

# Factors affecting the small-scale production of artisan meat

A study of livestock farming in Sweden

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Dedicated to mulia, constant source of primitive love!



## **Abstract**

This paper examines the structure of livestock farming and of the meat industry in Sweden, focusing on possibilities for small-scale farmers to develop, whether individually or in a group, self-sufficient systems of high quality meat production.

The four areas identified as presenting structural difficulties (and in some cases opportunities) to small-scale producers are: i) the centralized structures of downstream production: this includes slaughterhouses and food retailers, and even farming practices; ii) existing cooperatives in the meat sector, which do not cater to the needs of the focus group; iii) subsidies granted by the European agricultural policy; and iv) the preferences and concerns of consumers and food retailers.

The Swedish government has recently introduced policies to promote locally-produced food as well as small-scale and farm slaughter. This represents an opportunity for small-scale producers looking to develop a system of artisan meat based on production outside of the mainstream system. The two-year policy (2008-2010), however, needs to offer farmers more long-term support in order to encourage the necessary investments in set-up, as well as to bolster the ability of farmers to afford steep slaughterhouse operation costs.

The present structure makes operating on a small scale very difficult because it pushes farmers to be a part of the mainstream system. However, with small volumes of livestock, the mainstream system offers no economic advantage and no possibility to offer artisan products. Finding ways to develop alternative small systems of production and distribution, on the other hand, is structurally and economically complicated, but farmers' creative ways and new policy support mechanisms may be opening a space for this local initiative to mature. With adequate policy support and consumer enthusiasm, an increasing number of farmers could potentially find satisfaction and economic sense in shifting production 'off-Broadway'.



## **Executive Summary**

This paper examines the structure of cattle and sheep farming and of the meat industry in Sweden, including its slaughterhouses and retailers. Particular focus is given to evaluating the possibilities and obstacles faced by small-scale farmers who wish to develop a self-sufficient system of production based on local small-scale systems and high-quality product features. This is referred to in the paper as ‘artisan meat’ or ‘regional markets of meat’. Quality features refer to: i) methods of production, such as high-welfare animal rearing and slaughtering, and an optimal duration of the meat tenderization process; ii) reduced environmental impacts resulting from meat production, compared to the mainstream industry; and iii) use of local or regional systems of production and of retailing to market the meat. The study also suggests ways of achieving the development of artisan meat production. While working outside of the mainstream system may present some inherent difficulties, the study will show that working within it is nearly impossible for the focus group.

The study, then, attempts to identify which actors are guiding the direction of the industry, what are the industry’s trends and whether a place in the market for small-scale artisan meat production is a realistic expectation. Potential for an alternative market to evolve within or in parallel to the mainstream market is considered. In doing so the paper analyses relevant factors affecting the prospects of an artisan meat market to prosper or at least to survive. Such factors are considered to be the structure of the domestic slaughterhouse industry, the role of cooperatives, the aim and effectiveness of domestic and EU-wide agricultural policies, and the preferences and concerns of consumers and retailers. The results of the study are primarily based on interviews with small-scale farmers in Sweden, slaughterhouse management and relevant stakeholders.

The Swedish meat industry is becoming increasingly concentrated throughout the different steps of livestock farming and meat production. Farms are increasingly becoming fewer in number and larger in size, small and medium size slaughterhouses are likewise disappearing in the face of competition with large-scale abattoirs and more stringent regulation, and food retailing is dominated by a few players strongly pushing for lower prices and the standardized mass-production of meats. Small-scale farmers who have an interest in marketing the meat from their livestock face an increasingly hostile environment. Those who persist have done so by a passionate differentiation of their product, by finding creative ways to benefit from players within and outside of the system, or by holding additional jobs or other sources of income.

The Common Agricultural Policy (CAP) has for decades encouraged high-output production in the EU, fuelling a structure of large-scale producers and economies of scale, and leaving smaller farmers in a disadvantageous position to participate in the mainstream retailing market. Even so, the CAP has provided income to small-scale farmers, which is, more often than not, vital in securing their permanence in the market. Recent structural changes of the CAP are already starting to translate into a less influential—and less paternalistic—European agricultural policy for big and small players. Farmers expect considerable reductions in subsidies by 2013 at the latest. On the other hand, a recent initiative by the Swedish government to promote domestic and local food production, as well as small-scale slaughterhouses, offers a window of opportunity for the small-scale artisan meat market to develop.

Market forces have kept small-scale producers out of the mainstream channels of distribution. An increasingly concentrated system of food retailing that requires mass production in volumes and methods deprives the consumer of a wider variety of choices and, also, makes the supply of products with local and artisan features difficult. The system has no room for

manufacturing methods of low outputs and slow manufacturing processes. Upstream, large-scale slaughterhouses are also blocking the possibility of small-scale farmers to develop their own system of production, by preventing farmers from taking back the meat from the livestock slaughtered. Instead, small-scale farmers are expected to feed their livestock to the mainstream system. Small-scale abattoirs are increasingly becoming more flexible and allowing the farmer to 'take back' the meat, in order to steal some business from bigger abattoirs, and manage to stay afloat.

This paper concludes that, considering the present centralized situation of the meat sector, small-scale farmers need an initial push from authorities to be able to establish channels of production and marketing that are sustainable in time. Recent domestic policies intended to support local food production are an important opportunity for farmers to set-up independent systems. Long-lived policies and a sense of security are necessary in order to persuade farmers to engage in risky and expensive endeavors.

The study further concludes that small-scale, regional collaborations between farmers are preferable to large-scale coalitions, such as nationwide cooperatives. These have proved to be of little use for small-scale farmers who, furthermore, do not want to take advantage of mainstream systems, but of an alternative mode of self-sufficient and high-quality production methods.

# Table of Contents

List of Figures

List of Tables

<b>1</b>	<b>INTRODUCTION</b> .....	<b>1</b>
1.1	BACKGROUND .....	1
1.2	RESEARCH PROBLEM.....	1
1.3	RESEARCH QUESTIONS .....	2
1.4	THEORETICAL FRAMEWORK.....	3
1.5	METHODOLOGY .....	6
1.6	SCOPE OF THE STUDY.....	9
1.7	LIMITATIONS.....	9
1.8	THESIS STRUCTURE .....	9
<b>2</b>	<b>CURRENT SITUATION OF LIVESTOCK FARMING PRACTICES AND OF THE MEAT MARKET IN SWEDEN AND IN THE EU</b> .....	<b>10</b>
2.1	WHERE ARE WE, HOW DID WE GET HERE, AND WHERE ARE WE HEADED?.....	10
2.2	THE COMMON AGRICULTURAL POLICY (CAP).....	14
2.3	SWEDISH POLICIES ON SMALL-SCALE AND ON-THE-FARM SLAUGHTER.....	17
2.4	PLAYERS IN THE SWEDISH LIVESTOCK FARMING AND MEAT MARKETS .....	18
2.4.1	<i>Producers</i> .....	19
2.4.2	<i>Slaughterhouses and primary meat buyers</i> .....	19
2.4.3	<i>Retailers</i> .....	20
<b>3</b>	<b>STUDY: POLITICAL AND MARKET FORCES IN THE SWEDISH MEAT MARKET</b> .....	<b>21</b>
3.1	DESCRIPTION OF THE STUDY AND ITS INTENDED OUTCOME.....	21
3.2	GROUP DESCRIPTION .....	22
3.3	OTHER STAKEHOLDERS.....	22
3.4	FINDINGS.....	23
3.4.1	<i>Farmers</i> .....	24
3.4.2	<i>Slaughterhouses</i> .....	32
<b>4</b>	<b>ANALYSIS</b> .....	<b>36</b>
4.1	PRINCIPLES OF <i>DISTRIBUTED ECONOMIES</i> AND <i>POWER-DEPENDENCE RELATIONS</i> AS TOOLS TO UNDERSTANDING THE DIRECTION OF THE LIVESTOCK FARMING AND MEAT INDUSTRY .....	36
4.1.1	<i>A look through a distributed economies lens</i> .....	36
4.1.2	<i>A look through a power-dependence relations lens</i> .....	37
4.2	HOW RELEVANT IS THE ROLE OF POLITICAL FORCES IN SETTING THE DIRECTION OF THE MARKET? .....	45
4.3	REGIONAL MEAT MARKETS DEVELOPMENT AND THE ECONOMICS BEHIND IT: TOWARDS A NICHE OR A MAINSTREAM GOAL?.....	47
4.3.1	<i>Existing food retailing structure</i> .....	47
4.3.2	<i>Regional markets</i> .....	49
4.4	IMPLICATIONS OF TRENDS FOR ANIMAL WELFARE CONCERNS .....	52
<b>5</b>	<b>DISCUSSION</b> .....	<b>57</b>
5.1	FURTHER RESEARCH.....	61
<b>6</b>	<b>CONCLUSIONS AND RECOMMENDATIONS</b> .....	<b>63</b>
6.1	IN A NUTSHELL AND STRAIGHTFORWARD: ANSWERS TO RESEARCH AND SUB-RESEARCH QUESTIONS IN 99 WORDS OR LESS .....	65
	<b>BIBLIOGRAPHY</b> .....	<b>67</b>
	<b>ABBREVIATIONS</b> .....	<b>70</b>

<b>APPENDIX I: QUESTIONNAIRE TO FARMERS.....</b>	<b>71</b>
<b>APPENDIX II: LIST OF FARMERS AND SLAUGHTERHOUSES INTERVIEWED AND THEIR LOCATION.....</b>	<b>73</b>
<b>APPENDIX III: PHOTOS FROM THE FIELD RESEARCH.....</b>	<b>74</b>



## List of Figures

<i>Figure 2-1 Share of beef imports to Sweden, 200820.....</i>	<i>12</i>
<i>Figure 4-1 Power-Dependence Relations in the Swedish livestock farming and meat industry....</i>	<i>38</i>

## List of Tables

<i>Table 1-1 Features of Distributed Economies and their application to this study.....</i>	<i>4</i>
<i>10Table 2-2 Number of agricultural holdings per size in the EU-15 and in Sweden, and percentage change, 1995 and 2007.....</i>	<i>13</i>
<i>Table 4-1 Opportunities and obstacles faced by small-scale producers in relation to the four ‘power factors’, and advantages and disadvantages of pursuing each of the three ‘balancing operations’.....</i>	<i>43</i>



# 1 Introduction

## 1.1 Background

Livestock farming practices in Sweden and in EU countries in general are shaped (in addition to climatic and topographic conditions) by a number of political-economic factors, such as: i) the historical development of land tenure; ii) the structure of the slaughter, meat-packing and food retailing industries and their applicable regulations; iii) agricultural policies, such as the amount of subsidies granted and how they are determined; and iv) consumer dictates. These factors determine to a considerable extent the role that different players will be able to have in the industry.

Livestock production is the biggest user of land in the world, and demand for meat is expected to continue increasing worldwide. In the EU, however, per capita meat consumption has reached a level of near saturation (FAO, 2003), which could potentially leave some room for production not to be based solely on a necessity for increased output, but on other parameters such as, perhaps, superior product quality.

In Sweden, where agriculture plays a minor role in the country's economy, a centralized slaughtering structure has developed historically. EU and national regulations have become increasingly stringent on farm animal slaughtering, partly fuelling the existing centralized abattoir configuration. In parallel, livestock farming is increasingly becoming of larger-scale—with fewer numbers of farms and greater herd sizes.

On the other hand, consumer concerns over meat quality, high animal welfare, and a sense of an 'artisan style' of production are likely to be a force in the market (but how strong?). Competition in the food retailing sector can, on the contrary, exert considerable pressure towards a supply of products of predominantly low prices and just-tolerable quality.

How the existing market structure, legislation, agricultural policy, and market forces are presently interacting to shape the livestock farming and meat production sector in Sweden, and what possibilities exist to develop a system of regionally marketed meat—that is, a system in which the whole production process is conducted regionally: livestock rearing, slaughtering, meat cutting and packing, and selling directly to consumers—form the core of the research that motivates this thesis.

## 1.2 Research Problem

Understanding the links existing between the livestock farming and meat industries is relevant because the latter partly determines the types of farming practiced. Analysis of this interrelation can offer an insight into farming practices bound to dominate or disappear from the market; these in turn have a direct effect on the types and qualities of meat available to consumers, on animal welfare, and even on food safety.

These two industries are inevitably interrelated. Farmers' choices are directly affected by the existing structure (and capacity) of the slaughtering industry, for example. Even considering the borderless EU market, animal rearing in countries like Sweden is heavily reliant on the domestic abattoir structure, due to its secluded geographical location and the resulting long distances that would make the transport of animals for slaughter unprofitable or unviable.

As much as livestock farming has become increasingly of a larger scale in Sweden, the level of concentration in the slaughterhouse industry is even greater. Small -scale abattoirs, even so, persist in the industry, offering a lesser counterweight to big slaughterhouses. Abattoirs require a certain volume and consistency in the flow of inputs in order to operate soundly. Strict—and expensive—sanitary requirements imposed by the EU (including in situ veterinary inspections pre- and post-mortem), can also potentially be obstacles for small-scale abattoirs and for on-the-farm slaughter to stay in operation. Expressed differently, a David-and-Goliath type of clash of forces is most likely taking place in this market.

Local markets of meat production and consumption are most commonly supplied by smaller-scale livestock farmers. Environmental benefits and the use of methods resulting in higher quality meat (such as longer tenderizing times) are commonly linked to local market practices. Environmental impacts from transportation, distribution, packaging and retailing, for instance, are minimized when compared to mainstream meat marketing. Availability of small-scale slaughtering, be it an independent abattoir or an on-the-farm slaughterhouse, is therefore an important factor in fostering regional markets of artisan meat. However, the survival of this type of slaughtering practices is possibly at risk due to the existing structure of the industry.

In fact, the industry's structure as described above presently offers the possibility to act in a small-scale fashion precisely to large-scale livestock producers—those likely to be least interested in developing a regional system based on quality. The volume of business large-scale farmers handle makes livestock rearing with the aim of profiting from economies of scale more rational. Collaboration is more likely to form between them and large-scale slaughterhouses, industrial meat-packers and chain supermarkets, rather than farmers' markets and local consumers.

On the other hand, collaboration mechanisms available to small-scale producers, such as sectoral cooperatives, may have a role in downplaying the disadvantage of their limited size and grip on the market. Their usefulness and validity in the Swedish livestock farming industry, however, needs to be analyzed, in order to determine the actual benefits extractable from cooperative membership.

The objective of this paper is to understand the choices available to livestock farmers in deciding how to market the meat of their animals, and to determine whether or not, or under which circumstances, a smaller-scale, decentralized, regional slaughtering structure could possibly evolve. In addition, the paper will analyze the relevance of EU subsidies, Swedish cooperatives in the meat industry, and the existing food retailing structure in shaping and guiding the existing system. The analysis will try to determine the direction (if any) towards which all of these elements are pulling: a more or less centralized production, and of larger or smaller scale.

### **1.3 Research Questions**

The enquiries conducted for the purposes of this paper have been aimed directly at offering answers to the research and sub-research questions listed below. Sub-research questions are intended to support and strengthen the argumentation developed in answering the main research questions, these being the drivers of the study.

Research question #1:

- Why is livestock farming and meat production in Sweden organised as it is?

Sub-research questions:

- What are the factors deciding the manner of meat marketing?
- What role is played by political-economic factors, national and EU policies, and the structure of the slaughtering and meat production industry?
- Who are the winners and losers of the current system?

The answers to these questions are a first step, a prologue, to approaching research question #2 and its analysis. The key outcomes of research question #1 are hoped to be a clear understanding of i) the reasons behind livestock farmers' modes of production (e.g. herd size, desire to grow), ii) the importance (potential or actual) of the availability of different options of slaughtering facilities in determining the farmers' decisions on size of production and manner of meat marketing, and iii) the role played by the presence and efficiency, or lack thereof, of support mechanisms in the rearing of livestock and meat production—namely cooperatives, EU subsidies and domestic policies.

Research question #2:

- Can a less centralised (and similarly competitive) meat-production system be designed—without additional reliance on subsidization? (Or are small-scale production systems bound to serve a *niche* market?)

Sub-research questions:

- What are the trends of the factors deciding the structure of the industry?
- What measures could be taken to influence these factors?

Once a thorough understanding of the industry and the forces within it is achieved (research and sub-research questions #1), this paper's analysis centres on the possibility of creating regional meat markets parallel to the existing mainstream large-scale production. Trends of farm and herd sizes, expected development of agricultural subsidies under the CAP, and the rigidity (or flexibility) of the slaughterhouse industry with respect to changes, to name a few factors, are considered in relation to the possibility of local meat markets to proliferate. The evaluation of the industry and its trends is finally analysed from a perspective of possible recommendations to help boost the consolidation of regional markets of artisan meat production.

## 1.4 Theoretical Framework

The term Distributed Economies (DE) was coined at the IIIIEE by Johansson, Kisch and Mirata (2005). The concept intends to look for an alternative to the common globalised trend for industries to become increasingly of larger scale and with centralised decision-making centres. The DE's concept of growth is detached from necessarily expanding the size of the business, and is instead based on growth in quality, maneuverability of operations and ability to quickly adapt to consumers' preferences. In other words, it is linked to inter-regional development and exchanges, not to the size of individual production units. Under the DE framework, production is achieved more sustainably, as will be shown in table 1-1 below applied to this case study.

Competing through economies of scale has been a common strategy for staying afloat in business and, likewise, to force smaller players out of the market. But this dominating large dimension of production units has also equipped them with the disadvantage of inflexibility and the inability to adapt quickly to changes, forcing them to strive for survival through acquiring smaller production units (Johansson et al., 2005). The DE framework suggests, instead, the developments of regions of “dynamically ‘self-organizing’ business environments” that are willing to undergo structural changes throughout the system in order to become their own integrated, and more sufficient, regional players. Flexibility in production is prioritised over pure efficiency. There are, also, aspects of sustainability attributable to DE thinking, for example decreased environmental impacts resulting from reduced transportation.

Praising the virtues of small-scale production and regional development has, certainly, been done before the term DE was invented. Schumacher (1973), for instance, argued in favour of the “convenience, humanity and manageability of smallness,” while admitting—as does DE—that small-scale needs to coexist with large-scale production systems. Small-scale units foster, in addition, creative thinking and often offer more fertile soil for individuals to feel and become a meaningful part of the production system (Schumacher, 1973).

In the following table features of DE thinking and their expected application to this case study are presented.

*Table 1-1 Features of Distributed Economies and their application to this study*

<b>DE feature</b>	<b>Application to this case study</b>
Wealth creation for a larger number of people	Achieve a representative ownership of slaughtering structure by farmers, or offer small-scale slaughtering possibilities more widely
Reinventing quality and prioritising it over production efficiency	Allow sufficient time allocation to the process of meat tenderization (‘artisan abattoir’ practices) and promote direct face-to-face producer-to-consumer sales
Heterarchies and open innovations instead of hierarchies and closed innovation	Generate new forms of collaboration to replace old system set-ups (e.g. new conceptions of cooperatives)
Flexible, small-scale production systems	Foster creative entrepreneurial relations between farmers, abattoirs and meat buyers, with special attention to the promotion of regional markets
Diversification of needs and wants—new consumers, new behaviours	Enhance value and awareness of locality of meat, animal welfare standards, and personal trust and relationships with farmers
Social, economic and ecological diversity are prerequisites for efficient production systems	Determine how different actors (farmers, abattoirs) can play their optimal role and in that way improve the robustness of the system
New producer-consumer relationships	Producer decides how the input—animal—will be introduced in the production system; i.e. for local consumption, or through large-scale abattoir, meat-packer, etc., giving importance to consumer

	preferences and animal welfare concerns
Social and ecological capital as an advantage	Use government monetary aid to allow, or strengthen, the existence of regional markets and rural community development
A renewed balance and symbiosis of small and large-scale production systems	Assign different qualities of product outputs to slaughterhouses by their size: regional & small-scale to focus on higher quality (artisan style), versus centralised & large-scale to focus on lower quality products (processed meats, e.g.)
Collaboration and collective spirit	Encourage innovative forms of production and interaction between producers, processors, retailers and consumers
A new balance between intra-regional and inter-regional exchange of resources	Facilitate creation of regional strengths allowing product movement to be based on product characteristic, and not on production system set-up

Source: (Johansson et al., 2005) and own interpretation

In addition to approaching the interpretation of this study’s findings through a DE optic, the structure of Power-Dependence Relations developed by Emerson (1962) will be used in order to understand what interactions are formed among actors in the Swedish livestock farming sector (farmers, slaughterhouses, retailers, consumers) and how these affect the shape of the industry. Likewise, potential applications of Emerson’s structure to facilitate the strengthening/proliferation of small-scale livestock farming and local markets will be considered. An overview of the mentioned structure is described below.

Emerson (1962) argues convincingly that the power of A over B is determined by B’s dependence on A. In other words, A exerts power over B as long as B’s behaviour (or mode of operation) is affected and to an extent determined by A’s actions (or demands). In the same line of thought, the relation of dependence between A and B is most often mutual, or a sort of give-and-take game of strengths that grants both a certain amount of power over the other. Each side is, thus, to a greater or lesser extent, capable of affecting positively or negatively the desired outcome of the other side (or other sides, as the same applies to situations with several actors). In cases where the levels of strength of the actors are different, as is most commonly observed in the world, the existing relation is unbalanced.

The case under study in this paper considers the power-dependence relation between small-scale livestock farmers and meat buyers/sellers in Sweden. I claim that ‘A’ factors 1, 2, 3 and 4 (the structure of the slaughterhouse industry; the role of cooperatives; the role of domestic and EU-wide policies; and the role and strength of consumers and retailers) may have a power advantage over actor ‘B’, the small-scale livestock farmers. In other words, that the dependency of small-scale farmers on the above four factors is greater than the dependency exerted by small-scale farmers on the four factors mentioned. The following sections will analyse the possibilities of balancing this relation and, too, consider whether and which in particular of these four factors (if any) exercises a stronger power imbalance over small-scale livestock farmers.

In Emerson's model of Power-Dependence Relations, the balance needs to be restored in order to place the weaker actor in a more comfortable, less skewed position. This can be achieved by increasing the dependency of A on B, or by decreasing B's dependency on A; the so-called 'balancing operations.' Three operations will be considered: i) withdrawal, ii) extension of power network, and iii) coalition formation. They are explained below.

The operation of withdrawal entails the weaker actor, B, giving up its initial intention to accommodate to A's demands, and absorbing the consequences. In the case under study, the consequences could be the farmer's shifting his type of production, line of business, or stopping production altogether.

Extension of power networks can be exemplified by the farmers reaching out to the tools existing within the system, in whichever straightforward or creative ways, to successfully maintain the small-scale operation of their livestock business under increasingly more equal relations with actor A. Throughout the pursuit of this effort, however, the individuality of each B actor is maintained—though collaborations among B actors and even between A and B actors could materialize.

Finally, the balancing operation of coalition formation signifies the action of all or some B actors joining forces to act collectively in front of A, expecting benefits from the mere fact of controlling a larger share of production. The aim is to reduce or eliminate the disadvantage of interacting with players that have a disproportionately greater control of the market, and an accompanying stronger negotiating power.

Summarizing, a mix of approaches based on the Power-Dependence Relations structure and DE will facilitate an analysis on how to create favourable conditions to ensure that small-scale operators participate in the system of production, and on how to maximize the potential benefits of their contribution.

## **1.5 Methodology**

The research was approached from a theoretical perspective, through literature review and information search, but also and predominantly through interviews with stakeholders.

The literature review was conducted in order to understand livestock, and particularly cattle, farming trends as well as the process starting from the slaughter of the animal until the meat is sold to the final consumer, with attention to understanding small versus large scale functionings of the market. Tendencies and forecasts of meat consumption in the EU and globally were also reviewed. An honest understanding of the EU's Common Agricultural Policy (CAP), and what can be expected of it in the short and medium term was necessary, as a base to understand implications behind farmers' decisions and their relationships with meat buyers. The effects of a proliferation of local markets for meat consumption were considered, drawing from case studies within and outside Europe.

Interviews with stakeholders represented the thick of this study. The main purpose was to obtain full insight into a small group of farmers through in-depth interviews and open questions for discussion, and not to conduct a large number of interviews with 'multiple-choice' types of questions. This approach offers the advantage of learning exhaustively from stakeholders who are actively engaged in the livestock farming and slaughtering business in Sweden, and gaining a real understanding of their drivers, obstacles, and reasons for choosing to operate in the market the way they do. On the other hand, this approach limits the sample. The analysis was conducted, hence, from a qualitative and not a quantitative stance, to

overcome this limitation. Stakeholders interviewed included farmers, managers and owners of slaughterhouses, and industry, government and NGO representatives.

Interviews with farmers were conducted using a loose structure but backed by a carefully-designed questionnaire (Appendix I). The criteria for selecting farmers to interview were straightforward: as many as possible, as long as a) they are active farmers at the moment of carrying out this study, b) they conduct their farming activity in Sweden, c) they raise either cattle or sheep (in order to narrow the scope of the study), d) the farmer is willing to participate in the interview, and e) the farmer has the capability to communicate well in the English language. This latter criterion was enforced in order to avoid easy or overly simplified answers resulting from a lack of ability to express an idea in English. All of the farmers interviewed I met through acquaintances or randomly during walks in the countryside. In the beginning of the interview I would explain the research being conducted and what I expected to understand after concluding the study, leaving then the farmer to communicate his/her opinions on the subject. This allowed farmers to convey through unstructured conversation what they deemed to be the most relevant aspects in relation to the topic under study. Topics that were not addressed by a farmer during the talk were, in the end of the interview, asked directly as per the questionnaire. The survey consisted of five general sections: 'Basic facts', intended to very briefly understand the historical development and present operating condition of the farm; 'Contract', to learn what kind of agreements (if any, and whether oral or written) the farmer forms with the meat buyer, major changes in the forms of agreements through time, how and why a meat buyer is preferred over another, and how marketing of meat could be improved; 'Slaughter', to know what options the present structure allows the farmer to consider for the management of his/her farm, and what are the possible pros and cons of alternative methods; 'Subsidies', to determine the influence of public financial assistance in the farmer's decisions and ability to stay in business, and how expected or unexpected changes in European and domestic agricultural policy may affect farm operations; and 'Industry trend', to evaluate the role that predominant farm and herd sizes play on the farmer's actions and his/her ability to operate in the industry, as well as the importance to that particular farmer of cooperatives and the potential creation of regional markets.

Seven interviews with farmers were conducted. The farms included in the study are located in the municipalities (*Kommun*) of Eslöv in Skåne (two interviews), Kramfors in Ångermanland (two interviews), and Hudiksvall in Hälsingland (three interviews). They were conducted in person at each of the farms, with the exception of one farm in the municipality of Kramfors, (conducted in person but not at the farm), and each lasted in average roughly three hours.

Interviews with management staff of slaughterhouses were conducted in a similar way. The questionnaire consisted of 11 questions, divided into three categories: 'Basic facts', to grasp the structure of the abattoir, its size and volume of business, and to take a brief look at the slaughterhouse's mode of operation; 'Contract', to understand how the company approaches business relations with farmers and with their downstream clients; and 'Industry structure', to comprehend how the industry works in Sweden, learn what management thinks about business roles and potential for both big and small slaughterhouses, and what trend they expect the industry to follow.

Personnel from two slaughterhouses were interviewed, one on the telephone in the municipality of Ystad in Skåne, and one face-to-face in the municipality of Hudiksvall in Hälsingland. The selection of target slaughterhouses was determined by the location of the farms included in the study. The person's availability and English language capability to engage in active conversation were determinants in including or excluding a certain abattoir. A third

slaughterhouse included in the study is an on-the-farm abattoir operated by one of the farmers interviewed in the municipality of Hudiksvall.

In both the farmers' and slaughterhouses' questionnaires, every question addressed one or more of the Research Questions or Sub-Research Questions.

Food retailers were interviewed on a more informal basis, speaking to the management and other relevant employees in the shop as their busy schedule allowed. Four supermarkets were approached in the southern city of Höör (Skåne): City Gross, Coop, ICA and Netto. The questions asked dealt with issues of: i) concerns for regional purchasing in meat supply decisions, ii) level of formality in procurement relations with producers, iii) at which organizational level decision-making processes are made, and iv) consumer's concerns/demands for locally produced meats.

Additional interviews were carried out with relevant stakeholders, as the need arose along the research to obtain information and opinions from a particular actor. Methods used in these cases were, in order of preference, face-to-face conversation, telephone conversation, and written communication. Below is a list of the persons interviewed under this category:

- Thomas Bodén → Chairman, Lantmännen
- Åke Classon → Swedish Rural Economy and Agricultural Societies
- Michel Courat → Policy Officer Farm Animals, Eurogroup for Animals. Official Veterinary Inspector, British slaughterhouses (retired)
- Kalle Hammarberg → Official Veterinary Inspector, Swedish slaughterhouses (retired)
- Anders Johansson → Executive Officer, Meat Inspection Division, Swedish National Food Administration (SLV)
- Karin Jonsson → Responsible for animal welfare issues, HKScan
- Åke Karlsson → Chairman, Swedish Small Farmers' Association (Eldrimner)
- Tobias Markensten → Information Service, Swedish Ministry of Agriculture
- Inger Pehrson → Responsible for Beef Issues, Lantbrukarnas Riksförbund (LRF)
- Véronique Schmitt → Executive Officer Policy, Eurogroup for Animals
- Andrew Townsend → Veterinary Officer, Department of Animal Welfare and Health, Swedish Board of Agriculture (SJV)
- Karin Westholm → State Inspector, Meat Inspection Division, Swedish National Food Administration (SLV)

The analysis of the data obtained from interviews to farmers was conducted following three steps—or at least the first two where the third step proved unrealistic or unviable—suggested by Loftus (2009):

- Compare answers to the questionnaire by every farmer with the intention to single out possible inconsistencies.
- Cross-check answers to confirm their validity and distinguish opinions that are based on particularities. Opinions given by farmers based on their own cases are, nevertheless, of important value and form part of the basis of the argumentation and findings of this study.
- Test accurateness of answers with various sources, including present legislation, published research, information supplied by authorities, etc.

The validity of information obtained from sources other than farmers was, similarly, checked and compared to existing published information, including EU or Swedish regulations.

## **1.6 Scope of the study**

This study looks at present time (2009) small-scale cattle and sheep farming in Sweden, without consideration of time length dedicated by each particular farmer to agricultural activities. Small-scale is understood as the farmer using no employees other than him/herself and their immediate family members, if at all. The slaughterhouse structure of Sweden was reviewed, with a prevalent emphasis on small- and medium-scale facilities, thanks to their positive responsiveness in contrast to large-scale abattoirs.

The scope is geographically limited to three regions of Sweden: Hälsingland, Skåne and Ångermanland, but this should not limit the application of the findings to these regions only, as the interviews and policy analyses conducted have been made with a country-wide approach. Literature review based on studies in and outside of Sweden were both used in developing this research.

Considering the domestic scope of the study, the analysis does not address the issues of hunger, malnutrition or poverty that could possibly be associated to livestock farming practices and meat production in low-income countries.

## **1.7 Limitations**

The author's lack of knowledge of the Swedish language represented a main limitation to this study in that i) some of the existing literature and information available only in Swedish had to be partially, or fully, excluded from the study, and ii) oral communication with all stakeholders, done in English, was occasionally limited due to my counterparts' language barriers.

The Swedish Summer vacation period seriously reduced the possibilities to communicate with, mostly, government, but also private actors. As a result, the input from key stakeholders could, in a few cases, not be incorporated or only partly so in the study. Nevertheless, most often someone within the consulted organization could and did offer valuable comments. Even so, the unwillingness of authorities to offer personal opinions, such as views on policy trends, was unanimous.

Only three slaughterhouses agreed to engage in a conversation and openly comment about their activities. None of them is of large-scale. The large-scale slaughterhouses approached claimed to have no time or no interest in discussing the topic. This study would have benefitted from the direct input of that important part of the meat industry.

## **1.8 Thesis structure**

Section 2 will give an overview of livestock farming practices and the meat market in Sweden and the EU. Section 3 is a study of the political and market forces which influence the Swedish meat market. Section 4 presents an analysis of the findings of the study. Section 5 develops an open discussion based on the salient points of the analysis, and also suggests some avenues for further research. Finally section 6 presents the conclusions and recommendations of this academic exercise.

## 2 Current situation of livestock farming practices and of the meat market in Sweden and in the EU

### 2.1 Where are we, how did we get here, and where are we headed?

Farm land and forests together encompass nine-tenths of the territory of the EU and are home to half of the Union's population. Farmers—12 million of them in the 27 countries of the Community—play an important role in determining not only what is available in the food markets, but also on the appearance of the countryside. These two issues have been and remain big concerns for the EU government and its citizens. Preserving the countryside is relevant *per se*, for what it offers: a source of food, its rich heritage, the aesthetic value of its landscape, and because, as the EC phrases it, “Europeans should continue to enjoy (...) Europe's beautiful countryside” (European Commission Agriculture and Rural Development, 2009c). The EU, thus, recognizes the importance of supporting a living rural landscape, not least through incentives for agricultural activities to develop “even in regions where conditions are difficult” (European Commission Agriculture and Rural Development, 2009c). This gives an indication of an even paternalistic support from Brussels—when required—to achieve a greater good for all. The other side of an enthusiastic support for the countryside is based on the high cost of doing so versus the fact that only one in 20 European citizens work in agriculture, and that the contribution of this sector to the GDP of the EU is only 1.6%, while the resources allocated to agriculture represent about half of the EU budget (BBC News, 2008a; OECD, 2008). However, it can be derived from the position of the EU government that there is an additional value to the countryside than it simply being a ground for food supply; a value which the majority of the population enjoys and should have a right to.

Naturally, member states weigh the importance of the countryside and the agricultural sector differently. For instance in Sweden only 2% of the population works in agriculture, which produces only about half a percentage point of the country's GDP (The Institute for European Environmental Policy, 2009), and occupies only 7% of the land's area; one of the lowest in the EU (OECD, 2008). By contrast, one in every five persons in Poland, to take one of the more agro-oriented nations of the EU, works in the agriculture sector (The Institute for European Environmental Policy, 2009). Despite the highly varying levels of importance of agriculture for different member states, the EU applies a common agricultural policy across the Union: the CAP. This generates charged political debates and creates divisions as to what type of agricultural model should be followed by EU countries. The CAP is further discussed in section 2.2 of this paper.

Before, however, it is relevant to understand what have been the trends in agriculture—namely in the livestock farming and meat sectors—in Sweden and the EU in recent times, and how these developments have led to the present situation within the industry. Subsequently, it is necessary to understand what the market is likely to demand from the sector and how these forces of demand may or may not shape the industry in the EU, and especially in Sweden.

The meat market in Europe has, on average, reached maturity. Increases in per capita meat consumption in the EU are positive, but small. In fact, aggregate meat

consumption has grown just in line with population growth in high-income countries for at least the last three decades (Young, 2008). The figure for annual average meat consumption in the EU reported by the FAO is of 89 Kg. per capita throughout the 1990s, indicating “very little scope for further increase”. The estimated per capita consumption in 2030 is 100 Kg—all of this increase being attributed to poultry. The FAO also estimates that, worldwide, the demand for meat is likely to stabilize, considering the above mentioned fact of near saturation in industrialized countries (or preference for fish in some other industrialised countries like Norway and Japan) and slower growth rates of meat consumption in major developing economies like China and Brazil. Indeed, growth in world demand for meat is expected to slow down considerably in the coming decades: from 1970 to 2000 the rate of increased yearly consumption was of 2.9%, whereas for the years 2000-2030 it is estimated to be 1.7%(FAO, 2003).

Moreover, worldwide increases in meat production and consumption in recent decades have been almost exclusively in poultry and pork, with very little pressure put on demand for ruminant meat production. But overall the push in demand for white meats has, in aggregate, increased the total volume of livestock production worldwide (FAO, 2003). To illustrate this, in many high-income countries the trend in type of meat consumed has been from predominant red meats in the 1950s to up to 20 times more poultry than red meats nowadays (Young, 2008).

The red meat market in the EU is characterised today by having a constant, slowly decreasing demand (European Commission Directorate-General for Agriculture and Rural Development, 2009). Beef production in both the EU-15 and in Sweden shrunk by roughly 9% between 1997 and 2008, although sheep and goat demand increased by 32% in Sweden in the same period. However, volume-wise its production is negligible in comparison to beef (Eurostat, 2009a, 2009b). The consumption of beef in the EU-27 between 2006 and 2015 is expected to shrink by 5%, whereas pork and poultry consumption is estimated to rise by 4 and 10%, respectively (European Commission Directorate-General for Agriculture and Rural Development, 2009).

At the same time, the volume of international trade of meat increased over three percentage points between the early 1980s and the late 1990s. In the case of beef, the hike was of almost eight percentage points (FAO, 2003). Since 1999 EU exports of beef have continuously declined, while imports have steadily grown; the year 2002 marks the change for the EU-15 from net exporter to net importer of beef. This trend is expected to continue at least in the medium-term—not only for beef, but also for sheep meat and poultry—consolidating the EU as a net importer for these agricultural products (European Commission Directorate-General for Agriculture and Rural Development, 2009).

However, market forces are not the only determinants of how world agriculture, and in this case the meat market, is shaped. International trade in agricultural goods has traditionally been strongly distorted by agricultural policy. Throughout the last forty years, at least, industrialised countries—particular the EU and the United States—have created ways of protecting their domestic production, for example by high import tariffs, and in addition have subsidised their products abroad through export subsidies. This situation has on the one hand created high food prices in the EU and low (imported) food prices in developing countries, where EU products are sold artificially low, damaging on the other hand the development of agricultural societies in those countries (Fahlbeck, 2008). For example, in several Western African countries, meat

produced in the EU can be bought 50% cheaper than meat produced locally (de Vylder, 2008). As we will see in the next section, however, this situation seems to be changing, though slowly and only partially, to a scenario more dominated by market forces and less protectionism.

Returning to this case study, in Sweden the trend toward consumption of more imported meat to the detriment of that produced locally started in the 1960s, as a result of increased and new patterns of consumption, and less domestic production because of reduced competitiveness within the industry. Between 1962 and 2003 Swedish imports increased six, seven and 25 fold for beef, pork and poultry, respectively. Imports are, in the cases of beef and pork, of higher quality: a premium product (Deutsch & Björklund, 2008). On the other hand, non-EU imports remain very small. In the case of beef, the only two countries outside the EU with relevant exports to Sweden are Brazil and Argentina. In 2008, they represented only 1.8% and 0.3% of the totality of beef imported to Sweden, respectively, though in recent years Brazil's imports have reached up to 10% of the total, the year 2008 saw a considerable decline due to issues of food safety standards (Fischer Boel, 2008a). Relevant imports of meats other than beef from extra-European countries to Sweden come only from New Zealand, which in 2008 represented 3.7% of the total. Five countries—all EU Member States: Denmark, Germany, the Netherlands, Finland and Poland—encompass nine-tenths of imports of meats other than beef (Statistiska centralbyrån, 2009). Figure 2-1 shows the percentage of beef imported to Sweden in 2008. Domestic beef production covers about half of the local demand (Å. Karlsson, pers. comm.). As can be seen, in the beef sector in the EU reduced production in recent years has not (yet) translated into dependence on third-country imports.

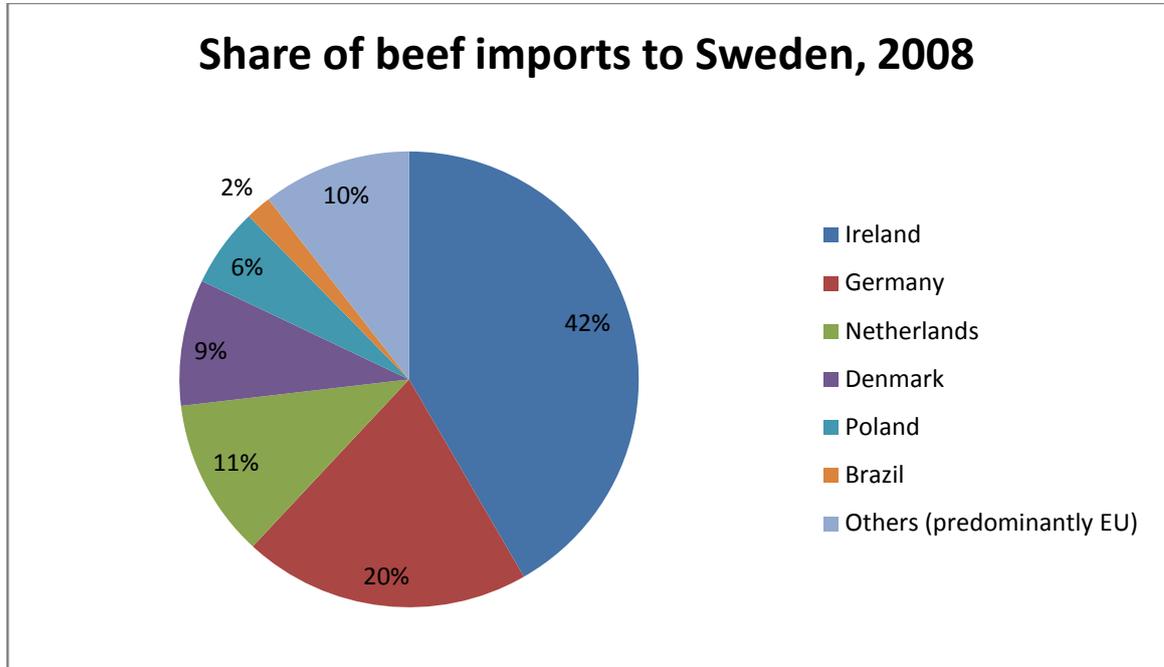


Figure 2-1 Share of beef imports to Sweden, 2008. Source: (Statistiska centralbyrån, 2009)

Moving now from the meat market back to the livestock farming structure, Table 2-1 below lists the number of agricultural holdings per size in Sweden and in the EU-15 in 1995 and 2007.

Table 2-1 Number of agricultural holdings per size in the EU-15 and in Sweden, and percentage change, 1995 and 2007

Number of agricultural holdings per size (rounded, in 1000s)		1995	2007	Percentage change
< 5 ha.	EU-15	4194	3087	-26%
	Sweden	11	11	Nil
5-20 ha.	EU-15	1742	1323	-24%
	Sweden	35	27	-23%
20-50 ha.	EU-15	848	635	-25%
	Sweden	25	16	-36%
>50 ha.	EU-15	586	617	+5%
	Sweden	19	18	-5%
Total	EU-15	7370	5662	-23%
	Sweden	89	73	-18%

Source: (Eurostat, 2009c)

A general and significant trend toward fewer farm holdings—of around 20% less in average—can be observed both in the EU-15 and in Sweden, except in the biggest farm holdings (of over 50 ha.), a category which in the EU-15 has increased by 5% and in Sweden shrunk by only 5%. In the case of Sweden there is also stability within the category of smallest holdings (less than 5 ha.), with negligible changes in number of holdings in the period 1995-2007 (Eurostat, 2009c). The total number of agricultural holdings in Sweden has decreased by almost one-fifth since the country joined the EU in 1995 (Eurostat, 2009c; OECD, 2008). The farm holding structure in Sweden is further illustrated by the fact that the number of holdings increases as the farm size, too, gets bigger. In other words, the smallest category of farms (area up to 5 ha.) represents the smaller share of all Swedish agricultural holdings: 15%. At the other end of the spectrum, 24.7% of farms (the biggest share) are larger than 50 ha. (European Commission Agriculture and Rural Development, 2009a). Family-run farming is very common in the EU and likewise in Sweden. An illustrative example can be found in comparing number of farmers and average-size of farms in the EU-27 and in the US: In the EU there are 12 million farmers, holding in average 12 ha. of land each, whereas in the US there are two million farmers and the size of their farms is, in average, 180 ha. (European Commission Agriculture and Rural Development, 2009c). In Sweden, deregulation of the agricultural sector in the early 1990s favoured an increase in the size of livestock farms and a decrease in the total number of agricultural holdings (Astrom, 1995). The trend of proliferation of bigger farms is supported, too, by the statistic indicating average size of herds in Sweden (of cows for rearing calves—i.e. for meat production): in 1990 the average size was of seven animals, and in 2007 it had more than doubled to reach 15 (Swedish Board of Agriculture (SJV), 2008). Finally, another indication of the trend of centralisation: although the number of farms housing cows for rearing calves has stayed constant from 1980 to 2007, at around 12,500 holdings, the total number of cows for rearing calves has increased from 71,000 in 1980 to 186,000 in 2007 (SJV, 2008). In one sentence, the typical Swedish farm raising cattle for meat

production has been primarily getting bigger in surface area and in the number of cattle heads. Evidence suggests a continuation of this trend. Furthermore, a report published by the FAO in 2006 estimates that intensification and industrialisation of livestock farming in the medium term is unavoidable (Steinfeld et al., 2006).

Additionally, out of a total of 73,000 farm holdings in Sweden in 2007, nearly four thousand are owned by the youngest age category—younger than 35 years old—while roughly 15 thousand belong to citizens 65 years old or older (Eurostat, 2009d, 2009e). This poses the question of the fate of over one-fifth of Swedish farm holdings when farmers retire.

With this background information, answers to the questions posed in this section could be the following:

- Where are we? We are in a period of transformation of the industry from pronounced to decreased protectionism. The EU is now a net importer of meat, which reflects the consolidation of a healthy market of meat production abroad (among them Brazil, Argentina and New Zealand) and a stagnating internal market.

In Sweden, the number of farm holdings is decreasing and the tendency is toward fewer and bigger farms (in size of surface and of herds).

In the EU demand for meat has reached a level of near saturation. Consumption of red meat is decreasing and is being substituted by white meats, particularly poultry.

- How did we get here? Some agrarian historians have called the period 1970-2010 “the crazy decades” (de Vylder, 2008) because of the economic irrationality displayed in the agricultural policies of industrialised countries. Protectionist measures have manipulated what is produced and where; not based on competitive advantages of regions, but rather on the willingness and desire of rich countries to promote their own agriculture. Artificial prices of food in the EU and abroad have been the result of the above mentioned policies.

- Where are we headed? An age of liberalization in agricultural policy is likely to predominate over the following decades; this is the consensus. The speed at which this phenomenon will materialise is the question. The question is also what type of meat production will dominate and what product characteristics consumers will settle for (including type of livestock farming). This will be directly affected by the (expectation of a) stronger market power to decide what is produced, and by regulators having less power to dictate food supply volumes.

In addition, meat production in the EU should decline, as will too consumption, particularly of beef.

## 2.2 The Common Agricultural Policy (CAP)

The state of agriculture in the EU is directly influenced by the CAP, as it determines the amount of aid that farmers will receive for their activity. Since its creation in 1957 under

the Treaty of Rome, and its subsequent entry into force in 1962, the CAP has been the source of much debate between member states. This is understandable considering that a major portion of the EU budget has continually been allocated to the CAP—over 70% in the earlier years, though declining consistently to the actual level of roughly 45% (BBC News, 2008a; CIVITAS, 2008). Securing food supply within the common market and supporting the livelihoods and the very survival of farmers were clear objectives of this overarching policy. Protectionism came with a cost to EU consumers and taxpayers, though, in the form of high food prices in the EU and of taxpayers' money allocated to making EU food cheap abroad. It also led to overproduction of highly subsidized commodities and the infamous mountains of butter and lakes of milk and wine, as governments purchased production surpluses. An agricultural model of strong production-driven subsidized farming was, then, the outcome of the CAP well into the 1990s (European Commission Directorate General for Agriculture, 2004). The model, evidently, strongly encouraged and subsidized high-volume, large-scale production and producers.

Today, the main objectives of the CAP are ensuring food quality and safety, protecting animal welfare and the environment, preserving countryside communities, and fostering competitiveness in agricultural production without jeopardizing international trade (European Commission Agriculture and Rural Development, 2009d).

Despite strong market intervention and high cost to EU taxpayers and consumers in general, the CAP had not undergone structural reforms until recently. The year 2003 marked the beginning of a new CAP, with subsidization increasingly unattached to volumes of production and, in its place, investments in rural development (European Commission Directorate General for Agriculture, 2004). The Single Farm Payment (SFP, also known as the Single Payment Scheme, SPS), which originated in the discussion rounds of 2003 and was to be implemented between 2005 and January 2007 by member states, is a lump-sum amount received by farmers instead of the previous subsidies on production (European Commission Agriculture and Rural Development, 2006a). The SFP, as it is unlinked to the production of a particular commodity (although exceptions apply to some commodities, including some types of meat), leads farmers to produce in response to market demands. SFPs are tied to farmers' fulfillment of the requirements of "cross-compliance", which are i) maintaining their land in "good agricultural and environmental condition" (European Commission Agriculture and Rural Development, 2006b), and ii) following food safety, and environmental and animal welfare standards set by the EU (CIVITAS, 2008). Thus, the new system in principle vindicates the role and preservation of the countryside and, as well, seeks to reduce the perceived unfairness of the CAP of favouring and funding large landowners, while disregarding small-scale farming—the EU admits that 80% of funds still go to 20% of farmers (European Commission Agriculture and Rural Development, 2009d).

The latest EU negotiations on CAP reforms and its future were held in November 2008, known as the CAP Health Check. Continuing the decoupling of payments for production will be introduced for the period 2009-2013, with 'old' member states receiving progressively less cash in favour of newly joining countries (those that became EU members since 2004). Modulation has also been introduced, which means a cap to payments to farmers, in order to foster fairness within the CAP (European Commission Agriculture and Rural Development, 2009d). In addition, farmers who receive more than EUR 5,000 in subsidies will have to invest double the amount as previously (10%) in projects to develop the countryside (BBC News, 2008a). In spite of clear indications

and evidence of a comprehensively reforming CAP, the speed of reforms is a hot point of debate by different member states and political parties.

France, as the biggest receiver of CAP funds, strives to slow down reform as much as possible, as do other member states who feel comfortable enough with the present situation—such as Italy and Germany. Especially considering that new member states are likely to absorb an important percentage of the agricultural budget, some old members feel the need to defend, for as long as possible, the present structure (BBC - The Today Programme, 2008). It appears to be clear to old and new member states that the present CAP, as it has been applied for decades, has been given an expiry date and will, hence, demand considerable adaptations from the agricultural industry throughout Europe. For example, France has vowed to readjust from 2010 the distribution of funds, characterized by big cereal farms receiving the vast majority of aid, and as a first step reduce by one-fifth the income of bigger producers diverting it to smaller and organic farmers. Similar modifications in order to make the CAP fairer had already been taken by every other member state (Lichfield, 2009). As counterweights to this defensive position, for instance, MEPs Brian Simpson of the British Labour, and Janus Wojciechowski of the Polish center-right, lobby for a quicker reform, albeit for different reasons. Mr. Simpson, voicing the sentiments of an arguably relevant portion of the EU population, pleads for imminent reform of a policy that may move the European agriculture from its present “languishing XIX century” status, to one based on rewarding only efficient practices and halting subsidization of inefficient farming. Reform—or lack of it—for Mr. Wojciechowski refers, in part, to recovering old characteristics of the CAP, such as aid linked to production in order to secure sufficient food supply in this strategic industry, as well as to guarantee the continuance of a strong, influential CAP for the whole EU (BBC News, 2008b). It is noteworthy that CAP expenses have already been capped, despite the expansion of the EU (BBC - The Today Programme, 2008), so in principle fears of an ever-growing CAP are unfounded. It is evident that the CAP is departing from its originally conceived version, though the speed at which this change is coming along is for some member states too fast and for others too slow. The six-month Swedish EU Presidency, inaugurated on 1 July 2009, has for the moment announced its intention to work to reduce the amounts of direct payments made to farmers and of CAP expenditures in aggregate, while at the same time to increase aid for rural development (The Institute for European Environmental Policy, 2009).

The future of the CAP—what it will be like after year 2013, when the present seven-year financial framework ends (European Commission Agriculture and Rural Development, 2009d)—is still unclear. The increased size of the EU, with 27 member states, and the clear determination of Brussels to reduce the budget for the CAP will necessarily lead to a new conception of agricultural policies in the Union. Mariann Fischer Boel, Member of the European Commission responsible for Agriculture and Rural Development, indicated in the CAP Health Check meetings of November 2008 in Brussels that the recent dramatic changes in agricultural policies—with decoupling and cross-compliance (requiring farmers to fulfil animal welfare and environmental standards) being introduced in some member states as late as 2006—require some simmering time before the next set of reforms can be passed (“better to walk than run”), in order to avoid falling “in a ditch”. However, Ms. Fischer Boel does give an indication that reforms, at whatever speed they occur, shall take the form of a departure from the ‘old days’ of the CAP and offer more transparency. In her opinion, increased expenditures in rural development and less and better targeted investment on direct aid

to farmers is what EU citizens are most likely to demand and obtain (Fischer Boel, 2008b).

The position of Sweden on the CAP throughout the years has been one of the most radical of all member states in demanding continued reform towards market-orientation and reduced intervention. All parties in the Swedish parliament agree on the need to reform the CAP in such a direction (The Institute for European Environmental Policy, 2009). Reforms aiming toward liberalization, abolished subsidies on exports, and the disappearance of internal market regulations started in Sweden early, in 1967. In 1990 further reforms were passed, but integration into the EU in 1995 suspended them (de Vylder, 2008; The Institute for European Environmental Policy, 2009). Since then, Sweden's agricultural policy has been attached to the CAP. Today the Swedish government lobbies for a full decoupling of payments from production levels and an increased focus on rural development measures (Ministry of Agriculture Sweden, 2008a), though it still keeps payments coupled to production in the special case of the male bovine (European Commission Agriculture and Rural Development, 2009b). Maintaining coupled payments of certain goods avoids "a fall in production which could cause economic, environmental and social problems in some Member States" (Fischer Boel, 2008a). As the Ministry of Agriculture admits, "the Swedish government accepts the rules" in order to maintain a level playing field and fair competition among member states, "but wants to change them" (T. Markensten, pers. comm.).

### 2.3 Swedish policies on small-scale and on-the-farm slaughter

Throughout the last few decades, the number of operating slaughterhouses in Sweden has continuously declined. Small-scale slaughterhouses have become a rare sighting, and their numbers continue to decrease as a result of high operating costs, long distances from areas with high density of livestock (in average), and an overall low density of livestock in Sweden *per se*. This, together with increased regulation and related expenses, has led to the concentration of slaughtering centres and to major financial strains to run abattoirs of small size (J. Andersson, B. Eriksson, U. Frissel, B. Karlsson, K. Hammarberg, I. Pehrson, pers. comm.). In and around the region of Hälsingland, for example, there were five or six slaughterhouses in the late 1990s, but only one remains in operation today. A similar trend can be roughly extrapolated to the case of Sweden as a whole (B. Eriksson, pers. comm.).

The government of Sweden has launched an initiative which is likely to reverse this trend, if maintained in the long-term. The plan, '*det nya matlandet*', or 'a culinary nation', aims for Sweden to become a sort of new main player in the domestic supply of food, increasing its production and relying less on EU and third-country imports. It also aims to bring Swedish cuisine to an internationally renowned level. Positive aspects and advantages inherent to Sweden will be exploited in order to produce food and cuisine of high quality in the quest to fulfill the expectations of the plan. These advantages are: higher standards of animal welfare; having eradicated diseases still present in other EU countries (e.g. salmonella); the low use of pesticides; and high awareness of environmental impacts among farmers. The budget allocated to carrying out the project to increase primary food production in Sweden and entice young people to go into farming is of 160 million SEK for the period 2009-2013. An aspect of the plan is to promote "innovation and skills enhancement in the food industry, and added-value food, such as organic, locally grown and small-scale produce", as well as directly promoting local food production through incentives to increase the number of small-scale slaughterhouses. Namely, nine million SEK will be allocated to reduce fees applicable to small-scale slaughterhouses in the period 2008-2010, and 31 million SEK

will go to enhance competitiveness of the food sector based on the criteria mentioned above (Ministry of Agriculture Sweden, 2008c; Regeringskansliet Jordbruksdepartementet, 2009).

Veterinary inspections in Sweden are mandatory within slaughterhouses. The animal must be checked by an official veterinarian no more than 24 hours before slaughter—to verify its good health—and then again an inspection within 24 hours after slaughter must be conducted to check the quality of the meat. Veterinary fees represent a considerable cost to slaughterhouses, particularly those of small size, which, lacking economies of scale, face higher costs per unit of output. A slaughterhouse manager indicated that inspection costs in his small to mid-size abattoir are 70 öre/Kg, whereas the same cost in large-scale abattoirs can be roughly 35 öre/Kg (B. Eriksson, pers. comm.). Experts believe that the high costs of veterinary inspection and of waste management in small-scale abattoirs is a major contributing cause to the decline in their number (Rutegard, 2007).

The Swedish government has taken the following actions to support small-scale slaughtering (K. Westholm, pers. comm.):

- New small slaughterhouses (slaughter less than 3500 ‘units’ or 1000 tonnes in one year) do not have pay any start-up fee to the government. Such a fee is, normally, 36,000 SEK.
- The veterinary fee for meat control is reduced, depending on the number of ‘units’ slaughtered.  
(Note: one ‘unit’ is, basically, equivalent to: one adult cattle or horse; 0.5 other cattle; 0.2 pig; or 0.1 sheep or goat)

This policy will initially be valid between 2008 and 2010. Not extending such favourable conditions would, however, make running small-scale abattoirs in Sweden “impossible” (Å. Karlsson, pers. comm.).

Sweden’s National Food Association (SLV) expects that the number of small-scale slaughterhouses will increase as a result of this policy (A. Johansson, pers. comm.), as does the independent organisation Swedish Rural Economy and Agricultural Societies (Å. Clason, pers. comm.). Nordfår farm in Hälsingland, for example, is a beneficiary of this policy. This sheep farm, consisting of roughly 300 animals (sheep and lambs) runs the self-proclaimed ‘smallest abattoir in Sweden’—max. capacity of 20 sheep/lamb per week—and obtains a full waiver of veterinary fees (B. Karlsson, pers. comm.). This economic incentive allows the farmer to run an operation, which he otherwise would not be financially capable of doing so. Delsbo slaughterhouse, also in Hälsingland and with a maximum average capacity of 280 animals/week (of which about 7000 cattle/year), is on the other hand the self-proclaimed ‘smallest big slaughterhouse in Sweden,’ meaning that Swedish regulations consider it just big enough not to receive financial support under the new policies to promote small-scale slaughter, which makes its survival a difficult task according to its management (B. Eriksson, pers. comm.).

## 2.4 Players in the Swedish livestock farming and meat markets

This section aims to give a brief overview of the present situation in the Swedish meat market along the categories of producers (farmers), slaughterhouses and primary meat buyers, and retailers. Producers have been discussed in section 2.1 above, and will be very briefly summarized here too.

### **2.4.1 Producers**

As discussed in section 2.1, the farming sector in Sweden is becoming progressively of larger scale: herd sizes are increasing, while the only categories of farm holdings which remain stable (not decreasing considerably) are those of farms larger than 50 ha., and the very small farm holdings. In this paper I consider very small farm holdings (of less than 5 hectares) of little importance to the analysis of the problem, because of their limited relevance on the livestock sector due acreage limitations and their small number. The number of farm holdings of a size between five and 50 ha. has decreased by 28% in the last decade. As the number of larger farm holdings has also decreased (though slightly), this can only be understood as a progressive disappearance of the small-scale farmer, in favour of larger-scale agricultural production and/or imported food. This discussion will be further addressed in the section titled Analysis.

### **2.4.2 Slaughterhouses and primary meat buyers**

The overall number of slaughterhouses in Sweden has progressively decreased for at least a few decades. There are 101 registered abattoirs in the country, of which the ten largest slaughter over 95 percent of the total number of pigs and over 80 percent of the total number of cattle. Roughly 80 percent of slaughterhouses can be considered small, employing less than ten persons each (Engelbrekts, 2009).

Farmers interviewed almost unanimously note the remarkable disappearance of small-sized abattoirs, which in the past abounded in small towns across Sweden. A group of large-scale slaughterhouses dominate the industry in Sweden, while small-scale abattoirs find it ever harder to stay in business. The main player in Sweden's slaughterhouse scene is Scan AB, owner of several large and middle-scale abattoirs—the largest ones located in Skara, Linköping and Kristianstad. Scan AB was acquired by the Finnish company HK Ruokatalo in January 2007, now HKScan, one of the biggest food companies in Europe (Scan, 2009). The cooperative Swedish Meats, with a membership of 17,400 Swedish farmers, controls 12.3% of HKScan's share, and a similar percentage of voting power. Swedish Meats supplies HKScan's abattoirs with livestock on behalf of its members. The majority of HKScan is controlled by the Finnish cooperative LSO Andeslag, with 2,865 members/owners. Holder of 33% of HKScan's shares, LSO nonetheless has 73% voting power within the organization (Swedish Meats, 2009). This helps explain the general feeling among many Swedish livestock farmers that Scan is no longer a cooperative—at least not a Swedish cooperative—and that their interests are not anymore represented by themselves, but rather by a foreign organization.

As a large proportion of small slaughterhouses gradually disappear, some larger ones, too, face difficulties. For example, downsizing has been common, and in some cases separate slaughtering companies have been forced to operate from a single facility (forming a joint-venture and working by shifts) to reduce fixed costs and successfully stay in business (HK Ruokatalo Oy, 2007). The new government initiative to promote the survival and expansion of small-scale and on-the-farm slaughterhouses could, however, be a determining factor in overturning the present structure.

Several mechanisms exist to market meat. Primarily, the farmer sells livestock to slaughterhouses, which further sell carcasses or packed meat to retailers or wholesalers. Some (most frequently small-scale) farmers purchase back their animal's meat from the abattoir after the process of slaughter and meat hanging (tenderizing) has been completed, for own consumption and/or selling locally. In the event that

farmers want to sell the meat to customers, they cannot handle the meat (i.e., make further cuts) unless they have a permit to do so. Most frequently, however, they do not obtain this type of permit in order to avoid its cost and the associated facilities that would be required on the farm, but rather sell the meat as it has been pre-cut by the slaughterhouse.

### **2.4.3 Retailers**

Over 80% of the food retailer sector in Sweden is dominated by three companies. The supermarket chain ICA is the undisputed leader, with 45% of market share in 2008. Coop is the second biggest player (18.5%), and Axfood group—owner of well-known retailers Willy:s and Hemköp—follows with 17.1%. No other company attains more than five percent of market share (Axfood, 2009). The leading domestic players, particularly ICA and Coop, have positioned themselves strongly throughout several decades. In recent times, however, other domestic and foreign chains have penetrated the market and are expanding. Such are the cases, for example, of Netto and Lidl; the former being the food retailer with the fastest expansion in Sweden at present (Netto, 2009). In summary, large corporations control the vast majority of the food retailing business in Sweden, while a very limited percentage of business is handled by small-scale distributors, farmers' markets or farm-sale.

After having examined the general situation of the livestock farming and meat markets in Sweden and in the EU, the thesis will now undertake a study of political and market forces in this arena.

### **3 Study: Political and market forces in the Swedish meat market**

#### **3.1 Description of the study and its intended outcome**

Seven livestock farmers, two slaughterhouses and several stakeholders were interviewed with the following aims:

- To describe the present structure of the Swedish abattoir industry and its recent historical developments,
- To elucidate how that structure affects the manner of livestock rearing and slaughtering, and meat marketing,
- To identify other factors that play a role in determining the above mentioned process,
- To understand the role of EU and domestic regulations in shaping the meat industry in Sweden, and
- To explore the opportunities to develop domestic markets of local/regional production and consumption of meat.

An initial approach to the subject suggests that a wide availability of slaughterhouses across the country could possibly contribute, among other factors, to generating favourable conditions for local markets of generally small-scale farmers to emerge. The reasoning goes that a regional, small-scale structure (of slaughterhouses) allows for a more flexible production process, compared to a large-scale centralized production system (Johansson et al., 2005; Schumacher, 1973); one in which farmers are more able to determine how the meat they have reared is slaughtered and marketed. A small-scale approach to animal slaughtering and meat processing would reduce greenhouse gas emissions generated through transport of livestock and meat from/to farms/abattoirs/meat-packing units/retailing centers/stores and finally the consumer. It has a potential to also reduce environmental impacts such as reduced energy use compared to that needed throughout the mainstream marketing process, and reduced packaging. This type of small-scale, regional production system would, in principle, also contribute to increased animal welfare resulting from shorter distances travelled between farms and slaughterhouses and shorter waiting times in slaughterhouses.

Other factors, naturally, affect the possibility of livestock farmers to gain further independence in decision-making and to develop local markets in Sweden, such as existing legislation and the government's initiatives (or lack thereof) to support an alternative meat market; slaughter, meat processing, distributing and retailing costs; and the level of consumers' demands for locally produced, artisan meat.

All of these aspects were brought into consideration by farmers, slaughterhouse management and other stakeholders through interviews in order to understand the importance of each, however leaving room to include other possible variables not thought of in the preliminary analysis of the problem. The intended outcome of this document is a thorough overview of the research problem, resulting in an analysis of obstacles and opportunities to develop local markets of locally produced meat in Sweden. Leverage points from which to push for a departure from the large-scale

centralized system of animal slaughtering, meat processing and food retailing towards more small-scale, regional, self-sufficient systems will be suggested.

### 3.2 Group description

This section describes the characteristics of the seven farms included in the study, and basic figures of the three slaughterhouses.

Farms 1 and 2 are located in the municipality of Kramfors (Ångermanland), near the village of Nora. They both raise cattle for beef production. Farms 3 and 7 are to be found in the municipality of Eslöv (Skåne), near the town of Stehag. Farm 3 raises cattle for beef production, while farm 7 rears sheep and likewise obtains income from their meat. Farms 4, 5 and 6 are located in the municipality of Hudiksvall (Hälsingland); the first one near the town of Järvsö, and the other two near the city of Hudiksvall. Farm 4 raises sheep, while farms 5 and 6 cattle; all for meat production.

The size of herds in all farms except one was between 30 and 70 animals. Farm 4 had, at the time of the interview, 132 sheep and 167 lambs. Farmers were heterogeneous with respect to their age and the time they have dedicated to farming activities. All but one were above 50 years old—the younger one being 48, and the group's elder 69. In a few cases, farms used to be of dairy production and eventually turned to the rearing of cattle for beef for reasons of reducing the long amount and hours of work associated with dairy farming. Farmers 3, 4 and 1 have been in operation since 1977, 1978 and 1981, respectively. All others have started their activities less than ten years ago.

Some producers profess a strong belief in organic farming, and in occasions the meat of their animals boasts the Swedish certificate for organic farming, KRAV. Others are indifferent about this farming practice, and yet others express direct antagonism toward such certification. For example, one farmer argued that some standard organic requirements, like the prohibition of prophylactic treatment, offers no benefits, but on the contrary decreases animal welfare and the farmer's control of his/her production (U. Frissel, pers. comm.).

With respect to slaughterhouses, two were consulted. One was 'Rögla slakteri', located in Rögla, municipality of Ystad (Skåne). The other one is called 'Delsbo slakteri' and is located in the town of the same name in the municipality of Hudiksvall (Hälsingland). A third abattoir included in the study is an on-the-farm facility operated by farm no. 4, 'Nordfår Gårdsslakteri' in Järvsö, in the municipality of Hudiksvall.

Rögla slaughterhouse is of rather small-scale, while Delsbo, in my opinion, should be considered small to mid-sized. The former has a slaughter capacity of roughly 8,500 animals per year, while the latter can slaughter about 14,000 animals annually. Both are privately owned. They are equipped to slaughter cattle, sheep, pigs, and in the case of Delsbo also horses. The self-claimed 'smallest slaughterhouse in Sweden', Nordfår farm slaughterhouse, has a capacity of 1,000 sheep per year, and an operation well below capacity level. It has been built and is owned by Nordfår's farm owner, who uses it to slaughter his own sheep and two other farmers.

### 3.3 Other stakeholders

Various stakeholders were consulted in the process of this research. Below is a list of those organizations and basic information on their activities. This is intended for the reader to become familiarized with relevant stakeholders in the agricultural arena in

Sweden and understand more clearly the structure of the system and some institutional tools available to farmers.

- *Livsmedelsverket*, the National Food Administration, is Sweden's public authority in charge of supervising matters related to food, including food safety, fair trade, and encouraging a healthy diet to citizens.  
In relation to this study, the National Food Administration is in charge of managing the budget for the government's policy to support small-scale slaughterhouses and regional food production, as well as of controlling meat quality.
- *Jordbruksverket*, Swedish Board of Agriculture, is the government's arm working in the area of agriculture and food policy. It oversees the current status and identifies trends in order to inform and issue recommendations to the government. The Board organizes district veterinarians throughout the country. It is also responsible for implementing the CAP in Sweden.
- *Lantbrukarnas Riksförbund (LRF)*, the Federation of Swedish Farmers, aims for a growing rural industry sector in Sweden. It is a business organisation supported by its members, lacking affiliation to any political party. The federation lobbies on issues of agricultural policy in favour of farmers' interests domestically and internationally.
- *Lantmännen* is a group formed by 42,000 Swedish farmers that works along all of the food supply chain, 'from farm to fork'. The holding company is a cooperative. It is one of the biggest groups in Scandinavia in the sectors of food, agriculture and energy. For example, it strives to supply feed to livestock farmers at competitive prices. Some of the group's brands available in the Swedish market are Axa, Kronfågel and Kungsörnen.
- *Hushållnings sällskapet*, Swedish Rural Economy and Agricultural Societies, are independent member organisations that promote the development of rural areas. There are 55,000 members throughout Sweden.
- *Eldrimner*, the Swedish Small Farmers' Association, is a national resource center for food crafts that provides knowledge, advice and encouragement to small-scale farmers and food producers in order to help them achieve their goals. The center promotes natural processes and artisan qualities in food production.
- *Eurogroup for Animals* is an organisation working throughout the EU to promote the welfare of animals and pushing to include high animal welfare standards in relevant EU policies. It acts as a unified speaker for organisations with similar objectives Europe-wide.
- Swedish food retailers ICA, Coop, City Gross and Netto provided information useful to the study.

### 3.4 Findings

This section presents the findings of the answers provided by farmers and slaughterhouses to the questionnaires developed based on the study's research questions, and are divided by areas of concern, as described in section 1.5 above.

### 3.4.1 Farmers

The questionnaire asked to farmers was divided in four sections: Basic facts, Contract, Slaughter, and Industry trend. Relevant common positions and important discoveries are listed below.

The category of *Basic facts* reveals elementary data about the farms in question—described in section 3.2 above—and their historical development. A common characteristic of most farmers is that they started with a considerably smaller number of livestock, often less than a dozen animals, and have grown within a few years to a size they deem appropriate for their particular needs. This target size was usually between 30 and 70, but in one case it was 300 animals. The size normally indicates the farmer's balance between the optimal use of land and the time he can or is willing to dedicate to livestock farming. As I have mentioned above, farmers consulted are of small-scale, which is understood as the farmer not employing any extra labour other than himself and, at most, members of his direct family. Target size is also commonly affected by the possibility, or lack thereof, of buying neighbouring land to increase the number of animals and/or, in cases, the area to grow fodder. It is also often determined by the limiting factor of winter housing for additional animals: the lack of space in the existing buildings and/or the unwillingness to invest in building such additional sheltered areas.

The next category, *Contract*, investigates the type of relationships established between farmers and meat buyers, whether they are slaughterhouses, wholesalers or consumers. Most frequently a portion of the meat reared by the farmers interviewed for this study is sold by the farmers themselves to consumers. The remaining portion is normally sold to slaughterhouses, who subsequently decide whether to pack and sell the meat to food retailers, or to sell the carcasses to meat packers (or to big supermarkets). Other farmers simply sell their animals to the—or one of the—regional slaughterhouses. In the sample of this study, out of the farmers who sold all or a percentage of their livestock to slaughterhouses, three farmers operated with the local facility owned by HKScan, and one with a privately-owned abattoir. One farmer operated his own slaughterhouse, and yet another farmer led the whole process by separately contracting with a slaughterhouse, a butcher, and finally with restaurants and consumers. In general, farmers acknowledge the advantages of 'taking back' the meat of the animals they have reared after they have been slaughtered. It normally generates a higher income compared to selling the animals to an abattoir. On the down side, 'taking back' the meat and becoming the seller requires the farmer to arrange a minimal amount of facilities additional to the business of livestock farming (such as a large refrigerator). The farmer is, in addition, responsible to attract buyers in a short period of time and bears the full risk of the sale of the perishable good.

For clarification purposes, I explain below the slaughtering process in the cases that the farmer 'takes-back' the meat of his animals from the abattoir after slaughter, versus the case when the slaughterhouse purchases livestock from the farmer. When farmers sell the meat directly to consumers, the animals are taken to the slaughterhouse where they are killed and usually the meat is cut and packed there in the facility. It is then returned to the farmer, after the meat has hanged for a given period of time (the meat tenderizing process), who pays the abattoir for the service. The farmer then most often sells the meat to consumers in the boxes of at least 20 Kg., and up to 35 Kg. (i.e. the least amount of meat an individual consumer may buy is 20 Kg.), which contains a mix of different cuts prepared by the slaughterhouse. Regulations prevent the farmer from further cutting the meat for sanitary reasons. Prices of beef boxes sold by some

of the farmers interviewed ranged from 69 to 89 SEK per Kg. In case that the farmer slaughters their animals in the farmer's own on-the-farm abattoir, the farmer will then be required to have all permits to cut and handle meat, and hence will be entitled to sell it in whichever manner he deems most convenient. In the other case, where the slaughterhouse purchases the animals, it simply pays the farmer a price according to the weight and the quality of the meat (derived from the amount of fat in meat, as per the 'europ' scale). The abattoir then either cuts and packs the meat for further sale to retailers, or sells carcasses (normally in halves or quarter parts) to wholesalers, meat packing companies or supermarket chains.

In the majority of cases farmers maintain a rather strong fidelity to the slaughterhouse they use and to their system of marketing their meat. A change is most likely to occur only when the farmer decides to modify his mode of production significantly, such as for example to start operation of an own slaughterhouse, or to begin to 'take back' and sell the meat himself instead of selling animals to the slaughterhouse. Some abattoirs, particularly of large-scale, do not accept this method, or charge farmers an unreasonable high fee for the 'take back' service in order to discourage it. It is unusual to encounter the case of a farmer working with more than one slaughterhouse at the same time. Even so, written contracts between slaughterhouse and farmer do not exist in any one of the cases consulted, whether dealing with large or small-scale abattoirs. This appears to be common practice throughout the industry. Arrangements between the farmer and the slaughterhouse are usually made through a telephone call placed by the farmer indicating his readiness to bring animals to slaughter, and the slaughterhouse personnel then setting a date for the operation (waiting times between two days to one month, roughly). Farmers did not seem to have a preference between small and large-scale abattoirs based on the plant's size. However, three farmers highlighted the importance of achieving a personal relation with the slaughterhouse management, which in their cases they had accomplished with their abattoir of choice: a small to mid-scale facility.

Increasingly stringent regulations on meat handling and animal slaughter and their related sanitary measures—not least those related to animal health and meat inspections—have driven some of the farmers of the sample group to move away from conducting the full-cycle livestock farming and meat selling business, to becoming 'merely' animal rearers. The one farmer who started his own farm slaughterhouse did so because: i) the considerably larger size of his (sheep) herd allowed for a reasonably big volume of operations, and ii) the poor performance of the regional (large-scale) abattoir—back in the 1980s—and transport services, in terms of amount of animals dead during delivery to the slaughterhouse and the low quality standards in meat hanging and skin treatment (this farmer obtained income from selling meat and also sheep skin derivatives).

The main reason indicated by farmers for choosing an abattoir is its convenience, particularly its nearby location. Other convenient factors indicated were the abattoir's capacity to arrange for the collection of animals at the farm, and the advantages related to doing business with the same company for a prolonged time (become familiarized with the managers/workers, get used to how the process works, earn trust in the company). The standards of quality in the process, e.g. how the meat is cut and how long the tenderizing process (meat hanging) lasts, were also indicated as an important factor in the selection of the slaughterhouse. Only one farmer listed monetary reasons as a factor in choosing a slaughterhouse: one slaughterhouse offered better rates than another.

When asked about advantages and disadvantages of selling animals to an abattoir versus ‘taking back’ the meat and selling it directly to buyers and/or consumers, the answers, though varied, often revealed similarities. The small-scale farmers interviewed were in some cases resigned to selling their livestock to slaughterhouses, but in other cases some farmers considered that their small size demanded that they develop a model of not only livestock rearing, but of meat marketing, too. The former group considered it a “pity”, as one farmer indicated, to give up their carefully reared cattle (fed with high quality feed, calves allowed to suckle from their mothers, in adequate cattle density paddocks, with proper winter sheltered areas, and outdoor grazing the rest of the year, for instance) to abattoirs, which “destroy the quality of the meat in its handling”. This refers to, primarily, inadequate meat hanging times which result in a sub-optimal tenderization of the meat (this is applicable to beef, not to sheep or lamb meat). Abattoirs usually hang the meat only a few days, whereas experts recognize that one or up to almost two weeks are necessary for the meat to achieve a prime quality level. Lack of space to store meat for longer periods and high costs associated with maintaining the meat at precise low temperature ranges required in the process are arguments used by slaughterhouses to explain this deficiency. The group of farmers who sell their livestock to abattoirs (and do not ‘take back’ the meat) argues that taking charge of the meat marketing process would be too difficult, expensive and risky. Even if meat would be sold in bulk—such as the 20-35 Kg. boxes mentioned in the section above—the logistics and expenses of setting-up and maintaining an efficient cold-chain are too complicated and high. The risks of not selling a perishable product with a short expiry date could, understandably, result in an economic disaster.

On the other hand, the group of small-scale farmers which opts for ‘taking back’ the meat from the abattoir and selling it themselves also presents a reasonable argument for doing so. The main reasoning is that, for a small-scale size, the income obtained from selling directly to the abattoir is hardly enough to keep the business running, and hence not worth pursuing. In spite of the admitted risk of marketing a quickly perishable product, three farmers who do locally sell their own reared meat listed the “fun” factor as being very important in their decision. “No risks, no fun” said one farmer. Moreover, the ‘take back’ farmers interviewed revealed that meat—their rather small amount of production—was almost invariably sold very quickly. One farmer, who advertises in the local paper a few weeks before the meat is offered for sale every October, said that he already has a one-year waiting list. Offering a high-quality product is the primordial factor for these farmers, and the best way to secure long-term clients. Pride in their product in front of buyers and the ultimate goal of developing a brand-name for their farms is an additional incentive for farmers to engage in the marketing process. One farmer unveiled an inventive way of mixing ‘take back’ and selling to abattoir. He sells bulls to slaughterhouses, for which he gets a good income and CAP subsidies, while he ‘takes back’ meat from his cows. The price paid by slaughterhouses for cow meat is low—due to higher fat content in meat, which according to many farmers consulted can actually mean tastier meat, not of less quality or taste—so this farmer sells the cow meat to local residents for a much higher value than he would obtain selling the cows to the abattoir.

The farmer who owns and operates his own slaughterhouse near Järvsö indicated that owning the slaughter facility enables him to avoid income fluctuations due to changes in supply to conventional slaughterhouses. This means that in the months of August and September, when there is a high supply of sheep to slaughterhouses, the price per animal paid to farmer farmers is significantly lower than that paid in the months of lowest supply (February and March). For his particular case, on-the-farm slaughter is

ultimately cheaper than if he were to use the available structure of abattoirs and ‘take back’ his animals’ meat for its marketing.

The next section of the questionnaire, *Slaughter*, deals with the farmers’ points of view on the structure of the slaughterhouse industry in Sweden and their positions on other options for slaughtering: on-the-farm and mobile abattoirs.

In relation to the structure of the slaughterhouse industry in Sweden, farmers considered the following points of high relevance:

- The deficiency in the tenderising process of the meat is, most likely, a result of the way the industry is organised. An insufficient number of abattoirs, and hence limited market competition, allows and even encourages existing processing units (slaughterhouses) to deliver an unsatisfactory, standard product.
- There is a lack of competition in the industry, due mainly to the shortage of regional, small-scale abattoirs. Some large-scale facilities are known to collaborate in an oligopolistic way, sharing the market among them and hindering free-market competition.
- The small size of a slaughterhouse is not an advantage *per se*, but it is the reasonable way to seek an expansion of the industry considering that transport distances also want to be kept at a minimum. Moreover, farmers do feel they have some control over the process in a small-scale slaughterhouse, whereas none at all in dealing with large-scale facilities.
- Farmers often do not have a choice but to sell to the one available regional slaughterhouse, which frequently is a large-scale facility located hundreds of kilometres away. This can force the farmer to relinquish his initial decision to ‘take back’ his animals’ meat for selling it in the local market, and instead to simply sell his livestock to the slaughterhouse.
- A shortage of abattoirs negatively affects animal welfare in that it forces lengthier transport distances, which can cause stress and suffering in animals. Long transport distances also generate otherwise unrealised greenhouse gas emissions.
- The southernmost part of Sweden, particularly Skåne, and the highly populated areas of the country are the only regions where a shortage of abattoirs is not a pressing issue.
- In some cases farmers estimate that the amount paid by slaughterhouses for livestock is insufficient and unfair when considering the price of meat in supermarkets.
- There is concern among a fraction of the farmers interviewed in that very small-scale abattoirs may face hygienic problems and/or deliver a sub-optimal animal welfare standard because of their low budget and income. This could, potentially, prevent them from duly complying with regulations and standards.

Farmers explained that in the past small-scale slaughterhouses abounded in Sweden, “one in every village” said two interviewees, separately. With time, however, the industry started increasingly to concentrate in larger processing units in part due to

the unsatisfactory price paid by small abattoirs to farmers. A cooperative of farmers formed, which later would be called Scan, with the aim to ensure reasonable income to livestock producers. Slowly but surely this led to the present structure of few, large-scale abattoirs; many of which are still owned by Scan, but no longer as a cooperative of farmers (Scan is nowadays owned by the Finnish group HK, now HKScan). High operating costs, large livestock volumes to secure steady business and ever stricter health and safety, animal welfare and food safety regulations are recognized by farmers as obstacles to running small-scale facilities. Nonetheless, the change toward more centralized operations is not merely a result of recent more stringent regulations nor Sweden's entrance to the EU in 1995—farmers estimate this trend to have started in the 1970s, if not earlier—but predominantly a consequence of the historical reasons mentioned above, farmers indicated.

With respect to on-the-farm slaughtering, one out of the seven farmers interviewed runs his operations under this method of production. The remaining six farmers rule out this option, or in cases have stopped operation of their pre-existing on-the-farm abattoirs, because of four main reasons: i) their herd sizes are small, between 30 and 70 animals (the farmer operating the on-the-farm slaughtering facility owns 300 animals), numbers too small to economically justify this method of high set-up and operating costs; ii) EU and domestic rules on animal slaughter have increasingly become stricter and entail expensive requirements, such as veterinary inspections both before and after slaughter. Again this translates into high costs for a small volume of operation, as well as too complicated a legislation to stay compliant with; iii) building and operating an abattoir on the farm requires not only monetary investment, but considerable time, effort and physical space, which often farmers are not willing to dedicate. In addition, most of them usually already have second jobs; and iv) operations require a certain expertise which must be gained through training courses requiring, again, time and effort. Moreover, on-the-farm small-scale slaughtering inevitably demands from the farmer the handling, stunning, killing and cutting of livestock/carcasses. Many farmers prefer to avoid carrying out this act. It is also evident that setting up and operating an abattoir for cattle adds degrees of difficulty because of the large size and weight of cattle in comparison to sheep, for example.

Another option of livestock slaughtering is mobile abattoirs. This consists of vehicles equipped with the necessary tools to slaughter animals, though it requires at least a system of water supply to be supplied by the destination farm. Mobile slaughterhouses have been tried with different results in several countries. In Sweden, though, it has not yet been developed as an option for farm animal slaughter. Farmers interviewed were, nonetheless, consulted about their thoughts on a possible proliferation of this system and their potential willingness to consider it. Some deemed it a very expensive alternative, which, in addition, does not provide a full solution because of the need for the farmer to supply water. Likewise, the process of meat tenderizing requires strict temperature control and a certain equipment and space. If this process is conducted in the farm, a facility needs to be built. One farmer, from the municipality of Eslöv in the South of Sweden, considered it a potentially interesting option if approached as a cooperative. He estimated that it could be advantageous for a group of farmers with nearby lands to partly-own a mobile abattoir and set a base of a few farms (with water supply facility and whichever other services may be necessary) from where to run it.

The following section of the questionnaire considers the role and relevance of *Subsidies* in the farmers' decision-making related to production. All of the farmers surveyed benefitted, as expected, from EU subsidies granted under the CAP mechanism. These are now, as explained in above section 2.2, both related to production and to 'guarding' the countryside. Farmers, however, took advantage of subsidies at different degrees. In general, in farms located in the southern region of Skåne, subsidies represented roughly one-quarter of total farm income, whereas in the majority of farms in northern regions the percentage of farm income obtained from EU subsidies was up to 70 percent. This is partly explained by some northern regions granted a "Least Favoured Area" status, and hence being entitled to additional subsidies. Another part of the explanation resides in that sample farms located in the municipalities of Hälsingland and Kramfors in the middle region of Sweden are bigger than those in Skåne, and yet have approximately the same number of livestock numbers. As the bulk of subsidies are now granted based on acreage, and not on production levels, farm size *can* be an important determinant of total farm income.

Consulted about the impact of EU subsidies on livestock management and production decisions, about half of the group considered it to be 'very high', and the other half 'very low.' Farmers answering 'very high' have in common that their income is directly linked to one line of business—e.g. beef production only—and therefore are directly dependent and affected by European agricultural policies. They frequently decide on production levels and future number of cattle in response to EU decisions on subsidies. On the other hand, farmers holding second (sometimes third) jobs, and/or with separate lines of farm business weighed the impact of EU subsidies on their decision-making as being 'very low'. Farmers in the latter group receive income from several other sources in addition to their livestock farming business. For example, one of the farmers interviewed is a full-time lawyer, another one is planning to start a riding club in his farm, another one grows potatoes, sells home-made bread and is a contractor for small construction works, and yet another one makes and sells clothes of sheep skin.

There is a clear expectation among the full group that the amount of subsidies will be reduced in the near future and that the CAP will undergo structural changes by 2013 (when the 'new' and as of yet unknown CAP is scheduled to take-over the existing one). Namely, farmers expect that payments still coupled to bull slaughter will be eliminated by the Swedish government by 2012, as it is widely rumored in the sector. Likewise, farmers believe that an expanding EU will necessarily translate into less cash payments per country (very likely, especially as the CAP budget has already been capped for future years) with "disappearing or considerably reduced subsidies" in the near future, as one farmer predicted.

Farmers stressed the importance of developing contacts throughout the supply chain in order to lessen their reliance on uncertain subsidies, to become more self-operational, and to grasp a better control and a clearer understanding of the whole slaughter/marketing process. One farmer of the group, for instance, establishes business directly with all the actors along the supply chain: the slaughterhouse, the butcher, and then the final consumer; saving intermediary costs that she would otherwise have to absorb if she merely sold her livestock to a slaughterhouse. From another perspective one farmer warns, nevertheless, that reducing subsidies could seriously jeopardize Sweden's ability to continue producing meat, as cheap imports (from Brazil, New Zealand, etc.) would flood the domestic market and force livestock farmers in Sweden to go out of business, or to shift to a different area.

The final section of the questionnaire enquired on farmers' views on the *Industry trend*, particularly on the future of livestock farming in Sweden and on what factors they believe will be of relevance in shaping the industry in years to come. The roles of cooperatives and retailers and the potential for the development of regional markets of meat production and consumption were consulted.

The first question asked farmers' expectations of the market in the mid-term. Almost invariably farmers foresee a shift toward bigger farm sizes and bigger herds. The views of three farmers are worth mentioning: one believes that a small percentage of farmers and their descendants will take control of a significant percentage of farmland because a high number of young people are likely to decide not to continue the farming business that their parents have run. The very case of this farmer is illustrative. Him and his wife bought land in 1981 and have since expanded to buy the land of the five neighbouring farms. The reason for the neighbours to sell was the unwillingness of their children to take over the business. The opinion of another farmer bears in principle the same outcome: farmland will be owned by a smaller amount of people; but the reasoning behind it is different. According to this farmer the inevitable end or at least the major reduction of EU subsidies will force a considerable number of farmers to sell their land, as they become unable to fulfil mortgage obligations. Wealthy groups will purchase and control a great portion of farmland through big production centres. Finally, a third farmer is of the opinion that an important segment of livestock farmers will reduce their volume of production as they are progressively faced with a need to engage in second or third income-generating activities. Large-scale farmers, whom because of their size are in a better position to depend solely on agricultural income, are likely to take over the production and land that small-scale farmers will need to relinquish. Whichever way it is achieved, farmers interviewed unanimously agree that livestock (and agricultural) production in Sweden will move toward a more centralized production system in the coming decades, with bigger and fewer landowners.

Following, farmers were asked about their position on the creation or the further development of regional markets of livestock rearing, meat production and consumption. Looking at their mode of meat marketing first, however, out of the seven farmers interviewed three 'take back' and sell all of their meat locally, two sell a portion of their livestock to slaughterhouses and allocate the rest to local markets, and two farmers sell all of their livestock to abattoirs. For the sake of clarity, local (or regional) meat marketing is understood as the sale of meat by the farmer who reared the livestock (or the farmer's family) in nearby localities directly to consumers, small-scale butchers, restaurants, or to local food retailers. This implies both short distances travelled by livestock to abattoirs and no intermediaries throughout the process. However, as has been discussed earlier, the slaughtering of livestock and meat cutting and packing is most often done by an abattoir; not by the farmer. This is the result of the structure of the system, and it does not interfere with the concept of local meat marketing as long as the producer takes responsibility for all the remaining of the process, other than slaughtering and meat cutting and packing.

Farmers in general agreed that marketing meat through regional channels results in a product of higher quality to consumers because: i) a higher possibility of achieving a better tenderizing process when using self-owned facilities (on-the-farm slaughterhouse) or a small-scale regional abattoir, by taking advantage of possible personal relations with the abattoir management, in comparison with large-scale, more standardized and less flexible production units; ii) the needs and preferences of

consumers can be directly communicated to producers and incorporated by these into the process of livestock rearing and/or meat tenderizing/cutting; and iii) profit margins of slaughterhouses and considerably high costs and profit margins of food retailers can be avoided (if livestock is slaughtered in a farm abattoir), resulting in economic gains for both consumer and farmer. On the other hand, the difficulties associated to establishing a local (formal or informal) meat market are of excessively strict regulations and permit requirement for meat cutting and handling, which, some farmers argue, have discouraged producers, otherwise enthusiastic to market their meat locally, to do so. This situation has encouraged the rise of big chain supermarkets to the detriment of local shops and small artisan retailers. Notwithstanding, farmers recognize the high transaction costs that consumers often need to face, even when consumers genuinely favour locally reared and slaughtered meat—it takes considerable effort for the average consumer to locate local suppliers, and later to familiarize with opening hours (often changing) and even with times of the year when the producer supplies his product, as well as details such as directions and distances to the selling point, and whether small amounts of meat can be purchased, etc. Supermarkets have a clear advantage over local suppliers in this respect, offering a steady, organized supply with straightforward information and constant availability of products, together with the convenience of making various foodstuffs available to consumers in just one store. Farmers surveyed, furthermore, think that strong competition among supermarket chains prevents them from developing a true policy to promote local, artisan meat. The system drives retailers to procure meat produced at low costs, most frequently synonymous with large-scale production and economies of scale—hence leaving small-scale producers out of the potential pool of suppliers. The normally small percentage of local (or organic) meat shelved by supermarkets is targeted to a minority of consumers already willing or accustomed to buying ‘non-mainstream’ meat; not to the average shopper primarily looking for low prices. In other words, farmers think that entering the mainstream channels of retailing—still concentrating on the regional level, i.e. selling directly to the local ICA or Coop, for instance—offering a high-quality product remains an almost unattainable goal. At least as long as large, industrial production units continue offering cheaper substitutes, if of lesser quality.

When consulting farmers about their views on meat cooperatives, they revealed their preferences of no-affiliation. Some farmers used to belong to the Scan cooperative, but at the time of the interview had ceased membership. Those farmers who were acquainted with the history and actions of Scan expressed a negative opinion about its development. Its constantly increasing size and centralization of operations was perceived as a weakness, as people not directly involved in agricultural processes nor with personal interests in the business started, increasingly, to be responsible for the organisation’s day-to-day operations. Communication between the cooperatives and farmers became bureaucratic and lost effectiveness in delivering solutions to farmers. This argument applies not only to Scan, but also to other large-scale cooperatives, like Lantmännen. As one farmer stated, simply, “it has become difficult to work with coops because now they are too big” adding that, “it’s better to create contacts with individuals and thus build stronger links of compromise, avoid bureaucracy. Cooperatives can no longer answer farmers’ questions.”

Asked about their stance on forming new cooperatives, and considering the unanimously agreed failure of the previously existing system, farmers offered again a uniform vision. A mandatory trait for a successful cooperative, in the opinion of the interviewed farmers, is that it must be small. One farmer estimated a group of 20

farmers to be the maximum desirable size for a cooperative. In addition, farmers would strongly prefer regional cooperatives over nationwide ones. It emerges that local and regional concerns and the possibility to voice individual opinions and demands are of utmost importance to farmers. Interviewees further suggested that equity participation in the cooperative by every member involved in it is crucial in order to run the organization successfully. Once again, a farmer summarized the situation with precision. “When cooperatives collapse, other people will take over [the idea of forming cooperation groups], and most likely they will realize the importance of locality.”

Exemplifying a different strategy, two farmers (separate cases) explained that they quit membership to cooperatives and instead decided to concentrate their efforts in the development of their own brand. One of these two farmers indicated that the very small-scale nature of his business (30 cattle head) made participation in group efforts, such as cooperatives, more a burden than it was an advantage.

The final question of the survey asked farmers to indicate what they considered to be of greater importance for their farming activities: EU subsidies or cooperatives (working efficiently). Five of seven farmers agreed that EU subsidies are more important, though most believe that the cash amount will be significantly reduced soon, and therefore they will become ever less relevant in livestock production practices. One farmer indicated that cooperatives, as long as they fulfill their function and are of small size, play a more important role in production, as they are crucial in securing reasonable input prices (e.g. fodder) and can serve as a potentially effective instrument of lobbying. Finally, one farmer estimated that both subsidies and cooperatives will soon become of little importance in livestock production, and that self-sustained operations are the key point to continue operating successfully in the market.

### 3.4.2 Slaughterhouses

The questionnaire asked to slaughterhouses was divided in three sections: Basic facts, Contract, and Industry structure. Relevant information gathered is detailed below.

This first part completes the *Basic facts* partially described in section 3.2 above. The two slaughterhouses interviewed sell carcasses, usually in halves or quarters, to large-scale meat packing companies. The smaller one has no capability to make further cuts of meat, preventing farmers from ‘taking back’ their animals’ meat (except in carcasses) if they desired. In these cases the farmer or the slaughterhouse contract with an independent butcher who delivers the service (in the butcher’s own facilities). The larger abattoir has assigned an area for meat cutting and packing, to cater to farmers who prefer to ‘take back’ the meat. An official veterinarian, who has worked for years in small-scale slaughterhouses including the latter one referred to in this case, explained that abattoirs of this size need to offer a ‘take back’ service in order to attract potential clients. As the abattoir’s manager explained, “butchering meat in the slaughterhouse has not been common, but is increasing. A possible future scenario is to increase business through expanded butchery activity.” In their daily struggle to stay in business and not succumb to the larger-scale facilities, small-scale slaughterhouses must remain creative and adapt to clients’ needs, even if starting a new line of business (such as meat cutting and packing in-house) represents more costs and efforts than estimated profits at first. In regards to the third slaughterhouse consulted, the on-the-farm facility, its owner and operator explained that he slaughters, cuts and packs the meat from all the livestock reared in his property, plus that of two other farmers.

When asked about the key element to stay in business, in addition to adapting to clients' needs, managers listed reduced bureaucracy in order to reduce administration costs and expedite operations, and maintaining as much as possible a high and constant flow of livestock in the process line. One slaughterhouse owner and manager commented that he keeps his slaughterhouse running despite obtaining zero profits from operations in the last few years. The reason he does it is that he does not want to lay off workers, and also that he himself owns a livestock farm that provides him a side income.

The next section of the questionnaire inquired about abattoirs' *Contract* formation with livestock suppliers (farmers). Both slaughterhouses indicated that there exist no contracts between farmers and abattoirs. Farmers telephone when they have livestock ready to be slaughtered and a date is arranged for either pick-up of the animals in the farm or for a time of delivery to the slaughterhouse (depending on whether the slaughterhouse offers the service of collecting animals on the farm and transporting them to the abattoir, or not). If the slaughterhouse does not offer a service of collection and transport of the animals from farm to slaughterhouse, the farmer must arrange directly with a transporter.

The 'take back' percentage of the smaller abattoir; i.e. the one with no butchery service, has recently been of roughly five percent. The rest of the meat (in the form of carcasses) is either sold, primarily, to big meat packers in the Stockholm area, or, a small portion to regional butcheries. The large—but still rather mid to small-scale—slaughterhouse indicated a 15% 'take back' percentage during autumn. Autumn is the season when normally small-scale farmers, the most prone to 'taking back' meat for selling at the local level, schedule to slaughter their livestock. One important reason is that farmers with a small production often lack winter sheds to house their livestock (or to house additional calves born in spring, in the case of cattle farming) and have no budget or desire to expand the existing barns. They normally decide to market the meat before winter. The figure of 'take back' meat for the bigger slaughterhouse consulted plummeted in the other seasons. The tendency to 'take back' meat as opposed to selling livestock to slaughterhouse, however, the owner said, has been increasing in recent years. Even so, it is too small for the management of the slaughterhouse to consider investing in enlarging the meat cutting and packing area, particularly because of the impossibility to secure a stable business amidst a market controlled by large-scale abattoirs with better economies of scale. The 'take back' market cannot be the only or main target of small-scale abattoirs, argued the slaughterhouse's owner, because that market remains too small. This slaughterhouse, then, sells the majority of the carcasses to big butcheries in the Stockholm area, just as the other abattoir does, and the remaining fraction of carcasses to the local ICA stores.

The last section of the questionnaire discussed the *Industry structure*, with the following findings. Both abattoirs receive livestock from regional farmers; hardly ever from farmers from distant regions. The smaller one, located in Skåne in the south of Sweden, faces competition from a handful of small-scale and a couple of large-scale slaughterhouses within its region. The abundant number of livestock reared in the area, however, allows this and the other slaughterhouses to stay in operation. But the slaughterhouse manager fears that this may change soon, as small-scale abattoirs "will face very hard times" whilst large-scale slaughterhouses keep amassing an increasing share of the market.

The other slaughterhouse (on-the-farm), located in the middle region of Sweden, is faced with almost non-existent regional competition. This represents no problem for this particular farmer as he intends to only slaughter his own livestock and that of acquaintances. But the comparatively small number of livestock reared in this region, compared to Skåne, does pose a serious threat to the survival of small-scale abattoirs there. Indeed, the fate of abattoirs previously operating in the region has been bankruptcy.

Questioned about advantages and disadvantages of small and large abattoirs, managers found that small-scale allows for more flexibility in response to market fluctuations as they are less tied to (if at all) strict supply schedules and possible fines from large retailers. Likewise, fixed costs are relatively lower in small facilities, agreed both managers. It is more likely that in a small-sized abattoir the farmer and the facility owner or manager will develop a familiar relationship. This is important for both sides not only in regards to business, but also when it comes to farmers trusting the welfare of their livestock to an industrial process that is backed by a 'name with a face' they can turn to. A disadvantage of small-scale facilities is their dependence on local producers. In times of a highly dubious fate of CAP subsidies and their likely impact on farmers, relying on a few small producers offers little comfort.

With respect to operating expenses, an important portion corresponds to official fees for meat and animal welfare inspections, paid to the authorities. Waste disposal (animals' organs not used in food production) is another major cost. The recent policy introduced by the Swedish government to waive fees for small-scale slaughterhouses has enabled the on-the-farm abattoir included in this study to keep operating, but it has also added pressure on small to medium-scale abattoirs, such as the other one discussed in this section, which have missed the minimum requirements to benefit from the policy and therefore now face double competition: from large-scale and also farm and smaller-scale facilities.

Finally, consulted about their notion of the trend of the slaughterhouse industry in Sweden, the three abattoir managers were of different opinions. One believed that the number of small-scale slaughterhouses will flourish (as long as support policies remain in place), to the detriment of large-scale units of production. Another one thought that large-scale slaughterhouses will strengthen their dominant position and continue to drive smaller-sized facilities out of business. The third one was of the opinion that livestock numbers in Sweden will continue decreasing and, hence, there will be no need to build new slaughterhouses in the country. In the long term, he added, big size abattoirs may have to become smaller, while small ones will face an ever increasing difficulty in staying in business. This mixed scenario reveals the uncertainty of the industry's future; an uncertainty that is not surprising, because it depends on many uncontrollable variables, both political and economic.

The following section will analyze the findings presented here in more detail.



## 4 Analysis

This chapter analyses the information collected throughout the research for this paper, both as literature review and as empirical data. The first section links the findings of the study to the theoretical framework proposed in section 1.4; subsequently, the relevance of political and economic forces in the direction that the meat market may take will be considered; the third section discusses the probable fate of meat produced by small-scale livestock farmers and its possibility to enter the mainstream market; and finally the fourth section deals with implications of the market and its driving factors on the welfare of livestock.

In other words, this analysis tries to provide a guide to answering the general question ‘where is the Swedish livestock farming sector and meat market headed?’ The section on findings has shown the uncertainty of the market and the impossibility for farmers to confidently discern how their operations may have to be run in, say, five years from now. How the slaughterhouse industry will evolve is crucial in determining this direction. The myriad of factors that affect every player along the product chain (i.e. from farm to fork, as the popular terminology goes), and the strong political weight of decisions contribute to the high level of ambivalence present in the sector.

### 4.1 Principles of *Distributed Economies* and *Power-Dependence Relations* as tools to understanding the direction of the livestock farming and meat industry

The following two sub-sections separately analyze the findings of the study from the perspectives of the two theoretical frameworks used.

#### 4.1.1 A look through a distributed economies lens

The Swedish slaughterhouse industry today and its inevitable connection to livestock farmers and the retailing sector can be used as an example to illustrate a case of DE and the opportunities and difficulties associated with the implementation of alternative modes of production. Economies of scale and high set-up and running costs have led the abattoir industry to operate increasingly large-scale plants and to progressively standardize systems and products. Small-scale farmers, frequently concerned about offering a product of superior quality, see their efforts shattered by the fast-paced methods offered by large-scale abattoirs (I. Nodlov & D. Rydgren, pers. comm.). Standard short periods of meat hanging—i.e. the meat tenderizing process—in big plants, often of two days while optimally a cattle carcass should hang for at least ten days, produce meat of bad quality almost irrespective of how it was reared (K. Hammarberg, pers. comm.). But setting free from the mainstream system can prove to be a steep uphill path to small-scale farmers if no external support is offered. Using a DE terminology, self-organizing units of small-scale production have been particularly difficult to establish, even in a market with a certain developing appetite for superior quality products. Based on findings from this study, farmers who have managed to supply higher-quality meat have most often done so by slightly manipulating the mainstream system and not by operating outside of it. The result is a better product, but not the one envisioned if the farmer could control the process as he/she pleased. To illustrate this, one farmer included in this study delivers his cattle to the regional abattoir and ‘takes back’ the meat for selling it through his own channel. The practice of ‘taking back’ the meat, instead of merely selling livestock to the slaughterhouse, may be regarded as a bend in the mainstream system, but inflexibilities in abattoir practices,

such as not allowing prolonged carcass-hanging times, prevent this farmer from obtaining the product he could otherwise, if he had a better grasp on the process.

Notwithstanding this, the trend of fewer slaughterhouses affects both small and large-scale facilities, and not only in Sweden and in the EU. In the United States, for instance, the number of registered slaughterhouses plummeted from 1,405 units in 1992 to 808 in 2008; even leaving the cattle-rich state of Wyoming (more than half the size of Sweden) without a single abattoir. There the system is ever less welcoming to small-scale farmers, with abattoir management showing unwillingness to engage in business with farmers supplying small amounts of cattle-heads (small being estimated at 500 animals!). This situation has forced entrepreneurs to come up with alternatives, such as mobile slaughterhouse killing, despite the fact that the law makes this activity borderline illegal (Azab Powell, 2009). In Sweden farmers are not (yet) suffering this discrimination, other than in occasional long waits to schedule slaughtering times. It is, nonetheless, an indication of a probable future if trends continue in the same direction.

Recent government economic support measures (for the period 2008-2010) to boost numbers of small-scale slaughterhouses and farm slaughter in Sweden, as discussed in section 2.3, could offer a unique opportunity for farmers to become more independent and gain control of the whole process from livestock rearing to meat marketing. An inherent flexibility and capacity to offer what consumers want could prove to be a powerful tool for farmers; an opportunity to grow in parallel to the mainstream production of big abattoirs and chain supermarkets. Such an increase of small-scale production may even generate a domino-effect response of farmers that have been caught in the mainstream system in spite of their preference to act independently, or who have shifted their line of agricultural focus. Formation of various sorts of collaborations among small-scale farmers may be a critical factor in determining the survival of the envisioned market of artisan meats, especially when considering that government support, as is normal practice, may be shifted or withdrawn at any time. Farmers interviewed for this study have expressed positive attitudes toward new types of partnerships, particularly those involving few actors and beneficiaries and of regional dimensions, not larger. For instance, refer to the anecdote of the farmer interested in starting a small producers' cooperative to operate a mobile abattoir in the region, listed in section 3.4.1. It can be interpreted, then, that there is likely a sufficiently large number of livestock farmers in Sweden who could give rise to alternative means of production and marketing of meat, as long as initial government support is created and the market (consumers) supports it.

#### **4.1.2 A look through a power-dependence relations lens**

After considering the theoretical proposal of DE, the structure of Power-Dependence Relations (Emerson, 1962) provides the basis for a more graphic description of the situation, as illustrated in below Figure 4-1.

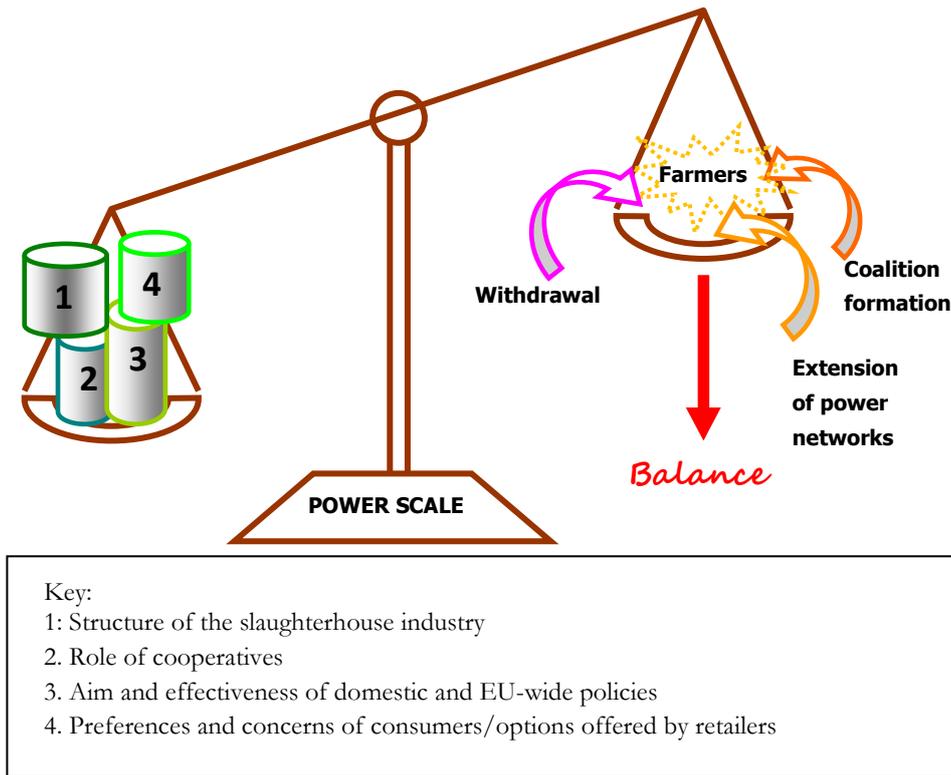


Figure 4-1 Power-Dependence Relations in the Swedish livestock farming and meat industry. Source: Adapted from (Emerson, 1962).

The previous sections of the paper have attempted to unveil the factors that most importantly affect farmers' decision-making processes and that hinder or support their freedom to act according to their preferred mode of livestock rearing, and of introducing their livestock as meat in the marketplace. This research suggests that there are four such main 'power factors': the structure of the slaughterhouse industry; the role of cooperatives; the aim and effectiveness of domestic and EU-wide policies; and the preferences and concerns of consumers, taking into consideration the options of supply offered by retailers. These are represented in Figure 4-1 as having a considerable stronger weight than that of small-scale farmers and their influence on the workings of the market. Three mechanisms that could be employed by farmers to reduce their dependence on the industry and its stakeholders—'balancing operations'—are suggested, which are meant to ultimately balance power-dependence relations among the players. It is farmers, the weak party, who need to act to encourage a change in the status quo. The industry is unlikely to promote a renewed level playing field when it enjoys, as it does, comfortable control of the process.

Hence, in order to balance the power disequilibrium existing between producer (farmer) and processor/marketer (slaughterhouse, meatpacker, retailer) Emerson's structure suggests three possible actions to be taken by the (weaker) party favouring a balancing of power relations; in our case the producer. Power balance can be reached by the producer's withdrawal from operations, the extension of power networks by producers, or by a coalition formation among farmers. Each of the three balancing operations would exert pressure on the present disequilibrium and tend toward reaching a state of balance.

Below, a description of ‘power factors’ and ‘balancing operations’ is presented.

#### **4.1.2.1 Power factors**

It is important to clarify how each ‘power factor’ generates a force toward power imbalance and alters the farmer’s desired equilibrium. The first factor is the structure of the slaughterhouse industry, meant to be understood as a force, and represented by any one slaughtering plant as its real entity. The pressure that the industry and individual units, especially of large-scale, can exert on farmers has been discussed in this paper at length. Less availability of abattoirs and the concentration of a large number of units by just a few owners limit the maneuverability of small-scale farmers; it often prevents them from developing their preferred model of livestock rearing and meat marketing. Even more so, the existing structure frequently leaves farmers no choice but to sell their livestock to abattoirs when they are ready for slaughter, depriving them of the opportunity to produce and market meat based on criteria of high-animal welfare and regional marketing (e.g. on a farmer’s market). It is the opinion of the majority of farmers interviewed for this study, moreover, that the grip that slaughterhouse owners have on small-scale farmers has been further tightened after the purchase (sometimes referred to as merger) of Scan AB by the Finnish group HK. The immediate and most obvious effect is that the decision-making power of Swedish farmers who were members of the domestic cooperative (Scan AB) was dramatically reduced in favour of Finnish shareholders. The pressure put on small-scale farmers does not only originate in the slaughterhouse industry; it is extendable further down the production line to meat processors and packers—when it is not the abattoirs themselves performing these parts of the process—and big retailers, all of which have a centralized-power structure not too different from the abattoir industry.

The second factor, the role of cooperatives, is linked to the first one. Cooperatives are formed with the aim of giving small-scale producers a voice in the industry, which otherwise they would lack because of their size. In Sweden meat cooperatives have existed and functioned for decades, but most have recently lost their ability to represent the small player. The large-scale cooperative, Scan, no longer centers its efforts in supporting small farmers; rather it has moved on to being primarily a profit-seeking corporation (T. Bodén, pers. comm.). KLS, once a cooperative, has likewise sold its interests to the foreign corporation Danish Crown, an international food group. Those organisations that remain cooperatives, like Lantmännen, have become so large that farmers do not feel neither a sense of belonging to it nor that it delivers the advantages that ought to be expected of a cooperative (B. Nilsson, pers. comm.). In addition, it is admittedly difficult to understand what organizations truly act as cooperatives, and whether private corporation interests exist but can hardly be perceived from the information made public by companies.

I feel confident to conclude, then, that Swedish cooperatives today do not enable small farmers to act in a more independent way, benefitting from the organisation’s advantages in the market. By acting in an independent way I mean that the farmer should have the possibility to market the meat of the livestock he reared in the way he finds most suitable. Moreover, the cooperative should support the farmer’s efforts made when raising livestock (e.g. using a special type of feed, letting calves be milked throughout the period considered appropriate by the farmer) with a non-standard meat tenderizing process. In other words, a force that should work in farmers’ advantage is basically non-existent, or at best not relevant in farmers’ operations. This can be said to be applicable, at least, to small-scale farmers.

Another important aspect in determining the farmers' opportunities to operate in the market is the aim and effectiveness of domestic and EU-wide policies; the third 'power factor'. The findings of this study revealed that CAP subsidies play a major role in farmers' income. It has also become evident that, in agricultural production in general, subsidies are progressively becoming more detached (decoupled) from production volumes, consequently leading farmers to base their production more on market demands than on political decisions. Decoupling, however, has not been fully achieved in meat production, not even in reform-avid Sweden, as policy-makers are hesitant that high production costs may encourage livestock farmers to significantly or completely halt livestock rearing.

The CAP has often been criticized for catering to large-scale producers, even in present times of reforms. Winds of change toward fairer subsidy distribution, however, seem to come at a time when Brussels has capped expenditures and when EU members and the total number of farmers have further expanded. In other words, justice comes at a time when instead of sirloin they distribute burgers.

The recent policy to promote the survival and spread of small-scale slaughterhouses and of farm abattoirs introduced by the government of Sweden (described in section 2.3) is a clear indication in favour of balancing the unequal power forces of big and small players in the industry. It is, though, as of yet nothing more than a short-lived experiment lasting from 2008 to 2010 which may or may not be extended. The aim of the policy is indeed favourable to both small-scale abattoirs and farmers who may now be tempted to consider developing their independent system of production. However, long-term security must be offered by the authorities to truly boost the surge of new facilities, considering the high operating costs of slaughterhouses. Otherwise the measure may only come as a temporary life-saver for small-scale abattoirs on the brink of bankruptcy.

The fourth 'power factor' is represented by consumers' preferences and concerns, in light of retailers' supply options. Consumers have the opportunity to bring about changes in the production system by exercising their decision-making power. If consumers are determined to buy high-quality and/or local meat, they can slowly but surely affect the system. But there exist difficulties in passing responsibility on to the consumer. For one, consumers may be driven to purchase cheaper meat, without knowing or to an extent ignoring the effects that large-scale production may have. These factors may range from negative environmental impacts associated for example to increased transportation emissions when utilizing one or more distant large-scale production and processing plants, to low animal welfare including farm factory practices, and to the disappearance of small-scale livestock farming, among others.

Another difficulty of creating change based on consumer decisions is that the average consumer dedicates little time to reading the information describing the product they are purchasing. A study revealed that consumers most often read only basic information on products. In the case of meat it would most likely be the name of the product, price per weight, product weight, total price, and maybe country of origin, or country of rearing (M. Courat, pers. comm.). Labeling can be misleading, and overwhelming in amount, and it is unrealistic to expect consumers to make a purchasing decision evaluating all the information given. Green-washing can also be an issue. Consumers choosing to buy from farmers' markets to support small-scale local producers may be, unknowingly, purchasing vegetables, fruit or meat raised under large-scale production

methods from industrial producers who have infiltrated the alternative system of food supply. In the United States this phenomenon is widespread (Duane, 2009).

Supermarkets have a significant point of leverage for bringing about change in consumption patterns, often more so than policy makers, as they can decide on the characteristics of products supplied to consumers, and even on the criteria used in their production (M. Courat, pers. comm.). With this set of tools, big retailers would have the power to progressively favour a shift toward regionally-produced meat. Strong competition in the retailing sector, however, is likely to put considerable pressure on supplying food at competitive prices, which may force supermarket managers to shelve foodstuffs based primarily on price.

#### **4.1.2.2 Balancing operations**

After having described the four ‘power factors’, and continuing with the Power-Dependence Relations structure applied to this case, small-scale farmers have three options to create a counterweight and search for a balance in power-dependence relations in the meat industry. As detailed in section 1.4, they are: withdrawal, extension of power networks, and coalition formation.

The balancing operation of withdrawal does not grant the farmer an approximation to equilibrium; it simply detaches him from the power struggle. This could potentially jeopardize other small-scale farmers, as the group size is reduced and loses the strength of potential associations. Hence, the factor of withdrawal would in principle work against the effort toward equilibrium. A reverse withdrawal operation—reinstating small-scale producers who have partially or fully retired from their livestock farming practice—could benefit the regional meat market movement, by attracting farmers who have moved away from production out of dissatisfaction with a profession turned too mechanical: raising cattle to merely feed the existing production system. Likewise, an (admittedly unrealistic) overwhelming simultaneous withdrawal operation of small-scale farmers would negatively affect the input flow and operations of large-scale abattoirs.

However, more realistically, in order to generate a force of attraction for farmers to rejoin the small-scale business of livestock rearing and meat marketing, a favourable atmosphere needs to be created by the group of farmers who remain active. This is where the two other balancing operations could play a decisive role. The extension of power networks is a common operation mode used by big players in the industry. Slaughterhouses and retailers extend their power and indeed secure their survival or their success by forming relations with many suppliers—although we will see later that particularly retailers do not wish to have to deal with too many suppliers. Having a reliable supply volume irrespective of the potential failure of a few vendors is critical in running a stable operation. Individual actors who have a weaker position in the industry, and who interact with stronger players, are likely to benefit from forming alliances with each other, which should reduce the existing power imbalance. In other words, weaker players can also take advantage of practicing an extension of power networks. Even though the interactions between the weaker actors would seem to be independent of their individual relations with the stronger player, they have an effect on the functioning of the entire system (Emerson, 1962). Extension of power networks applied to this study may be represented by farmers searching for opportunities to defeat the system from a local perspective, such as through formations with other small-scale farmers or with other players that offer them an advantage in their ultimate interplay within the system (i.e. the system within which the stronger actor operates). Among the farmers interviewed for this research, some such examples exist. The farmer who operates his

own abattoir has established a collaboration with two other sheep farmers that secures him a flow of animals large enough to support the operation of the abattoir and a sufficient amount of meat production to supply his own shop and other local retailers. Failure to form such alliances would, most likely, drive the three sheep farmers to raise livestock for supplying to the slaughterhouse industry, with the meat most likely making its way through large processing plants to finally be sold by big retailers somewhere in the country. Or, it could also drive the farmers to eventually withdraw from the market (the balancing operation of withdrawal). Certainly, failure to form alliances could also lead these farmers to look for a way to develop their own marketing through the ‘take back’ mechanism, as some in the interviewee sample have done. While this ‘take back’ practice, in itself, grants the farmer more independence and the possibility to sell meat locally—two important features in fostering regional markets—the farmer remains, still, primarily subject to the dictates of the system. Rephrasing, the ‘take back’ mechanism benefits the concept of locality in that it eliminates intermediaries, and can also reduce transport distances considerably. But the spreading potential of this practice is limited. It is frequently (though not always, as we have seen in section 3.4.2) not allowed in the slaughterhouse industry, particularly in big slaughterhouses, which limit the number of carcasses a farmer can ‘take back’. Such limit is calculated, in principle, to fulfill no more than one household’s own consumption.

Returning to the theoretical approach of the extension of power networks, examples such as that indicated above can work in a direction to progressively weaken the strong player’s—slaughterhouse, meat packer, retailer—dominance over the weaker player, the small-scale farmer, by affecting (breaking, shrinking) the flow of livestock supply to the industrial actors. Balancing power relations through extension of power networks “involves in all cases the *diffusion* of dependency into new relations in a network” (Emerson, 1962).

One last balancing operation is coalition formation. The difference between this operation and the one presented before is that in coalition formation several actors join forces to collectively face the stronger actor(s) from an empowered position. In the balancing operation based on the extension of power networks, on the other hand, the relations formed among weak actors are not intended to produce a more equal relation *vis-à-vis* the stronger actor, but for weak actors to allow each other the possibility to act alternatively, outside of the system dominated by the strong parties.

The phenomenon of coalition formation in the livestock farming sector has occurred historically in Sweden; the most representative example being the formation of cooperatives. Cooperatives are normally formed by members of a group that aim for a common goal, and who believe that a joint action is likely to deliver better results than individual efforts. The objective of the group has to be well-defined in order to guarantee group cohesion. ‘Group norms’ must be clearly defined in order to ensure that power within the group is used legitimately to preserve the cohesion within the coalition (Emerson, 1962). The recent acquisition of Scan AB by the Finnish group HK Ruokatalo has been resented by a presumably considerable portion of Scan cooperative members, which have felt that the objectives of the new organization do not relate to the group norms and values of the cooperative when they decided to join it. A fraction of farmers are looking for alternatives to the services offered by, now, HKScan (purchase and slaughtering of livestock), feeling that decisions taken by Scan management have surpassed the legitimate power granted by some of the coalition members. This is the position of the majority of farmers interviewed for this study. A sense of not being able to influence the group and not having a voice within it has

driven many farmers to consider other alternatives to coalition formation. All believe that a group of small size, where ideas can be shared, action be taken quickly and with flexibility, and where all group members share (and risk) equity are desirable features of new forms of coalitions. Such new group formations may develop to exert pressure on the dominance of the stronger players by increasing the power of the newly formed group on strong players. A snapshot of the present situation in Sweden, however, shows that cooperatives have given small-scale farmers little strength to correct the imbalance of power-dependence relations with the meat industry.

Determining which of the ‘power factors’ listed play a bigger role, and which ‘balancing operations’ can deliver better results in farmers’ moves toward greater independence in their operation is crucial to achieving desired changes in the system more effectively. The study has shown that each category of factors and operations has its own particular leverage points as well as its associated difficulties of implementation. Table 4-1 below presents a description of possible opportunities and obstacles existing within the presently available conditions, associated to each category of ‘power factors’. It then lists advantages and disadvantages of pursuing each one of the ‘balancing operations’ described above. They are presented from a point of view of farmers intending to balance the power-dependence relation with industry players:

<b>POWER FACTORS</b>		
	<b>OPPORTUNITIES TO GRASP</b>	<b>OBSTACLES</b>
1. Structure of the slaughterhouse industry	Small-scale abattoirs developing a strong appetite to attract as many livestock numbers as possible in order to improve their economies of scale and manage to stay in business, resulting from competition with large-scale slaughterhouses. Translates into more flexibility in their dealings with farmers (e.g. offering meat ‘take back’ and butchery services).	Numbers of slaughterhouses continue a declining trend, gives industry better stronghold and farmers less slaughtering options. Small-scale slaughterhouses more likely to disappear than big plants because of high operating costs.
2. Role of cooperatives	Failure of cooperatives to deliver expectations of its members has sparked innovation on farmers, who are beginning to experiment with new forms of collaborations.	Former cooperatives are now owned by (foreign) corporations, with big-corporation type of bureaucratic processes, which do not represent farmers’ pressing concerns and provide no immediate solutions to their problems. A return to old-day cooperatives based on existing formations seems highly unlikely.

<p>3. Aim and effectiveness of domestic and EU-wide policies</p>	<p>Swedish policy on support of small-scale abattoirs opens a promising window for farmers looking for independence from the system to make the jump with a parachute in their backs. Long-term permanence of the policy is, however, in doubt.</p>	<p>With a recently expanded EU and capped CAP expenditures, subsidies for farmers are bound to thin, maybe dramatically. Without such support small-scale farmers face serious difficulties to stay afloat.</p>
<p>4. Preferences and concerns of consumers/options offered by retailers</p>	<p>There is a great potential for expansion of artisan-type of meat products, with European consumers highly concerned about animal welfare and environmental aspects related to food. Retailers have a strong power to influence, in addition, the quality of products offered and to determine the criteria used in their production.</p>	<p>High competition in the big retail sector pressures supermarkets to offer cheap food prices. Labeling can be misleading and frame consumers. The market for high-welfare, local meats remains very small despite consumers' claims of concerns for better quality, high-welfare, locally produced foods.</p>
<p><b>BALANCING OPERATIONS</b></p>		
	<p><b>ADVANTAGE</b></p>	<p><b>DISADVANTAGE</b></p>
<p>1. Withdrawal</p>	<p>Reduced livestock supply may cause politicians and the industry to reconsider changes in the system to attract new farmers and reintroduce withdrawn production, under a new set of conditions more comfortable for farmers.</p>	<p>Is likely to wipe-out fractions of small-scale farmers and concentrate production on fewer and growing units. Risk of pressure toward 'factory-farming' type practices. Threatens concept of a 'living' countryside.</p>
<p>2. Extension of power networks</p>	<p>Implementation requires no bureaucratic processes and can be pursued as quickly as the time necessary for farmers to agree on pursuing a new idea and as informally as the parties desire. Promotes regional ties of small-scale producers. Allows for creative experimentation and adds a 'fun factor' to the business; an important aspect for farmers interviewed. Is (or can be) conducted without direct participation of</p>	<p>May require significant investments. Its likely informality (at least in early development stages) is a potential threat to time and money invested, in case of group members shying away from the project.</p>

	the strong players, eliminating potential disadvantages of a power imbalanced relation.	
3. Coalition formation	<p>Can give small-scale farmers advantages in more equal/fairer relations with strong players.</p> <p>Lessons learned from perceived ineffectiveness of historical cooperatives can lead farmers to form coalitions that deliver true benefits (e.g. groups of small size and of local/regional concerns, avoiding nationwide coalitions that can prove bureaucratic and detached from small-farmers problems).</p> <p>If successful, can be a direct communication channel with industry and authorities, and an effective way to lobby for change.</p>	<p>Difficult to maintain small-scale focus, and if maintained, coalition may lack sufficient leverage to successfully voice its demands and bring about change.</p> <p>Previous incursions have delivered poor results to small producers who want to work independently from the system.</p>

Table 4-1 Opportunities and obstacles faced by small-scale producers in relation to the four ‘power factors’, and advantages and disadvantages of pursuing each of the three ‘balancing operations’.

After having analyzed the research problem from the theoretical frameworks perspective, the following sections take a more focused consideration of political, economic and animal welfare issues.

## 4.2 How relevant is the role of political forces in setting the direction of the market?

The importance of the European and domestic political agendas on agricultural livestock production is great; they are key determinant factors of production and of the structure of farming and the meat industry in general. The findings of this research have highlighted the importance to farmers of having additional incomes to their livestock farming activities, in the forms of subsidies. Without them a significant percentage of farms would face bankruptcy (de Vylder, 2008). This is no wonder, as some of the farmers interviewed revealed that up to 70 percent of farm income comes from subsidy payments. Farmers in Sweden, however, recognize the need to make efforts to become less dependent on subsidies, for two main reasons. One, the CAP is going through what could be major structural changes; so much that few dare to predict the shape that the CAP will have from 2013 onwards. Governments (of countries with small agriculture sectors, mostly) and EU citizens in general question increasingly the validity of the CAP and its very large budget. A long-term support of agriculture at a high price for consumers (in food prices) and taxpayers (in budget allocation) is no longer realistic or imaginable. The signals are, then, clear for farmers to understand the need to adapt or succumb in the new world of agricultural policies that is more than likely to be less paternalistic. The other reason is rooted in an ethical question. Some Swedish farmers and certainly the country’s government oppose the present and historical subsidization

of agricultural production because of the effect it has on the developing world: low-income countries suffer twice; from the impossibility of selling their agricultural products in the European market as subsidized local products are cheaper, and likewise from European (subsidized) products selling cheaply in those countries and negatively impacting the country's agricultural industry.

Even though subsidies are likely to shrink, farmers are still today markedly dependent upon them. The most reasonable expectation under a future scenario of reduced CAP support to farmers is that Swedish agricultural production would decline. Considering that one of the latest initiatives of the Swedish government is to boost food production domestically (Regeringskansliet Jordbruksdepartementet, 2009), political-economic support must surely be included as part of the package. Indeed, focusing on our case, the economic support assigned by the government to small-scale and farm slaughter for the period 2008-2010 gives the expected increase in food production an angle of locality that can be welcomed by small-scale farmers looking for a more independent way of working. This policy should, for instance and referring back to the Power-Dependence Relations structure, strengthen the presence of farmers seeking regional marketing of meat. It would possibly reverse the trend of 'withdrawal', while it could also serve as a tool to encourage farmers to 'extend power networks' and associate in activities such as the start-up of a farm abattoir joint-venture.

The Swedish authorities do not yet, however, give assurance about the continuance of the policy after 2010, making farmers hesitant to embark on long-term, expensive investments that may not be backed by political support. Farmers surveyed agree unanimously in that the costs associated to running a registered small-scale abattoir—and even more so an (also registered) farm slaughterhouse—cannot be covered solely by its operation or by the sale of meat from the slaughtered animals. Given the increasing tightening of European regulations on food safety and animal welfare, and their related costs, the need for assistance from authorities is ever more essential. Farmers interviewed for this study considered the option of farm slaughter an extremely expensive one, most often inconceivable for their particular cases, especially for smaller sizes of operations. A similar difficult situation for operating small-scale plants is experienced in the United States, where “smaller slaughterhouses are struggling mightily to stay in business. The initial investment is steep and the payoff slow if you're not processing thousands of head each day” (Azab Powell, 2009). The way the industry and regulations are set-up presently requires that the Swedish government deliver stable, considerably long-term policies to truly promote change in the small-scale slaughtering industry.

Whether Swedish policies will be sustained over the coming years remains to be seen. The EU, in parallel, has not shown such intention to promote small-scale abattoirs. A member of the organization Eurogroup for Animals in Brussels, Michel Courat, commented that there has been no real help from the EU to assist the promotion of small-scale abattoirs. During the French EU presidency in 2008 he asked a French MEP about the possibility to create Europe-wide support mechanisms for small-scale slaughter practices. The politician delivered a surprisingly straightforward and definite negative answer, indicating clearly that no such support should be expected. The French MEP was of the opinion that small-scale abattoirs have had enough time to adapt to the market and should now strive to operate without special economic considerations (M. Courat, pers. comm.). There is an evident gap between Swedish and European policies on this subject. This should not necessarily mean that Sweden is prone to gradually merge toward the position of the EU, but it does make the domestic effort a solo

exercise that will not be accompanied by a common direction of the market. The concern arises in that the potential development of a more artisan-type of meat industry, representative in size (if policies to support small-scale slaughter were to be long-lived in Sweden) may be easily threatened by more extensive industrial-style meat production in other member states. Although there is widespread belief that the market for local products of superior quality has a great potential to expand (V. Schmitt, pers. comm.), the effect of alternative cheap meat available in the market may have a hindering effect on the objective of the Swedish policy and its effectiveness. Meat consumed in EU countries that have developed high-welfare, high-quality standards for meat production is increasingly imported from countries “that can produce them at rock-bottom prices, often because welfare standards are lower” (Young, 2008). A worthwhile anecdote should serve to further illustrate the case and give a basis for the fears associated with pursuing considerable different directions in policies, one in the EU and another in one particular or several member states: Sweden’s implementation of high-welfare policies for laying hens resulted in production costs for eggs being higher than in neighbouring countries. This is understandable. But when it was found out that cafeterias of government offices in Sweden had changed their egg suppliers from domestic to Finnish producers—where welfare standards for laying hens remained lower than in Sweden—because of high domestic prices, the reaction was of outrage (B. Eriksson, pers. comm.).

Political decisions are likely to have a high impact on producers. The progressively more stringent regulations have made operating costs of slaughterhouses higher. This harms not only farmers who wish to operate an abattoir in their farm, but also those producers who wish to gain from the advantages offered by small-scale slaughterhouses for achieving an independent operation, with higher animal welfare and less negative environmental impacts. A clear indication of a smaller, less farmer-supportive and more countryside-supportive CAP will also be a force of structural change in the agricultural industry. It will possibly tend toward reduced meat (particularly beef) production in Sweden, once the payments coupled to bull slaughter are eliminated. Strong, enthusiastic domestic policies shall be necessary to maintain a food-producing Swedish countryside. An indication by the administration has already been made through the plan ‘*det nya matlandet*’, intended to make Sweden an important supplier of food. The stability and long-term duration of policies to support this plan are the keys to achieving the political goal and in doing so fostering an alternative mode of meat production.

### 4.3 Regional meat markets development and the economics behind it: Towards a *niche* or a mainstream goal?

To understand the possibility to develop regional markets it is first necessary to know the structure of the existing food retailing system and the market forces behind it. This section also offers a more detailed clarification as to why regional markets should be developed, and what their features are.

#### 4.3.1 Existing food retailing structure

The food sector in Sweden was predominantly inward-looking until the country joined the EU in 1995. New supplier opportunities offered domestic retailers the chance to diversify their stock and, in cases, also opened a window to cheaper products. Dependence on domestic food diminished, although only to a certain extent—despite the ever expanding EU, the food supply business remains a somewhat domestic matter. A study revealed that relationships between major domestic suppliers and Swedish food retailers became closer, as suppliers made extra efforts to accommodate to

supermarkets' demands. At the same time, purchases of supermarkets from these major domestic producers declined, giving way to foreign suppliers to penetrate the market. Domestic small-scale suppliers, meanwhile, became the easy preys of the system, being "more vulnerable and easy to replace" than large volume suppliers (Bengtsson, Elg, & Johansson, 2000).

The four food retailers consulted, although having sometimes clear separate strategies and market targets, did not differ considerably in the philosophy implemented along their supply chain. Two of the shops relied solely on their headquarters' centralized operations with suppliers, and received their stock of meat either directly from headquarters or through the regional distribution center. Management of both shops indicated that customers do not demand local meat. It is also clear that, even if they did, the existing procurement system would not allow for that demand to be satisfied. Low-price policies, on the other hand, are the key to satisfying the clientele and gaining its fidelity. One of the other retailers procures meat directly from a plant belonging to HKScan, which delivers the meat packed. The shop boasts about the locality of its meat, because the slaughterhouse is located nearby, and presents itself as supportive to environmentally-friendly methods. The last shop consulted purchases all beef from a single abattoir, just as the previous case, but in the form of whole carcasses. The beef is cut and packed in the supermarket butchery and is sold by Ugglarps slaughterhouse in nearby Hörby. The abattoir has an agreement with the chain's headquarters. This supermarket indicated that consumers' concerns about beef are related to the country of origin, and that consumers are pleased as long as the meat shelved has Swedish origin, if not necessarily from the region. The person responsible for the procurement of beef—which is ordered daily through a telephone call to the abattoir—informed that the chain supermarket has been approached by Polish producers, but decided to decline the supplier despite lower prices in order to stick to consumers' demands for domestic beef.

Similarities in the supply chain are evident in that procurement is organized from a centralized point and, in the two cases where information could be obtained, consists of only one large-scale slaughterhouse. Whether shop managers declared the issue of offering regionally produced meat important or not, and whether meat is bought from regional abattoirs or not, the factor of locality in no cases relates necessarily to artisan style of meat production, or to small-scale production (which is often the same). In fact, the system as described by the supermarket employees lacked any demand—and supply—of this kind of meat. It is important to distinguish between, on one hand, local and/or regional meat and, on the other hand, artisan meat. Livestock reared, slaughtered and its meat marketed in one same region, with the meat being cut, treated (tenderized), packed and marketed in a large-scale, fast speed industrial process has the only advantage of reduced transport of livestock and meat, with their related benefits to animal welfare and environmental concerns (air quality, greenhouse gas emissions). This delivers no benefits to small-scale farmers. If the slaughterhouse buys animals from the farmer, then the farmer does benefit, but not in the case that the farmer intends, as this paper has been arguing, to develop an independent mode of production and marketing. The locality aspect needs to be tied to small-scale production in order to truly be a driver of the type of artisan production discussed in this paper. This does not appear to be the case with any of the supermarket chains consulted.

The empirical results obtained for this research are, then, in line with those of Bengtsson *et al* (2000) mentioned above. While the power of food retailers to encourage change in the type and quality of food supplied to the consumer is considerable, competition in the sector seems to prevent this change from materializing. At the same

time, it is widely acknowledged that supermarket groups obtain the most substantial profit margin of all actors involved in the supply chain, while risks and costs are passed on to farmers (Raworth & Coryndon, 2004). Research indicates that supermarket chains in the UK, with results reasonably extendable to other EU countries, are moving towards a simplification of their supply structure by reducing as much as possible the number of vendors. This practice is known as ‘category management’. Large volumes of production are required from a producer to be listed as a potential supplier. This almost automatically eliminates small-scale farmers from selling their produce in chain supermarkets (Blythman, 2004). Even so, one of the farmers interviewed for this study indicated, as an extraordinary case, that he sells part of his production to the local ICA shop, given his good relations with the manager. Another farmer indicated that managers of regional ICA supermarkets can shelve meat produced by local farmers, but if so the ICA store has to compensate the headquarters in monetary terms for the amount of meat not ordered through the internal, centralized system. (Confirmation of this information could not be obtained from ICA sources). Farmers’ opinions of food retailers are, in general, very negative. Farmers interviewed by Blythman (2004) in the UK described their relations with supermarket chains as “near feudal”, “a one way trade, not a dialogue”, or a “master-servant relation”, with one supplier indicating that the supermarkets’ business model “will lead to the demise of small manufacturers with a consequent permanent reduction of choice”. Though the farmers interviewed for this study did not offer such harsh comments, they recognized the impossibility for them as small-scale producers to take advantage of mainstream retailing, other than by selling their livestock to slaughterhouses. One farmer did share some words of wisdom in relation to big chain supermarkets, noting that the best way to get rich in Sweden is by being the manager of a large food retailer store. He believes that profit margins are almost fully absorbed by supermarkets, while small-scale farmers need to find two or more sources of income to sustain their livelihood (M. Berg, pers. comm.). Alternative means of introducing small-scale production in the retailing system must, then, be examined; such as farmers’ markets or the creation of regional markets of meat.

### **4.3.2 Regional markets**

Farmers’ markets—whether group efforts or individual—facilitate the exposure of local products to consumers and reduce the intermediary costs along the processes of production, distribution, transport, marketing and retailing and their associated use of resources (Box, 2003). They work to eliminate the impacts of a mainstream market that keeps feeding an unsustainable production system. Allowing farmers to operate outside the mainstream system of production represents in itself a great advantage for farmers and consumers interested in it; a privilege that nonetheless tends to be accompanied with financial risks. Farmers’ markets have, also, been the target of criticism. Some argue that they are, more than anything else, a haven for green-washing practices (Duane, 2009), as mentioned above, and for catering expensive produce only to the richer strata of population, who are actually mostly interested in hypocritically feeling good about their supposed environmental actions (Williams & Morris, 2009).

Developing special, innovative produce can, in any case, result in larger costs of production and processing, as often new systems of raising livestock (or harvesting produce), processing, distributing and marketing need to be engineered by the producer (Musick & Satkofsky, 2001). A premium price should reasonably be expected—if compared to the *cost* of large-scale production. When meat is the product to be sold in a farmers’ market or by the farmer who raised the livestock locally, the process becomes more complicated than when dealing with fruits and vegetables. It requires the intermediation of a registered slaughterhouse to kill the animals and cut and pack meat,

or alternatively it would require the farmer having access and the necessary permits to operate an (also registered) farm slaughterhouse to do the job himself.

One advantage of regional meat markets over farmers markets’—understanding regional meat markets as a system for raising livestock and selling meat whereby livestock is raised in the same region where it is slaughtered, the meat cut and packed, and further sold to its consumer—is that it can be done by any single one farmer without the need for a collective marketing system to be set up. In the case of farmers’ market such an arrangement is required. As a consequence, freedom to operate as part of a regional market is even greater. On the down side, the farmer in question needs to create his own clientele and is responsible for advertising the product and attracting potential customers, which in a farmers’ market is not the case. Creating an own clientele without participating in farmers’ markets may be difficult to achieve, especially at the beginning, when the product offered is likely to be unknown (i.e. have no brand name).

Some authors have researched the possibility to incorporate regionally produced goods into mainstream retailing systems. One study conducted in northern Germany (Wirthgen, 2005) concludes that farmers and retailers may share an interest to market regionally-produced food. It is, however, based on the retailers’ understanding that local food, by principle, should not be subjected to a premium price (as, e.g., environmentally-friendly food is). Here we encounter again the problem of local production versus artisan production. The findings of the present research indicate that farmers interested in developing their own regional brand have, overwhelmingly, a high concern for quality throughout every step of the process of livestock rearing and meat treatment. If this type of product is introduced in the mainstream retailing sector, it will certainly have a higher price than meat from livestock reared industrially and sold in the same store (i.e. assuming similar margins of profit for both products). Following, retailers’ expectations are unrealistic, or simply, can only be understood as referring to large-scale standard *and* local producers.

Perhaps the problem with the reasoning of the study mentioned in the paragraph above is that it looks for a solution by incorporating alternative types of production into mainstream systems *within* the workings of the very conventional system. However, by principle and by their nature, it is sensible to believe that both systems may not function within the same scheme properly. As Albert Einstein said, “we can’t solve problems by using the same kind of thinking we used when we created them”. It is likely that consumers interested in meat (and food in general) produced locally not only seek the product and its bona fide features *per se*, but also to detach themselves from dependency on large-scale, impersonal systems. Reliance on small-scale, locally produced food is a way for the consumer to gain at least a feeling of freedom from the faceless system, as well as to gain an increased real control over networks of production, if only by developing closer relations with the suppliers (Neuman, 2009). The excessively large size of systems—be them food retailing, meat cooperatives, or international organizations controlling world trade in food—have made systems operations too bureaucratic, inefficient, lacking transparency and unreliable, thus greatly reducing the maneuverability and the very subsistence of small-scale producers. Inefficiency in these systems and the damage it causes to the interests of minor players suggests, in line with the principles of distributed economies described as part of the paper’s theoretical framework, that “perhaps the global system must be transformed into smaller, more manageable entities” (Deutsch & Björklund, 2008). The recent Swedish policies encouraging the development of small-scale production of food and small-sized abattoirs are positive steps in encouraging the creation of these sub-systems of

production (and consumption). The importance of long-lived policies cannot be overstated, in order to allow time for the new markets to gain enough maturity to stand on their own.

As for small-scale production having the potential to become part of a *niche* or a mainstream market, based on the analysis of the food retailing sector, both in Sweden and in the other country cases mentioned, it is reasonable to expect at best a slowly growing *niche* market for regional, artisan meat. Concern for high food quality and increased standards of animal welfare in the production of food is, nonetheless, of high importance to European consumers (Eurogroup for Animals, 2009a). Farmers interviewed for this study who market the meat of their livestock directly to consumers have indicated, with only one exception, strong consumer enthusiasm in the artisan meat they sell, with no difficulties in selling the meat before it expired, and no customer complaints about prices. To the contrary, in cases farmers have waiting lists for consumers or restaurants. Increased sales could be almost guaranteed if a farmer of this group decided to supply more meat, but a philosophy to personally control the livestock herd and every step of the process keeps farmers from expanding in size. The one case, among the farmers interviewed, which decided to withdraw from selling meat to consumers directly did so due to difficulties in maintaining a cold-chain system. The remote location of the farm in question (inland Ångermanland), and perhaps a rather passive attitude toward marketing efforts, may have been important factors in complicating the selling process. The general positive attitude of EU citizens, then, suggests a real possibility for a *niche* market of small-scale production, artisan meat to develop and stabilize. Its penetration into mainstream retailing systems, on the other hand, not only seems unlikely but also undesirable under the present conditions of the structure. Such an initiative would be likely to lead, slowly but surely, to a standardization of production, with likely pressures to increase production, cut costs, and accelerate production processes (such as meat hanging times), as it has been the case for many farmers in the UK in this decade (Blythman, 2004). For the majority of the population, however, price remains the primary criterion for deciding on a choice of food, particularly so in recent times of economic slowdown, as a recent study conducted in Belgium has revealed (Munster, 2009b). Furthermore, traditional supermarket chains, such as giant French chain supermarket Carrefour, with operations in several European countries, has newly announced the launch of a new line of cheaper products (up to 350 new items) guaranteed to match the price offers of strong discount chains, such as Lidl (Munster, 2009b). To illustrate further the aggressive battle fought between food retailers to attract consumers with low prices, an investigation has found that over half of the meat products offered in 'last minute' type of discount in various major supermarket chains in Belgium were unfit for sale, containing yeast and bacteria above the acceptable margin. This was due partly to higher than adequate temperatures in refrigerating, presumably intended to save energy costs (Munster, 2009a). These examples further demonstrate that economies of scale are a powerful driving force in mainstream food retailing systems nowadays. High concerns for price and lower relevance of products of superior quality and slow-paced processing are clearly priorities in the business philosophy of chain supermarkets, and are hardly attachable to small-scale production of artisan meat.

In line with the workings and preferences of the food retailing industry, a report released by the FAO in 2006 titled "Livestock's Long Shadow" implied that a centralized, intensified and industrialized style of production is to be expected nearly worldwide in the long term. The report seems to find this outcome satisfactory, and almost desirable, as long as production centers are not geographically located near

largely populated areas. Placing them close to crop production is more optimal, so that animal waste may be recycled as crop fertilizer, the report argues. The paper, furthermore, recognizes—referring to high-income countries—that small-scale producers may face ‘displacement’, caused by the expanding large-scale units of production replacing farmers increasingly; a factor that should fix itself by allowing farmers to obtain employment in other areas, most possibly in other geographical locations, too, further suggests the report (Steinfeld et al., 2006). While the environmental impact of the livestock industry is major, it is hardly straightforward to conclude, as FAO’s document does, that the best socio-environmental option should be to promote intensive livestock production. Particularly in a high-income country like Sweden, with little constraints of population density, there is a strong case to support small-scale producers over intensive livestock farming production for more than one reason. As the findings of this study have shown, most of the small-scale farmers interviewed developed an organic, or organic-based (not certified), type of agriculture. Grain was only in rare cases fed to livestock, which is favourable to the environment and also cancels the competition between livestock and humans for food. In intensive farming methods, on the other hand, grain feeding is more frequent. Furthermore, in Sweden, where poverty and malnutrition are hardly at all an issue, a reduced total volume of meat production and consumption—achieved through increased small-scale, artisan meat production, substituting for meat produced in large-scale systems—would be beneficial by ways of reduced consumption and of being exposed to a healthier product. (Cattle eating grass produce beef with lower total fat than those grain-fed, “almost 4 times omega-3” and higher levels of anti-oxidants (Young, 2008)). Finally, promoting and prioritizing an intensive livestock industry fuels and feeds the centralized food retailing system that has been described above. This would potentially intensify the mad race between supermarkets and, particularly, upstream through to the food production units. A scenario of increasingly simplified, basic food, with reduced choice to the consumer, and produced exclusively at large-scale would be the most probable one; harming not only the consumer but also the small-scale structure of food production.

In addition, intensive, ‘factory’ farming is characterized by “greed, pollution, dependence upon fossil fuels and contempt for animal welfare” (Fairlie, 2008), of which the latter factor brings us to the following subject of analysis.

#### 4.4 Implications of trends for animal welfare concerns

The animal welfare protocol of the EU Treaty of Amsterdam of 1997 gave animals the status of “sentient beings”; an acknowledgment of their ability to feel pain, suffering, and experience well-being (Eurogroup for Animals, 2009c). As a result of this treaty, in the EU animals may no longer be regarded by the law merely as goods or agricultural products (Camm & Bowles, 2000). The so-called ‘five freedoms’ of animal welfare are possibly the standard most used and recognized internationally (Eurogroup for Animals, 2009b). They are the following:

- Freedom from thirst and hunger
- Freedom from discomfort
- Freedom from pain, injury or disease
- Freedom to express natural behaviour

- Freedom from fear and distress (Farm Animal Welfare Council, 2009)

The definition of welfare, nonetheless, has a subjective element to it, and is interpreted differently by cultures as well as by people's personal values. Scandinavian countries have a reputation for being among the most progressive in mentality and regulations on animal treatment and farm animal welfare. According to the meat industry, in Sweden these attitudes result in high costs and loss of price competitiveness, even with respect to meat produced in other EU countries (K. Jonsson, pers. comm.).

The trend experienced in Sweden of fewer abattoirs in the recent decades offers authorities the advantage of a more compact pool of units to evaluate and monitor; while the recent domestic policies intending to boost the number of small-scale and farm slaughterhouses, on the other hand, pose the challenge of maintaining high standards of animal welfare throughout an increased and more disseminated group of abattoirs. The approval of a new EU-wide legislation, however, “will provide a level playing field for the operators” (European Commission DG Health and Consumers, 2009) and lead to a more homogeneous cost of slaughter across the EU and third countries importing meat to the European common market—importing countries are subject to the same rules applicable to EU countries.

On June 2009 a regulation on the protection of animals at the time of killing was passed by the European Commission to replace the existing one, Directive 93/119/EC of 1993, considered by the European Commission as “outdated in many respects”(European Commission DG Health and Consumers, 2009). The new regulation will enter into force on January 1, 2013. Some of its main new features are: i) a regulation has more strength than a Directive, as it clearly delineates the requirements to be adopted, leaving very little or no room for member states' own interpretations of the rules; ii) operators will be required, for the first time, to implement standard operating procedures for animal welfare (e.g. a constant monitoring to ensure that animals remain unconscious after being stunned and before being killed); iii) every abattoir (except small-scale units) will need to appoint an Animal Welfare Officer (AWO), responsible for guaranteeing a satisfactory process; iv) personnel handling animals will have to be trained and certified for conducting their duties; and v) updated standards for stunning and parameters for the construction of slaughterhouses will be listed (European Commission DG Health and Consumers, 2009).

A level playing field is crucial not only internationally, but also within each country among large and small-scale slaughterhouses in order to promote adequate animal welfare standards throughout the industry's operators. It is important, though, that the enthusiasm for a proliferation of small-scale units does not come at a price of reduced standards in these plants. Small-scale and farm abattoirs are (and will be) subject by the law to fewer requirements—e.g. the new regulation does not require an AWO to be appointed—so that their operating costs remain manageable and they can stay in business. The Swedish authorities have already tackled part of this issue by waiving veterinary inspection costs by way of a recent policy on small-scale slaughterhouses (discussed in this paper initially in section 2.3 above). Support and follow-up by the authorities of operations in small-scale units seems highly desirable for the sake of animal welfare. As the new regulation places extended responsibility on the slaughterhouse itself to control the process (Compassion in World Farming, 2009), i.e. self-monitoring, an honest and continuous dialogue between industry and big and small operators should be prioritized.

The advantages associated throughout this paper to small-scale production and slaughtering with respect to large-scale units are neither automatically nor necessarily applicable to the subject of animal welfare. Large-scale abattoirs, by their high volume of operations and income, are normally in a better position to introduce and maintain high standards of quality and animal welfare than smaller plants. It is also possible, on the other hand, that large units may try to take advantage of their size to lobby against and bypass legislation, e.g. by threatening authorities to shut operations and leave employees jobless if more stringent rules are strictly applied. In respect to small-scale abattoirs, little political will to rigorously enforce full compliance of regulation may be commonplace because of the low importance given to these facilities in contrast with the full size of the industry, and the relatively small number of livestock fed to the small-scale system. Likewise, the lacking will to enforce may stem from the real possibility that the decision to encourage small-scale operations has been made, precisely, for political reasons to generate activity in the sector (M. Courat, pers. comm.).

There is hardly an obvious line of distinction between better and worse when it comes to animal welfare and small versus large slaughterhouses. Small units offer the advantage of usually requiring less transport times, though within the EU the vast majority of transport times are, admittedly, below the commonly accepted reasonable duration of eight hours. This transport time, in itself, should not instigate suffering in livestock if the transporting vehicle is compliant with regulations (Hartung, 2008). Lengthier transport times, however, as well as and particularly, loading and unloading, are major causes of stress and suffering (Hartung, 2008). Stevenson (2008) lists some related stress factors, such as “the mixing of unfamiliar animals, deprivation of food and water, lack of rest, extremes of temperature and humidity, handling by humans, exposure to a novel environment, overcrowding, insufficient headroom and noise and vibration.” The waiting-time spent on small-scale abattoirs (the time elapsed from the animals’ arrival to the facility until it is slaughtered) is a major determinant of animals’ well-being, and hence it should be minimized as much as possible (M. Courat, K. Hammarberg, pers. comm.). Such waiting-time is frequently longer in larger slaughterhouses, where queues and waiting areas are significantly larger than in smaller ones. Also, operations in small-scale plants tend to be more personalized. This means that the manager/owner of a small unit will frequently communicate with a farmer to fix a particular time of delivery of livestock depending on the level of operations in the slaughterhouse to minimize waiting time, out of concern for animal welfare, but also, for reasons of limited space in waiting-areas in small-scale facilities.

Large-scale units, on the other hand, may also have natural advantages over smaller plants. They are possibly better prepared to deliver superior standard procedures and auditing, and would, arguably, be more easily and frequently exposed to training. Training of slaughterhouse personnel and live animal transporters is, by the way, considered by experts to be conceivably *the* single aspect that most profoundly can affect animal welfare before and during stunning (M. Courat, K. Hammarberg, pers. comm.). However, there is presently no regulation that requires slaughtermen to be trained on animal welfare issues, though it is voluntarily conducted in many slaughterhouses across several EU countries (Cassidy, 2008). With the new regulation, however, abattoir manpower will need to be trained and certified in their areas of work, including on animal welfare matters.

Under the present legislation, however, and until the end of 2012 technical requirements related to stunning methods are not clearly set, and abattoir layout standards are

complicated and outdated. “Community legislation remains very detailed, but paradoxically is missing technical parameters” (Simonin, 2008) that have a great impact on animal well-being during the process of slaughter. This characteristic of the valid legislation implies that the propagation of small-scale abattoirs may result in low animal welfare standards, considering that stunning methods, equipment and the personnel executing them are not tied to detailed standards. Moreover, while the new EU rules valid from 2013 will begin to regulate stunning standards and animal welfare operating procedures, the implementation in small-size units appears to be likely to be postponed and, possibly, leniently enforced for reasons discussed earlier in this section. This latter point, however, will depend on each member state’s prioritization of the subject and may, therefore, not be a source for lower animal welfare standards in small-scale slaughterhouses. Nevertheless, specialists in the area suggest that controls are likely to be rather exceptional in small-scale abattoirs (which are often located in more remote areas than large-scale plants, and are more expensive to monitor), particularly those controls targeted at measuring compliance with animal welfare, due to less availability of expert personnel, in the case of Sweden (A. Townsend, pers. comm.).

The variety of factors involved in determining how animals may be more or less exposed to stress and suffering, and how these may be differently addressed in small and large-scale slaughterhouses makes it difficult to determine in which type of facility an animal is bound to have a better treatment and a higher level of welfare. The newly passed regulation assigns more accountability on operators to be compliant. This is considered by some animal rights activists to be a negative aspect of the law (Compassion in World Farming, 2009), and certainly the concern is legitimate. Enforcement should indeed be exercised widely. However, consumer demands may also play an important role in pressing for high welfare standards from operators. In a country like Sweden, with remarkably open channels of communication between stakeholders, this effect is likely to produce results. Moreover, small-scale abattoirs, by nature more flexible in their operations, are likely to be better able to comply with demands from farmers and the treatment of their livestock before slaughter. To illustrate, the manager of a small-scale slaughterhouse explained how sometimes, on demand of the animals’ owner, they stun particularly nervous horses inside the very truck where they are delivered to the abattoir in order to avoid the animal the stress of being unloaded and walked through the plant. When working with a small-scale facility a farmer is more prone to successfully demand ‘tailor-made’ killing methods for his livestock, like the use of a certain stunning or killing practice over another, or to suggest slightly modified ways of operation post-slaughter—e.g. longer meat hanging times, different meat cuts. Farmers may also have the opportunity to pass customers’ demands on to the slaughterhouse operators, as some farmers interviewed for this study informed to have accomplished.

The priority and resources that each country assigns to monitoring and enforcing implementation of the present and future legislation will, ultimately, be a determining factor in its effect on animal welfare at the time of killing. The standardization of requirements throughout the industry will force small-scale slaughterhouses (and large ones, too) to make costly modifications to stay in operation. Sweden’s recent policy to support small units suggests that a longer-term assistance could be reasonably expected, or hoped for. Such collaboration between small players of the industry and the government is desirable also in assuring high animal welfare standards; but in reality it may be highly challenging for authorities to maintain a firm grip on operations and standards of small-scale slaughterhouses. Even so, consumer participation in the process through close communication with small-scale farmers (and farmers with

abattoir managers) in a scenario of regional, artisan, high animal welfare production could be one way to ensure welfare standards, even if the capacity of the authorities to monitor small-scale slaughterhouses proves to be insufficient.

## **5 Discussion**

After presenting a more formal academic examination of the subject matter in the previous section, this part presents my personal ideas on the research, based on theoretical and field findings throughout the study, and poses general reflections about possible scenarios for artisan meat production to thrive. First, a more abstract approach to the topic of how the system functions, with special emphasis on small and large size of players and its implications, is presented.

The original inspiration of this research was my interest in understanding under what welfare conditions and considerations farm animals are handled throughout their lives, and particularly when they near the time of serving the ultimate use that the majority of humans make of them; i.e. when they are slaughtered for meat production. I initially explored literature on ethics of animal use and scientific articles on factors causing stress and suffering in animals from the time of leaving the farm until killed at an abattoir. Likewise I researched characteristics of organic livestock farming and their differences with respect to more widespread (conventional) farming practices, chiefly concerned about the disparity of their effects on animals. Soon I decided, however, to look at the problem from the other end of the system; to give the focus a 180-degree turn. This meant to understand the structure from the point of view of the consumer, further moving back to the food retailer, the meat packer, the slaughterhouse (sometimes these two being the same), and finally the livestock farmer. Understanding why these actors behave as they do should give an insight into the animal welfare subject. As it seemed fair to believe—or at least that was my hunch—that the power in the system would be found rather downstream, and that it would decrease its strength maybe gradually as the chain of actors moved up, the determinants of animal welfare would then be more likely to be found down the system's line (where, by the way, there are no longer animals, but meat). In many ways the analysis is one of understanding the function and place of every actor in the industry, and a questioning of their reason to be part of it. When starting to grasp the structure that is behind the production of meat, I had a feeling of excessive sophistication of the system and of priorities gone wrong. It appeared to me that an investigation into the structure of the meat-producing machinery could not only be more interesting than an analysis of existing policies on animal welfare, but more importantly that it could give rise to several, a few, or at least a couple of areas where system changes could generate considerable improvements for animal welfare and, too, for actors desiring to create a more sustainable structure.

Meeting farmers I began to understand how the system of production of meat has changed—driven by the centralization of livestock slaughtering and meat cutting and packing centers, tied to a food retail industry controlled predominantly by a handful of corporations—and how as a result the artisan manufacture of meat products is thinning out. There is a present trend worldwide, particularly in Asia (and is already commonplace in the United States), towards factory farming practices. In Sweden this effect has been felt by way of fewer agricultural holdings and bigger herd sizes. The latest official available information indicates that the only category with increasing number of farm holdings is that of bigger farms (Ministry of Agriculture Sweden, 2008b). Also, above 20 percent of farm holders in Sweden are at least 65 years old, soon to retire. This raises the question of who will buy/manage these lands, and whether the trend of fewer landholders will then accentuate as big landowners find a valuable opportunity to further expand their acreage. In other words, small-scale farmers in Sweden are gradually disappearing. This trend is slowed down, however, by an increasing number of small-scale farmers persisting in the industry by obtaining income from various means (two or more jobs), of which their agricultural activity ends up being just one more. Whether this trend is sustainable in the long-term or whether it will gradually give in to substituting new

forms of income for the remaining agricultural activities is, I believe, an interesting question with many implications. As for slaughterhouses, a similar trend toward fewer and bigger plants is evident.

In any case, players within the system are becoming bigger, and with these changes structural modifications are also occurring. It is worthwhile to try to understand the philosophies behind this drive toward bigger size. Perhaps the basic economics principle of economies of scale offers an initial answer: the more you produce, the cheaper it costs to produce each unit. But then the question arises; how much cheaper do you want to produce? How bigger can a player within a system get until he continues producing more, and cheaper? What grip of control of production does an actor in industry ultimately want? When would this actor accumulate enough power and not want even more power and more growth? And then another question comes to mind: can a unit of production stay small?

Only ten abattoirs in Sweden slaughter almost every pig and over eight out of every ten cattle-head in the country. It is not ten companies, but ten abattoirs belonging to a few companies (mainly HKScan and Danish Crown). The big sizes amassed by companies as these, which were in earlier times smaller, has negatively affected the benefit it brings to small-scale farmers and their efficiency in operating at regional levels. However, these companies grow, and they make profit; and they keep growing and buying new companies, and presumably they keep making profits. Certainly they are not serving the producer, as we have seen through the findings of this study that producers get squeezed by big slaughterhouses and retailers. I think it is fair to say that slaughterhouses and meat packers feed the retailing system, which in turn supply to consumers, who consume. It is, however, hard to say if the types of products made available are dictated by suppliers or by consumers. The strong competition between retailers and the need to press prices down forces consumers to supply an increasingly standardized set of products. And consumers, of course have to consume. Grocery shopping outside the mainstream system can be often not easy, not convenient, and in cases quite the odyssey. When over 80 percent of the food retailing market is controlled by three companies competing heavily for price leadership, variety in supply is further limited. Controlling ever greater shares of the market, then, does offer companies a degree of control of the type of supply to be offered in the market. It eliminates or reduces the impact that new entrants may have in terms of innovation and new product supplies. With standardized supply achieved through control of a large portion of the market (through standardized suppliers producing at large-scale) the possibility of competition entering the market, or let alone representing a threat to the leading company's dominance, gets progressively smaller. The small producers, however, get, as it were, unofficially banned from the mainstream market.

Not only do small-scale producers and consumers suffer from the predominance of this system, but similarly individuals *within* the mainstream system are in ways victims. Large corporations need to exercise a strong control of functions, which can make employees feel unsatisfied with their mechanical role and miss on the opportunity to develop their creative potentials. The rigidity of large-scale organizations goes against the concept of “new consumers, new behaviours” and the flexibility inherent in such a system that the principles of distributed economies, for example, suggests (Johansson et al., 2005). Schumacher (1973) has pointed out the importance of structuring operations in a “multiplicity of small-scale units” because it allows individuals to develop their intellectual and creative capacities. Too centralized, unyielding organizations, he adds, threaten to dehumanize individuals and may hamper efficiency and productivity, for example resulting from large-scale originated bureaucracies.

It is evident, however, that big companies can function successfully. Sometimes, too, they are organized in a series of small units operating almost independently from each other. The authors mentioned above, and I personally, do recognize that big organizations and large-scale producers need to coexist with smaller-units. The problem arises when, as is the case under study here, larger players progressively threaten and erase the small-scale producers from the system, making their very survival an almost impossible task. Farmers interviewed had to either be very creative in their operations within and outside of the system in order to stay in operation; have alternative modes of income; withdraw from operations; or (if at all possible) grow in number of livestock to be able to gain enough income from working as part of the mainstream system, simply by selling livestock to abattoirs. Centralised, large-scale operations in both the slaughtering and retailing sectors, together with increasingly rigorous regulations on slaughtering and food safety, have effectively shrunk the supply of artisan type of meat to the market (e.g. by big supermarkets replacing increasingly small butcher shops). An adequate, standardized and cost-effective system to distribute merchandise to the consumer has allowed this structure to gain ground.

Not paradoxically, the majority of the farmers interviewed expressed no desire to become of bigger size, being the predominant factor that a true control of livestock rearing and meat handling can only be achieved with a herd size that the farmer can personally supervise. Farmers feared, too, getting exposed to and caught in the problems of systems when the farmers' own operations or those of companies engaged in business with them became too big. The example of cooperatives becoming too bureaucratic and not being capable of answering nor listening to farmers' demands is illustrative. Even more so, small-scale producers try to avoid becoming part of the mainstream food supply system because they wish to produce meat of superior quality, and also because the margins obtained by retailers, particularly, are unreasonable in comparison to the price farmers would get from slaughterhouses if they decided (and were allowed) to participate in the mainstream system. Without going too deep into price and margin analysis, the numbers seem to give farmers good reason. Farmers interviewed who market their livestock's meat to local consumers sell boxes of 20-35 Kg for 69-89 SEK/Kg. Boxes contain a variety of meat cuts, from minced meat to the highest quality meats. Even considering the customer's 'inconvenience' in buying large amounts of meat, price-wise it appears to be quite advantageous in comparison to prices in chain supermarkets, where the cheapest meat (minced meat) would be around 40-70 SEK/Kg, approx., while other meat cuts (also included in the farmers' boxes) can easily cost 250 SEK/Kg or more. These numbers reveal, if just on the surface and without further analysis (as that is not the focus of this paper), that intermediary costs and profit margins appear to be substantial in the industry. These costs and profit margins can largely be saved in a system of regional markets of meat.

The system of meat production has clearly forked into mass mainstream production and retailing, and a small portion of suppliers who strive to continue supplying meat of superior, artisan quality, which normally entails higher animal welfare. Artisan meat also implies a more sustainable method of production, if only by not introducing the product into the conventional system, with its use of energy in the product distribution, packaging and retailing, and GHG emissions from the product's transport; and of feeding ruminants predominantly with grass, not grains that could be eaten by humans. The system (conventional) and 'anti-system' (what the paper has been referring to as artisan meat or regional markets of meat), as they have evolved, suggest an interesting dichotomy of man versus system.

To present man and system as confronting forces entails a certain irony, as man is the creator of any, in this case industrial, system conceived. But man has often fallen victim of a powerful

system that keeps strengthening. Our case shows how the creativity of men is continuously cancelled by the mainstream system. The farmers who remain in the artisan-mode of operation are proof of either greater degrees of creativity, energy or stubbornness. Many others have succumbed to the system and presently feed it by merely rearing the livestock which is destined to mass production mechanisms. The value of a person is progressively simplified and the person himself made dispensable the more the person becomes part of the structure. The expansive strategy of a supermarket chain, for example, must be maintained at all costs in order not to lose grip of its control of the system. Giant international food retailer Carrefour, for example, recently informed that it will guarantee prices as low as its cheapest competitors (Munster, 2009b). As Blythman (2004) has shown, price squeezes will invariably be demanded from producers. It is evident that modifications must be made along the process, too, in order to reach an ever lower price, such as reduced pay to farmers, minimal standards of animal welfare, further standardisation of products, etc.; hopefully not at the price of another BSE, bird or swine flu, or other new probable production-related, production-fuelled disease breakout. In any case, the altruistic values that may have initially existed in organisations that grow progressively to become industry leaders are lost; the organization being entrapped in the requirements imposed by its own power in the system. The value of a person (or of an animal) is dropped amidst a corporation's pursuit of its goal. Even if the leading food retailer would—in an extremely unlikely case—wish to collaborate with artisan-producers and support their mode of production, the system that the company has created for itself and that has positioned it strongly in the market would block such an initiative; it would not fit within the supermarket's practices, or procedures, or standards, or profit margins that strive for cheaper prices and fast, standardized production. The final irony is that men (or women) acting within the system lose the capacity to operate in ways they would otherwise prefer because of all the constraints they have created around them: jailed within the structure they themselves have built.

But quality foods *can* be found, and this means that somehow there is a supply and a demand for it. Retailers have a strong leverage point to change the quality of food available to consumers, and for example to demand from suppliers higher standards of animal welfare. They do not do so, however, because of the strong market pressure to keep prices down. Systems of supply of quality foods are frequently started on a small-scale level, as is the case of some farmers of this study. An American fisherman, Jon Rowley, also has wise lessons to teach in setting-up and developing a market of superior quality foods. He planned to introduce in the market the fish he caught and processed using innovative methods, which delivered a product of significantly higher quality than was then available. He explained that to enter the market he had to use a new distribution and marketing systems, working directly with producers to engineer a new system (Musick & Satkofsky, 2001). He eventually sold his produce to gourmet restaurants in his city, and even to some supermarkets of the region, claiming that his practice "changed the way fish were handled on boats, and later, as restaurants demanded higher quality seafood, it changed the way major distributors did business" (Musick & Satkofsky, 2001). A similar example of increasingly successful ventures of high-quality food produced at small-scale level and progressively distributed widely is found in one of the farmers interviewed for this study. She has managed to develop her own brand name through years of producing artisan-style beef and becoming renowned in the region. She presently sells to several high-class restaurants in Lund and Malmö, which proudly offer the branded-beef. The secret for her continuous gourmet demand is both having remained loyal to her original mode of production, and not having increased the size of her herd in order to control and be able to monitor closely every step of the process.

It is important for the sake of culture, heritage, even tourism, not to mention the very survival of small-scale producers, and even the "living countryside" ambitioned by the EU, that artisan

production can persist. The power of choice of consumers is crucial, but sometimes lacking channels of distribution may complicate availability and lead consumers to shop based on convenience in chain supermarkets. Farmers' markets are one way of tackling this deficiency in means of supply. The recent support of the Swedish government to local food production and likewise to small-scale slaughtering, if maintained for a reasonably long period, should also act as a force of support to the emergence of this 'off-Broadway' production style of artisan meat and simultaneously encourage further consumption of regionally-produced food. With a system that would support small-scale production, as it supports today mass manufacturing, there should be no reasons for artisan meat to remain a *niche* market or the holder of just a very small share of the market. However, it is admittedly naive to believe that artisan meat production would ever become mainstream, if the whole set of factors is considered; not least that despite potential domestic support for local production, cheap meat from within or abroad will always be willing to flood the market. After all, the present structure of slaughterhouses and food retailers has been formed thanks to the possibility of people and corporations to act freely and invest where they so wish. Capitalism. Small-scale producers, on the other hand, have the advantage of not being restrained by the limits of the system, of being free to innovate and to lure consumers through a superior quality product and the humane approach to animals and the environment. Internet offers a tool to reach a greater portion of the population—even if the aim is, by concept, to work regionally—yet interviewed farmers have almost unanimously commented that practically no portion of their business is done through the web. Indeed, government support for small-scale farmers to work outside the present large-scale slaughterhouse industry (as it is beginning to materialize), and collaboration among these regional producers to create local or regional efficient channels of distribution could prove to be a breakthrough for this type of artisan production. I would expect that increased small-scale production would not originate from an expanded activity of the existing pool of farmers, as most have expressed their desire to maintain a small-enough manageable herd size. It would rather, most possibly, derive from other farmers who are now feeding their livestock to the mainstream system through large-scale slaughterhouses, and who could be attracted to eventually joining the newly established alternative system, turned more manageable and less risky than before.

## 5.1 Further research

Throughout the development of this study other research interests formed in related areas. They were not pursued in this study because of time and length restrictions. However, a list of such topics is presented below as an initial idea of potential further research ventures:

- Drivers and barriers for food retailers to bring about change in the quality of food supplied to consumers and related environmental impact. Possibilities for retailers to push standards beyond regulatory compliance.
- Reasons for preventing regulation on food safety and animal welfare standards to be stricter; i.e. economic, political, ethical, structural.
- Possibilities for mobile slaughter practices to expand in the Swedish market.
- How the lack of written contracts between farmers and slaughterhouses, and (in cases) slaughterhouses and food retailers affects the relationship among these actors. Winners and losers of the system. Ways of improvement.
- Factors in negotiations between slaughterhouses, or meat-packers, with food retailers and how these affect the type of quality of meat, animal welfare, and related environmental impacts of meat offered in the market.

- New types of small-scale cooperative formations between farmers. Case study of experiences in and outside Sweden.
- The confusion factor: how to devise a method for simplifying food product information available to consumers.
- Development of criteria for regionally-produced food, with the aim to encourage its production and consumption, and to avoid practices of 'green washing'.
- Twenty percent of farm holdings in Sweden are owned by senior citizens. Possible fates of those lands in the near future and suggestions for best uses from an environmental and/or animal welfare and/or local market development positions.
- Winners and losers resulting from the selling of Swedish cooperative Scan to the Finnish group HK Ruokatalo.
- Future topic: Evaluation of the results of Swedish policies on promotion of local food production and of small-scale and farm abattoirs during the first (and so far only) period of implementation, 2008-2010.

## 6 Conclusions and recommendations

This paper has considered the structure of the meat market in Sweden, with particular attention to the stages of livestock rearing and to the options available for farmers to slaughter and later market the meat. A study of the industry further downstream in the retailing sector has also been made, expecting to detect any possible deficiencies in the system. The goal of this study has been to understand the existing situation and to propose ways of (further) advocating markets of regionally produced and consumed meat. Such regional or local markets of artisan meat, as described in this paper, refer to meat sold near the farm where the livestock was raised and also close to their place of slaughter.

With respect to the present structure of the domestic meat industry, the number of farm holdings in Sweden has shrunk while the average size of farms and of livestock herds has increased. This signals a trend of larger-scale farming operations. In the case of slaughterhouses, a somewhat comparable tendency is observed: small sized abattoirs have been increasingly disappearing or struggle to survive, whilst large-scale plants have secured a stable position in the market. In effect, only ten plants slaughter almost nine out of every ten farm animals killed for meat production in Sweden. Likewise, in recent years foreign corporations have acquired majority shareholding positions in the Swedish industry, limiting the voice of farmers who originally co-owned the slaughterhouse cooperatives. A food retailing sector controlled primarily by three groups creates a large-scale centralized, standardized supply of food, where large volumes of production and low costs/low prices are crucial factors in placing a farmer's/company's product in the mainstream channels of distribution. The arrival of new players in the retailing sector gives little or no hope to the potential growth of an artisan-type side-industry more focused on regional procurement and distribution. To the contrary, these new arrivals are predominantly foreign large-scale corporations entering the Swedish market with a strategy of offering cheap-range products and a centralized net of distribution. The combination of the conditions existing in the farming, slaughtering and retailing sectors suggest a further centralization of the systems, where economies of scale guide and determine the methods of production employed. Low prices and a standardized quality of products are likely to dominate the mainstream retailing channels, with ever smaller room for artisan products to enter the conventional markets.

Small-scale farmers increasingly struggle to survive in a system of low prices of meat, particularly when they only have access to large-scale slaughterhouses (i.e. when smaller-scale abattoirs are too far away from their farm). Small slaughterhouses have often adapted to farmers' requests to market the meat of their animals, instead of selling it to a slaughterhouse for the slaughterhouse's further sale to a meat packer or a retailer. In complying with farmers' demands, these slaughterhouses have created a system of meat 'take back' (the farmer pays the slaughterhouse for the service of killing the livestock and cutting and packing the meat). Large-scale slaughterhouses most frequently allow farmers to 'take back' the meat corresponding only to the farmer's own consumption, preventing the local meat market system from flourishing. Local demand for artisan meat *does* exist, however (if at a small scale), and this allows farmers who have access to abattoirs with the 'take back' option to stay in business.

There is reason for small-scale farmers and their patrons, today, to be optimistic about the future. A recent initiative by the Swedish government could play an important role in giving new strength to the artisan market of meat production. The policy, initially to be implemented in the period 2008-2010, waives the fees to be paid to the authorities for setting-up a new small-scale slaughterhouse, and cancels or reduces veterinary inspection costs to abattoirs with small numbers of animals slaughtered per year. Benefits of the policy include the survival of

an artisan style of production, the stability of rural communities and the development of the countryside. Likewise, the policy encourages the deceleration or reversal of centralized production tendencies that could result in predominantly factory-farming styles of livestock rearing. Environmental benefits could also derive from this governmental strategy in the form of reduced transportation distances, less packaging, and less use of energy throughout the distribution and retailing steps. Animal welfare should also be expected to profit from both reduced transport distances to regional abattoirs (versus travel to large-scale plants located, in average, farther away) and shorter waiting periods between the animal's arrival to the slaughterhouse and the moment it is killed (considering that small-scale slaughterhouses have less space to house livestock). A surge of small-scale abattoirs, however, should be accompanied with a regular monitoring of practices by the authorities in order to ensure proper animal welfare standards, especially in the correct training of slaughterhouse personnel and in well-executed stunning methods.

This apparent re-shaping of the Swedish industry comes at a time of reduced EU support for agricultural production. For many years the CAP has subsidized member states' farming production and encouraged larger volumes of food, but that strategy has changed recently towards increased support for rural development and reduced promotion of production-linked payments. A new system of payment, in principle based on owned acreage, and not on size of production, is being increasingly introduced. Even EU countries historically supportive of the 'traditional' CAP have recently admitted the need to reformulate the European agricultural policy and make it more equitable for the smaller-scale producers. In summary, it is almost certain that European agricultural production will have to rely considerably less on subsidies from 2013 on, when a new CAP (yet to be negotiated) is due to take effect. This new scenario will affect both small and large-scale farmers. It seems probable, however, that small-scale producers who have reasonably foreseen the expected direction of agricultural policies will suffer less from shrinking public funds, as a good fraction of them already have multiple forms of income (in the form of second jobs, e.g.) and their livelihood depends not exclusively on meat production. Notwithstanding this, governmental support for small-scale slaughtering *is* important as a base to introduce changes in the system and to develop a new structure that offers possibilities for small-scale producers to manufacture an artisan meat of superior quality.

The findings of this study suggest that the survival and development of regional markets of meat should be supported by long-lived domestic policies to encourage the operation of small-scale and farm abattoirs. The Swedish government introduced such policies in 2008, initially valid until 2010. It is important to consider that only long-term policy security is likely to lure new operators into the market, and lead farmers, as individuals or as part of a joint venture, to set-up on-the-farm slaughterhouses. Collaboration among small-scale farmers could serve as a trampoline to develop better channels of distribution of artisan meat production (e.g. farmers' market or the establishment of a store/butchery in a nearby city). Small-scale farmers entering the mainstream food retailing market appears to be unlikely from a perspective of retailers, and undesirable from a perspective of farmers. The former strive for fast, cheap production; while the latter for delicate, slow methods, if not necessarily more expensive. Consumers play an important role in demanding certain qualities and methods of production, but the convenience of mainstream retailing, the difficulty in understanding the exact characteristics of a product, the costs associated to organizing a force to demand different products from retailers, and the unawareness of other possible alternative suppliers can reduce the leverage of consumers in front of mainstream retailers.

## 6.1 In a nutshell and straightforward: Answers to Research and sub-Research Questions in 99 words or less

The aim and driving force of this paper have been to offer a satisfactory response to the Research and sub-Research Questions posed in section 1.3. This final section presents brief and straightforward answers to each of the queries introduced. They are meant to serve as a final wrap-up and as a quick reference.

Research question #1:

- Why is livestock farming and meat production in Sweden organised as it is?

The livestock sector is characterised by increasingly fewer farms, with bigger herd sizes. The slaughterhouse industry is, likewise, tending toward centralisation, with fewer and bigger abattoirs. Small-scale plants have been increasingly disappearing. Meat retailing is largely controlled by three groups of supermarkets, with ever less presence of local butchers. Why? Because agricultural policies have supported large-scale producers, leading to abundant food supply, economies of scale and cheap prices. Retailers are engaged in strong competition to stay in business and, thus, keep pushing prices down. A fast-paced industry leaves little room for small-scale, artisan producers to exist in the mainstream.

Sub-research questions:

- What are the factors deciding the manner of meat marketing?

Herd size is important. Farmers owning small herds may feel inclined to selling the meat directly to consumers, to obtain a better price than when selling livestock to slaughterhouses. Farmers with larger herds may gain by selling to the abattoir; but could face difficulties when trying to sell the meat themselves—i.e. cold-chain related expenses and risks. However, many large-scale abattoirs may restrict the ‘take back’ meat to a small amount. Smaller abattoirs are likely to be more flexible to meet the farmers’ demands. Farmers, in addition, may not want, or may not be able, to grow in size.

- What role is played by political-economic factors, national and EU policies, and the structure of the slaughtering and meat production industry?

Political-economic factors give or take away tools for small producers to participate in the market. Without any support, small producers are likely to disappear or become a very selective small group of farmers loyal to artisan production. Presently the Swedish government is supporting the incorporation of small producers into the market. The new CAP will play a major role in re-shaping the industry, depending on the type of new philosophy adopted for countryside support and subsidisation. If left to their own devices, it is likely that slaughterhouses and retailers would further centralize and standardize their production.

- Who are the winners and losers of the current system?

Consumers are winners and losers. They benefit from relatively affordable food prices, while detriments come in the form of less product variety and, in general, lower product quality. The present system delivers lower animal welfare through longer transport distances, waiting-times in abattoirs, and less opportunities for animals to

express their natural behaviour (e.g. calves and cows separated at birth). Large-scale producers have been major subsidy recipients, while small ones having faced difficulties entering the system and/or finding opportunities to create their alternative system. Small butchers and grocers have largely vanished or struggle to stay afloat.

Research question #2:

- Can a less centralised (and similarly competitive) meat-production system be designed—without additional reliance on subsidization? (Or are small-scale production systems bound to serve a *niche* market?)

High costs of veterinary inspection before and after slaughter make small-scale operations very expensive, probably unviable, without support policies. Farm abattoirs with low volumes are likely to require government support to operate long-term. A regional system, however, incorporating several producers could benefit from shared costs and higher operational volumes, while still functioning in artisan mode. However, initial government support may be required. Small producers should, nonetheless, not have to be dependent on additional subsidization; not more so than mainstream producers would. With the right structure of cooperation, small producers should not be destined to remain in a *niche* market.

Sub-research questions:

- What are the trends of the factors deciding the structure of the industry?

Small-scale producers have expressed in general no desire to grow in size, as that would lead them to lose control over their artisan-style production. This implies a trend of large-scale farmers growing, while small-sized producers remain small, in general lines. The centralisation of the slaughterhouse industry, in parallel, and the disappearance of smaller units, dictate a fast, standardised way of production, and reduce the options available to small-scale producers to persist in their preferred mode of operation. Recent government initiatives, however, are aimed at slowing down this tendency.

- What measures could be taken to influence these factors?

Retailers have considerable potential to influence the quality and production methods of the meat they supply, and the ability to push suppliers to go beyond compliance in standards of animal welfare, meat tenderization process, etc. But the strong price-competition among retailers prevents a real system transformation from taking place (beyond gestures like shelving some ecological meat). Consumers have the power to demand certain standards from retailers, but organizing into a representative force is difficult. Policies can be very effective in offering small-scale production a place in the market and in reversing the trend of centralization.

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## **Abbreviations**

CAP: Common Agricultural Policy

DE: Distributed economies

MEP: Member of the European Parliament

SFP: Single farm Payment

SPS: Single Payment Scheme

Note: When referring to farmers I have occasionally used the masculine singular, 'he', and not the commonly used 'he/she'. This has been done for the sake of better flow of sentences. No sexist content is intended.

## **Appendix I: Questionnaire to farmers**

Interviews with farmers were based on the questionnaire presented below.

### BASIC FACTS

- Number & kind of animals
- Years in business
- Historical development (growth/decrease of number of animals, etc)

### CONTRACT

- How do you choose who you sell your animals to?
- Who do you presently sell your animals to?
- Do you continue selling your animals to your initial buyer?
  - o If yes: Do contractual terms remain, in principle, the same?
  - o If not: Why did you stop selling to the initial buyer? And, how is the relationship different with the new buyer? To whom have you sold your animals in the past?
- Contract details:
  - o Sell all meat to buyer, or take some portion back for own consumption/sale?
  - o For how long (years) do you sign a contract with your present buyer?
  - o How long before slaughter do you contract with buyer?
  - o Number of buyers and importance of loyalty.
  - o Do you practise any type of contract farming with the buyer of your animals?
  - o Is the meat of your animals labelled in any way? Are you in favour of labelling it?
  - o Dis/advantages of selling own meat to direct buyers versus selling to abattoir.
  - o How to improve current contracting terms. (In other words, with what is the farmer not happy?)

### SLAUGHTER

- Are you satisfied with the slaughtering structure in Sweden today? How would you change it?
- Would you consider farm slaughter? Why/not?
- What is your view on mobile slaughter?

### EU SUBSIDIES

- Do you receive any Swedish/EU incentives/subsidies? To what extent do these shape the way you conduct your livestock production?
- How have EU subsidies affected your production since Sweden joined the EU? Do you think that EU subsidies will change in the coming years in a considerable way? If so, how will that affect your production?
- What percentage of your income comes from EU subsidies?

### INDUSTRY TREND

- What do you consider to be the dis/advantages of small- versus large-scale livestock production?
- Drivers:
  - o What are your expectations of the beef market in Sweden in the medium-term (e.g. more small farmers, centralisation of production, in/decreased exports, role of animal welfare in eyes of consumer)?
  - o Do you support the creation of local markets (local beef production/consumption), or are you satisfied with the present system (big slaughterhouses controlling the market)?
  - o What is the role of big retailers in shaping the present market situation?
- Has anything changed for your particular case since the Scan coop was bought by the Finnish, and how? Would you favour the creation of new coops?
- What makes a bigger difference in your business: EU subsidies or existence of coops in Sweden?
- How would you like the Swedish cattle industry to develop in the future?

## **Appendix II: List of farmers and slaughterhouses interviewed and their location**

The names of producers who participated in this study, and the locations of their farms are indicated below.

<b>NAME</b>	<b>LOCATION</b>
Micke & Maria Berg	Hälsingland
Bertil & Lillemor Karlsson	Hälsingland
Balzar Nilsson	Hälsingland
Lisbeth Andersson	Skåne
Ulf Frissel	Skåne
Inger Nodlov	Ångermanland
Dag & Åsa Rydgren	Ångermanland

The names of slaughterhouse managers who participated in this study, and the locations of their plants are indicated below.

<b>NAME</b>	<b>LOCATION</b>
Bengt Eriksson	Hälsingland
Bertil Karlsson	Hälsingland
Jon Andersson	Skåne

### Appendix III: Photos from the field research





