cannot make a profit. They will try and compensate for the reduced terms of trade by producing more or reducing various production costs. From 2001 to 2002 terms of trade are in the favour of farmers, but after that, terms of trade are again reduced.

Figure 3: Terms of trade in organic carrots 1998 – 2004 (FOI – statistics)

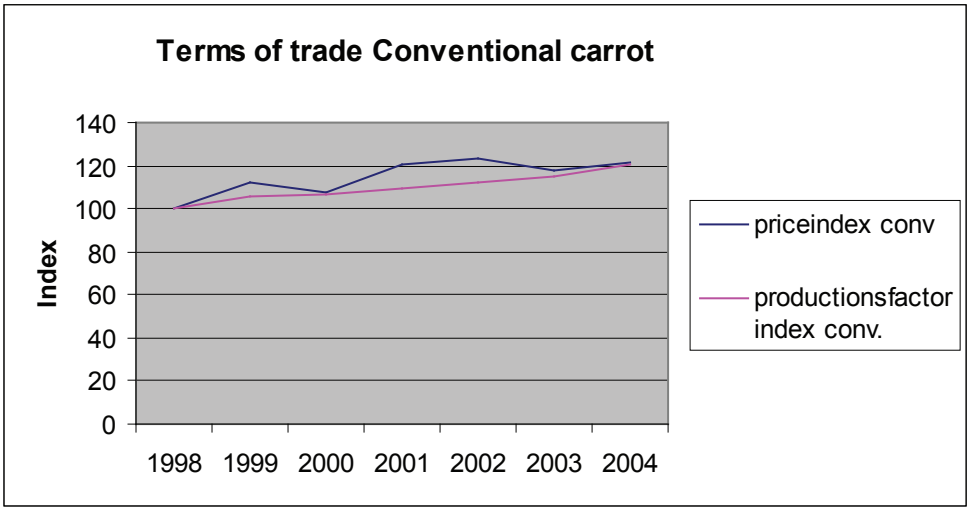


When compared to terms of trade for conventional farmers in figure 4 two things leap in the eye. First, the price index for organic carrots shows much more fluctuations indicating it is a market more sensitive to demand a supply. Secondly, the terms of trade for the conventional organic farmers have so far in the period from 1998 – 2003 not been negative. The figure indicates though that the terms of trade can become negative in the years ahead.

However, the positive terms of trade for the conventional carrot farmers could be a very strong explanation of why there has been a big decline in organic carrot production from 2000

to 2003, and at the same time an increase of conventional farmers raising the conventional carrot production.

Figure 4: Terms of trade conventional carrots 1998 – 2004 (FOI – Statistics)



His masters voice: Changing producer – retailer relations

Since the year 2000 the way producer - retailer transactions have been conducted has changed dramatically. The type of transactions and type of changes before and after year 2000 is illustrated in table 2.

Until 2000 transactions were in general planned and coordinated between a retailer and a producer organization with mutual bindings concerning terms of production output, determination of price before season start - all driven in an environment of undersupply of organic vegetables.

After 2000 the producer - retailer transactions has been a process moving towards a market driven environment. Retailers, more specific a procurement officer in the buyer organization, negotiates with producers individually before the start of the season about their expected production budget in combination with the retailer's sales budget. In general the producers claim that there are no written bindings or terms concerning retailer obligations buying the production output. Prices are determined during the season on a weekly basis based on demand and supply, and the retailers are free to buy from whom they want.

Since 2000 various marketing fees for selling through retailers have also been institutionalized, and thereby moving the cost and risk-burden of selling organic vegetables more and more and the producers themselves.

Table 2: Retailer transactions before and after year 2000.

	Before 2000	After 2000
Retailer obligations on production output	Yes	No
Producer start price negotiated before season start	Yes	No
Producer prices during season decided according to demand and supply	Yes	Yes
Various marketing fees for access to retailer space	No	Yes

The qualitative interviews of the organic vegetable producers indicate an increasing bargain power at the retailer node especially through the various and variable control mechanisms concerning marketing fees, obligation fees for renting specific retailer packaging systems, time of return payment from deliverance etc.

In table 3 the various control mechanisms and fees are listed. From the interviews with the organic vegetable producers it was revealed that some retailers have proposed to prolong the time of return on payments from originally 21 days to 45 days. In other words, from a political economy perspective shorten the M – C – M1 cycle for the retailers, but prolonging it for the producers and thereby increasing cost on capital for the producers.

Table 3: Retailer control mechanisms on organic vegetable suppliers

	2003	Near future retail proposals
Period of credit	21 days	45 days
Specific marketing fee per. sold unit (D.kr.)	0,10 (iceberg salad)	none
On account fee (fee for renting retailer space)	2-3 %	5 %
Deposit for renting retailer boxes	30 D.kr. (iceberg salad)	None
Rent of using packing boxes	3,80 D.kr. per box (iceberg salad)	None

The ‘specific marketing fee’ which the farmer pays pr. unit sold at the retailer is a replacement for a previous policy, where the producers had to accept a random reduction in price if the retailers had planned a certain campaign involving organic vegetables.

The ‘On account’ marketing fee is a kind of ‘space fee’ the retailers collect for the producers to use space in the retailer stores. This fee the retailers have proposed to raise to 5 pct. from the previously 2-3 pct.

Deposit on packing boxes is a deposit the producers have to pay the retailers for renting their specific packing boxes.

On top of that the producers also have to pay a Renting fee per packing box to cover depreciations of the boxes plus the obligation of the retailers to wash them.

Not only has the producer-retailer regime changed since 2000 from a market with certain obligations resting on the shoulders of the retailers concerning sales of organic products, to a pure market driven price setting. The retailers' oligopoly market power has also created a tool box for various ways to control their bargain power towards the suppliers, and according to the farmers the pressure is raising.

The 'organic basket'. Creating producer opportunities in retailing.

The Danish discount chain "Netto" as a case.

Why has there been this shift in bargaining power away from producers towards the retailers? In the literature on supply chains the shift is often explained as a shift from producer driven chains to consumer driven chains (Gereffi & Korzeniewicz, 1994). These descriptions make some sense if what lies behind is a description of where the power in the node along a chain is placed (i.e. consumers, producer, traders etc.) (Kledal, 2003), but again does not explain why the shift.

Reviewing the bargaining power shift from an agency theory perspective, the key consideration is the nature of the implicit "contract" which exists between retailers and suppliers along the supply chain. Retailers simply clearly provide a service from which firms in the supply chain benefit. In addition, because retailers can discriminate between the products they offer, or become directly involved in the development and manufacture of certain products, they have effectively become backwards integrated into the supply chain to a much greater extent than supplying firms have been able to integrate forwards. The term integration here is used in its widest context, as it is clear that retailers have not taken over ownership of food suppliers, but they use formalized relationships and various fees as described to control the nature and the flow of the products involved.

It may be argued that forward integration in the food industry is limited because consumers prefer to find products in an array, which is far wider than the range of the normal food producer who often is specialized in a few products. The consumers are by the retailer offered a basket of variety, whereas the specialized producer is "only" offering a single product to the basket.

Thus, it is efficient and desirable from the consumer's viewpoint to have outlets, which have a wide range of products and are not specialized. It is for this reason, and the consumer loyalty, which they have built up and try to keep, that retailers have established a position of strength.

The retail scene and development in type of outlets has been changing rapidly the last ten years with increasing concentration in terms of ownership, forms of integration and internationalization, and discounters have been growing rapidly in market share as well as broadening

their assortments. New supermarkets are getting bigger and have a broader assortment with various fresh foods 'shops-in-the-shop' where employees offer special service to the customers. In the same time the concentration in retailing makes them vulnerable to consumer distrust towards 'corporate business' and profit motivation.

It is a combination of these fast changes in the retail scene, where consumers are seeking trust and variety, and retailers are in search of a strong market profile, that the organic producers have space to regain bargain power in producer-retailer transactions. By developing new entrepreneurship towards the retailers offering a 'basket of organic food commodities', the organic producers should join forces and offer a 'basket' of varied products related to the values of organic farming concerning quality, trust, health and social ethics.

The case from the discount chain 'Netto' is an example of how this space has been created successfully. In 2004 the 'National organic association' brought organic producers and manufacturers together with the discount chain Netto to help each other understand their business concepts. The result of various meetings and seminars was agreement on an organic campaign launched by Netto over 12 weeks during 2005. The 12 weeks have different themes where different organic products connected to the themes are promoted. For example one theme is "Fair trade – make a good deal" promoting various organic products under the fair trade logo. Before and parallel with the weeks of promotion Netto's lifestyle magazine "Kiwi" has articles and recipes, press releases is send to various newspapers and Netto's homepage and the homepage of the National organic association informs about the campaign. Also the logo of Netto (a black dog on a yellow background) has got the tag of the Danish organic logo and is placed on the trucks of Netto.

The campaign has also been used by Netto as a test of consumer reactions, consumer tastes, and the director of the Netto discount chain have already after the third theme announced that they will expand their organic assortment (www.okologi.dk)

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