



SUFISA DANISH POULTRY PRODUCTION AN EXTENDED SUMMARY

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“I use 4500 ton of fodder each year. It is not unimportant if it costs 5 DKK more or less for 100 kg, actually this account for a substantial part of my annual income, and therefore my risk management matters a lot”

“When you are up against a listed company, then you know who becomes the little player in that game – and that is us the producers”



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Introduction

The purpose of this report is to investigate the policy requirements and market imperfections, and their implications for the resilience of Poultry production in the Region of Central Denmark, as part of the EU-funded Horizon 2020 project, SUFISA (Sustainable finance for sustainable agriculture and fisheries). This executive summary has been derived from a much larger report, which is available from: <http://www.sufisa.eu/publications> (project reports).

The case study behind this report is carried out at a time when the Danish farming is undergoing significant structural development and in the midst of a financial crisis. In many ways the Danish farming can be considered as very successful and efficient, producing high yields with a low carbon footprint pr. product. However, currently Danish farming is in a significant financial crisis, which is evidenced by an unusually high rate of bankruptcies among farmers. Furthermore, a large share of farmers have a significant income problem as around 40 % of all dairy farms operate with both a high debt and a deficit on the annual accounts and therefore farmers cannot be considered economically sustainable. The crisis is partly caused by a huge debt of Danish farming amounted to 370 billion DDK (~€50 billion), which is the highest debt pr. farmer in the EU and it has particularly been generated by property investments. Prior to 2009 there was an overinvestment in farmland and the gradual build-up of a soil price bubble, which burst in 2009 and subsequently the soil price has decreased by more than 40 %. The low commodity prices, particularly for pork and dairy make it even harder for the farmers to exit this vicious cycle as investments have been carried out based on more favourable market expectations. The crisis in Danish agriculture is a huge problem for many small-scale rural banks that have provided loans for farmers, and a number of these have gone bankrupt and left the rural communities in despair, hence the farming crisis has an impact beyond farm level.

Data collection and methods

The key approach taken in the analysis has been to put the farmers at the centre of the research, in order to get their perspectives on the key issues that need to be considered. Initially, a media analysis was conducted (which covered national, regional and specialised media from 2005 to 2016), as well as a desk-based analysis of market conditions and regulations (sources reviewed included: academic publications; government and policy documents; market research and consultancy reports; industry reports and NGO documents), supplemented with 21 expert interviews. Following analysis of the resultant data, 6 individual interviews were conducted with Danish poultry producers. Subsequently, a survey among the poultry producers in Denmark was carried out in the winter of 2017 and spring of 2018.

This report contains first a general description of the case of Poultry farming in the Denmark, then follows a sections describing the policy and regulatory conditions, market conditions and financial conditions. Each section first contain a general description based on documents and expert interviews and secondly a description based on the farmers perspective based on the focus group interviews, workshop

and surveys. Finally, the summary includes a description of farmers' strategies and the intuitional arrangement that are employed to manage these conditions.

Poultry meat production in Central Denmark Region

In Denmark there are around 200 poultry meat producers, the vast majority of these rear chickens and the Central Denmark Region has one of the highest concentrations of poultry meat producers in Denmark. Furthermore, the only two major slaughterhouses managed by HKScan and Danpo are located within the region, which makes poultry production a regionally important industry.

The Danish poultry meat production is fairly stable, annually, the sector produce around 125.000.000 birds, which are slaughtered in Denmark at the two major slaughterhouses, in addition 10.000.000 birds are exported as live birds and slaughtered in Germany and Holland (DPMA, 2015). The poultry meat production has a total value of DKK 1.791 million (€240 million) (2015 figures) (Vidø et al., 2015). The production is organized as an industrial agricultural production, with fairly large-scale and modern production facilities in farms that house chicken flocks typically ranging between 20.000-40.000 birds, the average number of conventional birds produced annually pr. production facility is around 500.000 (Own calculations based on: DPMA, 2015).

A relatively high share of export characterizes Danish poultry meat production, as more than half the production is exported. However, concurrently about half of the Danish consumption of poultry meat and poultry products is imported - a proportion that has been increasing in recent years. A reason for this configuration of the value chain is that Danish slaughterhouses have specialized in the production of fresh poultry products, that are exported and frozen or processed chickens are imported. Furthermore, the Danish poultry industry is part of a globalized value chain, which implies that the cut-up chickens are retailed at the market where the value is highest, for instance, breast meat is sold locally and the chicken feet are exported to Asia.

The two abattoirs, Danpo A/S, which is a subsidiary of the Nordic based Scandi Standard and HKScan, which is also a big North European player are the result of a series of mergers and acquisitions. However, the economy in the two slaughterhouses differs significantly. Danpo have a fairly stable economy, with an annual turnover of about 1.8 billion DKK and produce an annual result of a more than 60 million DKK. Furthermore, earlier in 2016 Danpo acquired the dedicated organic slaughterhouse Sødram that has developed a range of organic chicken and welfare chicken products. HKScan has experienced a decline in their annual turnover and have been struggling with a deficit in the past couple of years, primarily caused by the Russian food ban (Vidø et al., 2015).

Central Denmark Region is characterized by extensive rural areas and a high proportion of agriculture (65 %). The region is diverse, as the western part is rural with intensive agricultural production, while eastern part is quite populous, containing the second largest Danish city, Aarhus. This is also reflected in the agricultural structure, where a number of small farms around Aarhus supply the city, while the western part of the region is dominated by large farms. On average 3 % of the workforce in the region is occupied by agriculture, forestry and fisheries,

“they are doing tenders all the time, it is a tough market, it is horrible, but poultry meat is a hooker product that draws people to the shops and it is hard to change”

which is higher than the national average of 2 %. The most important agricultural products of the region are industrial crops, such as corn, wheat, grass and barley for feedstuff as well as pigs, poultry, pelts and milk.

Market conditions

On a global level, poultry meat is one of the fastest growing meat types. Currently the farm-gate price for poultry meat fluctuates around 6 DKK, but compared with the milk price recent years has not seen similar market volatility. Therefore, poultry producers have a much more stable economy. One of the reasons for this difference may be that poultry production varies more than dairy production, and it is possible for producers to adjust production if commodity prices are high or low, hence there is little response time for producers to adjust production. The share of poultry meat in the overall Danish meat consumption is currently rising and by the end of 2014 it is the second most consumed protein with a market share of 26.4% of the Danish population's annual meat consumption and the annual per capita consumption is 24 kg (DAFC, 2015). Compared with other product categories poultry meat is a fairly uniform category, almost the entire retail market is composed of fresh standard poultry meat products. Generally, poultry meat is perceived as a cheap and lean meat product that is easy to prepare, therefore it has become an important ingredient in quickly prepared everyday meals. Differentiations in the product category include various brands, various cuts and marinades, but there is little variation in the primary production.

The poultry value chain is composed of only very few and specialized actors on both supply and processing, and they are primarily private companies, obligated to make a profit for their investors. Furthermore, this organisation of the value chain also means that there is virtually no competition among the actors, as there are no redundant actors in the value chain. This leaves very little room to manoeuvre for the farmer, but also a pressure to fulfil his particular role in the chain. Furthermore, when there are no cooperatively owned actors on the supply and demand side of the value chain the farmers have little influence on how the value chain is assembled and only a few options for negotiating other prices than what is automatically given.

Although the Danish organic market is important with an average market share of 8 %, less than 1% of the chickens that are produced in Denmark are certified as organic. There are a number of explanations for this market lag. 1) One of the issues appears to be that the organic production and the food quality is not corresponding with the industrial and hygienic standards inherent in the regulation for broiler production. 2) Technically, it is difficult to change a conventional into an organic, as organic birds require access to outdoor areas and the central location of the chicken houses on the farm tend to collide with the need for outdoor rearing. 3) The abattoirs are very industrial in their setup and they are adapted to the large volumes that are common in conventional poultry production; as the organic flocks are considerably smaller the slaughtering costs for organic chickens are significant. Furthermore, it is difficult to manage variety of qualities that are associated with organic poultry production in the mainstream marketing channels, such as uneven size of birds. Selling organic broilers as frozen food, to some extent, would alleviate the problem by allowing for larger quantities at a time rather than continuous small-scale supply, lowering the abattoir costs. However, the quality conventions in the Danish broiler market dictates fresh meat only as the retail sector prefer customers who purchase fresh produce, due to the added value of fresh produce and because customers who prefer fresh produce shop more frequently, thus purchasing more in total. Furthermore, customers who purchase frozen food are perceived as cheap, and thus unattractive customers for supermarkets. Therefore, the retail-sector has gradually removed frozen food from their product ranges in favour of fresh food (Thorsøe, Kjeldsen, & Noe, 2017). 4) The retail price for an organic chicken is considerably higher, at least double price, compared with a conventional bird. One of the issues is that organic broilers are in a deadlock, as prices are high because volumes are low and volumes are low because prices are high.

In spite of the relatively low market share of organic poultry meat, the market is currently evolving quite rapidly and the chicken market is differentiated slowly. Furthermore, the product category is expected to grow even further in the future, because poultry is a cheap lean meat product and therefore is well aligned with some new food trend, such as protein based diets and convenience and because consumers increasingly request differentiated products (Thorsøe et al., 2017; Thorsøe, Laursen, & Noe, 2015).

The changing consumer preferences and a diversifying poultry market is not just an opportunity for the producers of poultry products, but they also constitute a threat for the producers who have invested in a particular production. These producers depend on an ability to produce at full capacity to repay their investments so once started production relies on stable or more favourable market conditions. Hence, many poultry producers have begun to worry about the stability of the market conditions since nearly all supermarkets in 2016 have stopped retailing eggs from battery chickens. The decision came as a big surprise to the egg industry, as numerous producers have reinvested in an upgrade of their production system due to new animal welfare standards in 2014. However, these investments will not be viable when phasing out this branch of production, and leaving producers in a precarious position. Poultry meat producers and the producer association attempts to prevent a similar thing to happen for standard chicken

*“In the future
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products, via a continuous dialogue with the retail sector, concerning production development, but the situation is challenging.

Regarding the contemporary market conditions farmers' particularly note five aspects that are important in their decision-making:

1. **Vulnerable market position:** Producers are in a precarious position when it comes to the formation of the farm gate price for the chickens. On the one hand the structural development has been quite pronounced in the poultry sector and today there are only two abattoirs left, so there is very little competition on the chicken market. At the same time, there is full transparency in the value chain and the abattoirs are familiar with the average costs that producers have for fodder, chicks and other supplies. However, the abattoirs are liability companies and they are unable to disclose their accountancy data to the producers. Hence, the producers are in a difficult negotiating position vis a vis the producers as the quotation is more or less decided by the abattoirs. However, the abattoirs are also in a squeeze, as they also have to sell their products to retailers that are putting a price pressure on the abattoirs. In addition, one of the abattoirs is financially challenged and therefore is not in a position to compete much on the market or invest in the development of new types of production. To ensure stable conditions the abattoirs are carefully managing the flow of products by not accepting more chickens than what they are able to sell.
2. **Fragile production with marginal gains and high risks:** Poultry producers are in a vulnerable position as the marginal gains of production is very small compared with the turnover in the production. Hence, the farmers continuously have to produce a product with little marginal gain, but at the same time his production relies on a number of other actors such as supply companies. Already weeks prior to the hatching of the chicks the production is planned in detail, including an exact date for the pickup of the grown chickens. Hence, very small issues or deviations will be problematic to the producer. Conventional chickens only live about 33 days. Hence, the production needs to be flawless and variations need to be at a minimum and even small deviations in composition of fodder or health conditions of the chicks is unfortunate for the producer.
3. **The future of poultry production in Denmark:** The producers are a bit ambivalent about the future of poultry production in Denmark. Producers note that poultry meat is well aligned with some of the other major trends in society, such as a climate friendly production as poultry production is one of the most favourable energy conversion rates. However, they are also concerned with the classification of poultry meat as a cheap product. The producers we have interviewed both recognize the need for a general transformation of the production, but also the excessive expectations of consumers towards modern poultry production. Many of the producers that we interviewed for this study have stopped believing in the long-term future of conventional poultry production in Denmark. Furthermore, some

of the farmers fear that supermarkets will abandon poultry producers due to a better economy in products with an added value, with a reference to the recent out phasing of eggs from battery chickens. This change in the supermarket policy is something that worries many producers and has made them feel at risk and many recognize a clear need for transforming the production to bring it more in line with the expectations of the supermarkets.

4. **The organic poultry market:** The conditions on the organic poultry market are quite different from the ones on the conventional poultry market. Poultry is among the commodity product categories with the highest difference in requirements for production between conventional and organic production. Everything within organic farming differs; all the things that influence the commodity prices are different. For instance, currently the organic grain prices are high due to many new converters, which have yielded an enormous pressure on the price of grain for fodder. Organic poultry production is a niche product that lives a life of its own, unaffected by the world market prices. At the same time, there is a concern that the favourable market conditions that prevail at the moment will be squeezed out by new converters who are interested in becoming a part of this new production system.
5. **Commodity markets:** Poultry production is characterized by a very high turnover, primarily for fodder, which accounts for about 75 % of the total expenses of the farmers. However, the fodder price fluctuates quite a lot and therefore the fluctuating grain prices constitute an important risk for the poultry producers. This has some direct consequences for the daily life of the producers as they have to be extremely careful in timing the investments of grain, soy meal and transport. Hence, farmers have become pawns in a global value chain and they are increasingly influenced by events they cannot control, like frost in Argentina or a draught in Russia. The mechanisms that farmers utilize to make some long-term stability imply that it is increasingly difficult for farmers to change from one supplier to another and in practice it is difficult to get out of a delivery contract. This introduces a new risk as it is complicated to produce chicken fodder and the companies do not always deliver in the expected quality.
6. **Poultry breeding:** The poultry breeds serve as an important condition for the poultry producers. Poultry breeding is extremely complex, specialized and expensive, hence there is currently no breeding activities taking place in Denmark or the rest of Scandinavia for that matter. Therefore, the Danish bird suppliers import eggs from their partners abroad (most importantly the Ross 308 breed). The birds that eventually end up in the supermarkets are the fourth generation of the birds that are bred and the initial 11 chickens end up parenting 39,5 million birds with an almost identical genetic mark-up. This is a necessity in the industrial poultry production where standardisation and uniformity is a key quality criterion. The birds are bred based on a set of breeding goals, which code for a

particular behaviour and a corresponding impact on environment, animal welfare and production system ([Gamborg & Sandøe, 2005](#)). The breeding companies are huge multinational companies and Danish farmers have very little influence on how they operate or which breeding goals they adopt. Therefore, these breeding goals code for a particular production system, and it is impossible to alter the production strategy (for instance emphasising animal welfare by slow growth or outdoor rearing), without also adjusting the genetic mark-up of the birds. Hence, it also implies that poultry production is highly locked in to a particular production pathway. Furthermore, any changes to the genetics of the birds will only appear in the stables after a time lag of five years.

Financial conditions

Previously banks have classified poultry production as a specialty production, which is generally a hindrance to finance as the mortgage providers are reluctant to provide a full mortgage, hence producers must finance investments with their equity or borrow money from the banks, which is at a higher interest rate. Therefore, poultry producers have not had an easy access to investment capital prior to the financial crisis and therefore have not overinvested to the same extent as other production sectors. Furthermore, the financial crisis in the agricultural sector and the new banking regulation has resulted in a declining willingness from banks and mortgage providers to invest in agricultural production, due to a dwindling equity. However, poultry producers generally do not have a high share of investments in farmland and therefore they have not experienced the same equity loss as pig and dairy producers when the land prices have dropped 40 %.

Due to the difficulty of producers to access investment capital and in the fear of declining production supply, the abattoirs in the value-chain have taken on the task of providing bank guarantees and ensuring a fixed minimum contribution margin running for 7 years to enable new investments. For example, in 2012 Danpo introduced a “growth package” in which they offered a bank guarantee, subsidy for environmental approval, contribution margin guarantee and investment surety for 1,5 million DKK for each new production facility, in addition they provide a surplus for all chickens produced in the new houses in the first 7 years of operation. In addition, other policies also ensure the economy of the poultry producers, for instance, postponed payments to the supply industry, price guarantee and insurance funds for farmers whose animals are infected with salmonella (which is a significant decline in the stock value).

These types of collaborative investments in the value-chain are a rather new and interesting feature in the Danish foodscape, as they ensure the farmers economy via a form of partnership between the different actors in the value chain. It creates a bit more stability in the economic conditions for the producers and underscores the mutual dependence of the actors in the value chain; furthermore, they illustrate the strong coordination of production between the actors.

Generally, the poultry producers that we interviewed do not express many financial concerns at present, as the economy of poultry producers is doing fairly well. However, there are also aspects that are problematic in their decision-making. Regarding the contemporary financial conditions farmers' particularly note two aspects that are important in their decision-making:

1. **Financial status of poultry producers:** Compared with other sectors, poultry production is traditionally classified as a "specialty production" by the banks and the mortgage providers, because there are not so many poultry producers. Therefore, the financial institutions believe that it will be difficult to sell the properties if the current owner goes bankrupt or wants to quit production. One of the challenges is that the houses that are used for poultry production are not easily converted to other types of agricultural production or other uses. For the farmers, this implies that poultry producers do not have access to the same types of mortgages that other types of production. This financial status is a bit peculiar as poultry producers historically have a better farm economy compared with other pork and dairy farmers. The effect is that there are not constructed a whole lot of new buildings at present and some of the ones that are currently used for production keeps getting older and the average age of the production facilities is an estimated 26-28 years.
2. **Commodity chain finance:** In order to ensure reinvestments in the production facilities one of the abattoirs implemented a growth plan, in which they issue a bank guarantee and ensures a contribution margin. This has enabled some new investment in the poultry sector and it is an important tool for banks and mortgage providers, as it is more attractive to provide the additional capital, when producers have some security in the first 7 years of operation.

Policy and regulatory conditions

In the late 1990'ties salmonella Denmark experienced several cases of salmonella outbreaks related to chickens. To secure the food security for Danish consumers the government in collaboration with the poultry sector developed a number of regulations. The legislation details the conditions for poultry production, such as requirements for the stable system, education of workers, animal welfare requirements and hygienic standards, the law is particularly adapted to industrial scale chicken production.

In the 1980-90's food security became a growing concern and a number of action plans to combat infections in poultry meat was implemented first in 1989, later again in 1998, this was followed by a new action plan in 2008 focusing on campylobacter. The actions plans have had an effect and there has been a significant decline in the number of reported infections. Hence, in general, Danish broiler has a high level of food safety and the use of antibiotics is very low as the production system ensures minimal external exposure of the birds to guarantee a high degree of protection against infections and an efficient stable management(DAFC, 2015).

"It is like a bike rider in the tour de France, if the fodder is bad, the litter goes bad, so the chicken's growth is momentarily halted, it is not like rearing pigs where you can just postpone for a few days"



In the poultry industry, quality is assured by daily data reports to a common database KIK (The Quality System In Chicken Production) and ACQP (Assured Chicken Quality Programme). The quality assurance scheme guarantees full traceability throughout the broiler production chain and it is a requirement for all actors in the value chain and close to all birds that are slaughtered in Denmark are covered by a quality insurance scheme. The system is third party accredited and audited, which allows veterinarians, slaughterhouses and key customers to monitor the mass balance and general health of a batch of chicken. Furthermore, the system can be utilized as a benchmarking tool, enabling the comparison of the efficiency between different producers.

Avian flu is increasingly concerning poultry producers. Avian flu is a highly contagious viral disease that primarily infects birds, but exposed humans may also be infected. The disease originates from Asia and infection is caused if the broilers come into contact with migrating birds. Any species of bird can be infected by avian flu and with some species the mortality rate is as much as 100 %. Chickens and turkeys are the most vulnerable, while waterfowls generally are more resistant. In 2006 a particularly contagious and aggressive strand of bird flu quickly spread across the different continents (H5N1). Again, in the fall of 2016 a strain of H5N8 spread across Northern Europe and elsewhere. Particularly free ranging birds are in the risk of getting in contact with contaminated birds. It is considered highly unlikely that conventional poultry producers, who keep their birds indoors and put a great effort into reducing any contamination in the stables, are exposed to infections. This recent outbreak affected many of the European countries, but in Denmark only a number of wild birds were found and a few pastime farms with outdoor rearing were infected. However, when infected birds were discovered important Asian markets were closed (particularly South Korea). The disease has had a profound implication on the market conditions as export markets are automatically shut down for 3 months following OIE regulation, when infected birds are discovered, and therefore an outbreak of avian flu immediately affects the quotation that is given to farmers.

Regulatory conditions are quite a big thing in poultry production, particular regulation to manage disease in birds, particularly salmonella, but more recently also bird flu. These diseases are both highly contaminating, detrimental to the poultry market and generally, the poultry producers appear as content with the way that the regulation is managed, as regulation has been developed in close collaboration with the producers. Furthermore, apart from the mandatory regulation developed at national level a number of private initiatives have also been taken in the value chain on a voluntary basis. Regarding the contemporary regulatory conditions farmers' particularly note four aspects that are important in their decision-making:

1. **Disease management:** The most recent outbreak of bird flu in the fall of 2016 affected many of the European countries, and in Denmark a number of wild birds were found and a few pastime farms with outdoor rearing were infected and caused the important markets in Asia to ban the import

of Danish birds. Hence, even though the producers were not directly influenced by the avian flu they were indirectly influenced as the import ban quickly caused a drop in the quotation. Actually, just a small drop in the quotation price following an outbreak of avian flu is enough to cause the farmers to lose a significant part of their annual wage. The farmers tend to think of this more as a technical hindrance to trade rather than a reflection of a genuine concern for food safety. Furthermore, it is a problem for the farmers as they cannot do much to change their production, as they have paid for chicks and fodder and there is nothing much to do but wait for it to pass. However, although the abattoirs also lose money they are able to transfer some of their losses onto the farmers. Farmers are not in a position to transfer any of their costs onto other actors. They are bound by long-term and fixed contracts with some of their suppliers, and in addition, they have to continue producing to maintain their production facilities and to ensure that they can keep a cash flow for their mortgage. In addition, following outbreaks and market shutdowns large stockpiles of frozen products, usually whole chickens, or parts thereof have been built. Hence, market recovery is always slower than market shutdown. The big issue in this particular outbreak was that although no birds in the production system were actually infected it still caused a market to shut down as the birds of pastime producers and professional producers are registered in the same OIE-register. Attempts will be made to change this, which is in line with the practice in other countries, but nobody was aware of this prior to the present outbreak.

2. **Hindrances to foreign trade:** Although producers are generally content with the disease management and the sanitary requirements that have been implemented, some of the policies also hampers the market competition by restricting the producers' abilities to interact with companies abroad. For instance, due to the National Salmonella Action Plan, it is not possible for producers to purchase hatched chicks abroad. Hence, effectively this strategy, which safeguards producers from foreign contamination, also hampers the competition. Another strategy that is faced with similar issues is the delivery of birds to German abattoirs. Abattoirs in Germany practice a particular form of production in which the birds are gradually slaughtered at different ages. Hence, producers can initially have a higher number of birds in the stables, and then slaughter the birds at for instance day 30, 37 and 42, thereby increasing the production volume per square meter. Many producers in the southern part of Denmark thus deliver their birds to Germany. However, this form of production also implies a higher risk of contamination as the chicken harvester drives several times through the flock. Several producers have also decided against this form of production in the fear that there will be a market shutdown in the event of a disease outbreak. Then they will be stuck with a flock of chickens that they are unable to export and also

unable to sell to a Danish abattoir as this form of production is not recognized by the Danish quality standards.

3. **Organic regulation:** The Danish organic regulation was initially moulded over the French Label Rouge system, which implies that the herd size should be below 4.800 birds and the birds should gain a maximum of 35 grams pr. day and be at least 57 days when slaughtered and 63 for the hens. Furthermore, the birds should have access to free range areas that are planted with vegetation. Although the regulation in many ways reflects the expectations that many consumers have towards an organic production, it also constitutes a significant barrier for conversion of some of the existing operations. The reason is that the specialized buildings for poultry production, are often much larger and sometimes build for 50.000-100.000 birds. Hence, producers have huge investments tied to the buildings that they are unable to pay off if they are to decrease their stock density. Furthermore, often houses are placed in cluster of 4-5 houses, with marginal space between, which prevents outdoor access for the birds.
4. **Quality assurance in the poultry production:** The quality assurance schemes KIK and ACKP that ensures full traceability throughout the broiler production chain is an example of a voluntary regulatory regime that has been developed by the actors in the poultry chain. The producer interviews reveal that producer on the one hand find it a bit annoying that they have to make these registers, as it is a bit time consuming, on the other hand it also provides a good overview of the production and serves as a self-monitoring device that provides feedback on particular focus areas. Due to this system farmers are able to benchmark their own production to the production of other famers. Furthermore, farmers are also able to monitor the performance of fodder from different companies. For the farmer, the quality assurance scheme function as a documentation of performance when attending bank meetings or making claims towards suppliers for failure to deliver products in an acceptable quality. For the abattoirs, the quality assurance scheme functions as a legitimization of their quality claim towards retailers and other costumers, but the system also causes frustration as sometimes requirements are seen as a little foolish. Although the producers do understand the need for a quality assurance scheme they do not always understand the particular requirements that they are faced with and then it is frustrating that it is “easy” to develop new requirements.

Understanding poultry producers’ strategies and institutional arrangements

Regarding the strategies and institutional arrangements there are a number of aspects that are brought up by the farmers as particularly important for them, which have been grouped into four categories:

1. **Managing world market volatility:** The costs of purchasing fodder is one of the most important costs for the producers and prices at the world market fluctuates significantly, therefore the producers need some

strategies to manage this uncertainty and market risk. Hence, the decision to purchase fodder is very important for the overall farm economy and it is one of those ongoing decision-making situations that the farmers are spending a lot of resources to get right. However, there are different strategies at play depending on the temper of the farmer, some farmers have outsourced all their purchase of fodder to a purchasing club. Others conduct all the purchasing themselves, perhaps with the assistance of salesmen from the fodder companies, their colleagues and friends, or professional advisors. Furthermore, there are different time horizons in play, some farmers purchase fodder for a full year whereas other only purchase small amounts at one time or invest in futures on soy meal and transport, others just purchase when products are on the market. Hence, there are many different strategies in play to manage the world market volatility.

2. **Coordination in the commodity chain:** The Danish poultry meat chain is highly coordinated and all activities are carefully planned. This is quite important for the poultry producers as they always know that they have a market for their produce, so they never have to think about the sales process and are able to focus entirely on managing their flocks. On the other hand, they are also closely tied to the suppliers and the abattoirs and they do not have other options, but to quit farming (if that is even an option for them), if they are discontent with this network. The cooperation among the abattoirs and the farmers is framed in two different contracts; the first is between the individual farmers and their abattoir. This contract usually runs for two years and specifies how much produce the farmer should produce. However, the quotation is variable and is defined by the abattoir depending on the particular market conditions that prevail at any given time. If prices are below the cost of production for three consecutive flocks, then the farmer is able to abandon the contract, but otherwise contracts are extremely stable. The second contract is between the abattoir and the supplier association consisting of all the suppliers to the abattoir. It specifies the general terms of collaboration between the suppliers and the abattoir. Furthermore, the supplier association is the main dialogue partner representing the suppliers in the debate with the abattoir, for instance concerning how the quotation and discounts are set, disease management and gives input in relation to the quality development in the value-chain.
3. **Succession:** Whereas dairy producers plan for a future where the farm is continued either by a new young farmer or a natural successor, poultry producers do not necessarily plan for succession. Poultry production is a form of niche production and farmers cannot be sure to sell the production facilities on the market and it is difficult to obtain a mortgage. Hence, the interviews indicate that many poultry producers plan for their farms to be worn down prior to their retirement. This wearing down strategy imply that the new owner either reinvests in the production system or demolish

buildings and start a new production. As poultry producers, like Danish farmers in general, have a rather high average age, this strategy implies that production facilities also have a relatively high average age, allegedly around 26-28 years.

4. **Optimization of economy of plant production:** The poultry producers who own farmland are considering how to manage this farmland as arable farming, currently, is not a very good business. The farmers also employ different strategies, that are in a sense unrelated to the poultry commodity, but that are very important for the farm economy as a whole. Some of the farmers note that it is not so important for them what they earn from their fields, because when the grain prices are low so too are the fodder prices and that is much more important for their farm economy. Another farmer noted that he is working towards establishing a potato production as this is a high value arable crop that will reduce his reliance on the income from the poultry production. Furthermore, he needed to commence a new activity as he had just partnered up with his father and they needed new revenue streams to generate value for both of them. A farmer, with a larger acreage of leased land was pressed by his bank to give up these lease contracts because he was losing money on the arable farming. However, he was reluctant to give up these leaseholds as his environmental approval depended on an access to a particular spreading area for his manure. These examples tell an interesting story about the way that poultry farmers think about their strategies. Farmers do not think about their strategies strictly in terms of particular commodities, but rather consider their strategies in holistic terms that include all the operation on the farm.

Key points

The poultry value chain is composed of only very few and specialized actors on both supply and processing, and they are primarily private companies, obligated to make a profit for their investors. Furthermore, this organisation of the value chain also means that there is little competition, but a high degree of coordination. For instance, the bird suppliers have coordinated their breed selection with the feedstuff producers and the abattoirs to fine tune product. This leaves very little room to manoeuvre for the producers and a pressure to fulfil their particular obligations. Furthermore, when there are no cooperatively owned actors on the supply and demand side of the value chain the farmers have little influence on how the value chain is assembled and also few options for negotiating other prices than what is automatically given.

In terms of finance poultry producers are also in a special situation. Previously, mortgage providers classified poultry production as a specialty production which is generally a hindrance to finance and particularly prior to the financial crisis the credit access was poor. Poultry producer, therefore have not made reckless investments to the same extent as other production sectors. In the fear of declining production supply many of the companies in the value-chain have taken the task of providing different kinds of loans and security for the producers to enable new

investments. For instance, in 2012 Danpo introduced a “growth package” in which they offered a bank guarantee, subsidy for environmental approval, contribution margin guarantee and investment surety for 1,5 million DKK for each new production facility, in addition they provide a surplus for all chickens produced in the new houses in the first 7 years of operation.

The current crisis has made the banks more cautious in their way of dealing with the farmers. Many farmers depend on overdraft and the banks are in a position where they must decide which farmers they will support and which farmers will have to leave farming either through a bankruptcy or by selling their property. Banks do not invest in agriculture as such, but provide capital for farmers who invest. This implies that banks have increasingly begun to observe the farmers as “capital managers” and they assess whether or not they are credible capital managers. Therefore, an important new condition for the farmers is the framing that banks and other credit and mortgage providers use to assess whether and under which conditions the farmers are credible loan takers. This leads to a number of changes: 1) Banks now take a number of factors into consideration when they make their decisions; including financial measures such as production costs pr. unit, but also a number of other measures such as management qualification, credibility ability to reflect on new ideas and reflect on proposals from outsiders. This has implied a stronger focus on skills, which traditionally have not been considered important in the collaboration with the banks like “*strategic leadership skills*”, “*marital stability*” and “*management of employees*”. Increasingly, it becomes important for the farmer to fulfil the image of a “*good farmer*” in the view of the banks because the structural development is pronounced and banks tend to favour the “*top 25 %*”, and if a farmer is not within this category, banks are reluctant to give access to finance. 2) The businessman identity is quietly implanted in the farmers for instance using newly developed benchmarking tools. These tools are used to benchmark farmers against one another and provide the banks with a number of key figures for each farm that continuously benchmark the performance of each farmer against a national average. 3) Due to the capital intensity of the Danish farming sector, the banks are the engine of transformation in the sector and their decision to finance an investment or not is of crucial importance, not only to the individual farmer, but for the course of the entire Danish farming sector. The benchmarking tools are built over historic data and they are not a neutral representation of the farm but a particular view of the farms performance. This suggest that banks prefer a focus on the on the traditional strongholds of the Danish farming sector like standardized products for the world market, rather than an emphasis on a transformation to new modes of production. 4) Structural development implies an increasing focus on leadership and managing employees, therefore, there is no room for the farmers who are mainly interested in the practical aspects of farming, because the business aspect is increasingly important if farmers want to survive in farming. The volatile market conditions require a much more focused attention to the timing of investments, sales and purchasing behaviour as these aspects increasingly determine the profitability of the farmers. Furthermore, in the present situation farmers observe an equity loss and therefore it becomes increasingly pressing for the banks to manage their agricultural

investments in a more active manner, because it is costly for the banks to keep farmers afloat.

The poultry breeds serve as an important condition for the poultry production. Poultry breeding is extremely complex, specialized and expensive, hence, there is currently no breeding activities taking place in Denmark or the rest of Scandinavia for that matter. This implies that poultry production is highly locked in to a particular production path and it is extremely difficult to change the production system as any changes to the genetics of the birds will appear in the stables after a time lag of five years. Furthermore, the breeding companies are huge multinational companies where Danish farmers have very little influence on how they operate and therefore it is extremely difficult to alter production conditions without also changing the breeds that are used in the production.

The decision to purchase fodder is increasingly important for the overall farm economy and it is one of the ongoing decision-making situations that the farmers are spending many resources to get right. This has some direct consequences for the daily life of the producers as they have to be extremely careful in timing the investments of grain, soy meal and transport. There are different strategies at play depending on the temper of the farmer, some farmers have outsourced all their fodder trade to a purchasing club. Others conduct all the purchasing themselves, perhaps with the assistance of salesmen from the fodder companies, their colleagues and friends, or professional advisors. Furthermore, there is a difference in the time horizon of the investment, some farmers purchase for a full year whereas other only purchase small amounts at a time or invest in futures on soy meal and transport, others just purchase when products are on the market.

The survey indicate that in spite of being in a precarious market position with fluctuating commodity prices, many of the poultry producers in Denmark are still satisfied with their sales channels. However, the survey also suggest that there are a large minority who are somewhat unsatisfied with the current state of affairs and they are on the lookout for alternatives in terms of sales channels, production strategies and ways to add value to their products as a strategy to strengthen the farm economy.



