The Price Floor Phenomenon in the Norwegian Meat Industry: The Impact of Market Dominance

A case study of how a dominant firm affects pricing strategies and influences the competitive landscape of smaller firms.

MARCO JENSSVEEN CARREA

LARS OLAV SKARBERG

SUPERVISOR

Rafael Heinzelmann

University of Agder, 2023

Faculty of Business and Law

Department of Economics and Finance

Preface

This thesis is the final step of our five-year masters' studies in Economics and Business administration at the University of Agder. Our thesis explores how a dominant firm affect the Norwegian meat industry, with a particular emphasis on prices for carcasses, the competitive landscape and the impact import quotas have on Norwegian price levels.

While our program is within auditing and accounting, this master thesis represents our shared experience of work within the industry, and our fascination of South American countries, relying on agricultural exports. We were fortunate enough to explore this part of the world during our five-year course, which promptly increased our interest.

The research in this thesis relies heavily on the data and insights gathered from various stakeholders in the meat industry. We are immensely grateful to all industry professionals who provided us with their valuable insights, helping us understand the complexities of this market. Our sincere thank you to everyone who gave us their time and shared their knowledge.

We reserve our deepest gratitude for our professor, Rafael Heinzelmann. Your support, insightful feedback, and valuable guidance have been essential in shaping this thesis. The knowledge learned and assistance from you have been a key part of our journey.

Lastly, we extend our sincere thanks to our fellow students, whose connections have made this journey memorable. Our thesis is not only a culmination of our academic learning but serves as an accomplishment of lifelong friendship. And to our future self – never say no to new experiences.

Kristiansand, June 1st, 2023

Marco Jenssveen Carrea & Lars Olav Skarberg

Abstract

This master thesis explores how a dominant firm affect the Norwegian meat industry. We investigate how smaller firms can independently establish their own prices for buying carcasses. Furthermore, we elaborate how the presence of a dominant player affects the competitive landscape and pricing strategies of smaller firms and how import undermine Norwegian price levels.

We employ a qualitative case study approach; we conducted interviews to obtain reliable and authentic data on how the Norwegian meat market functions and its implication on smaller firms. By applying a basic economic theory such as supply and demand, we uncover the effects the dominant player has on price decisions of smaller producers, the competitive landscape, and regulatory measures.

Our data and analysis allow us to categorize the market into two main participants, the cooperative and non-cooperative firms. Where smaller independent firms possess a degree of pricing autonomy. Competing on additional rates offered to farmers and improve cost efficiency, however, there exists a fixed price floor in the Norwegian meat market, directly influenced by the offerings of the regulator. The regulator effectively controls market conditions and as a result smaller firms have formed partnerships to bypass trade with the regulator. Our findings reveals that the price level of carcasses in Norway is not solely based on domestic supply and demand, even though Norway is considered a sealed off market. Import quotas, intended to supplement domestic production shortfalls and act as a price control, have in 2023 contributed to an upward pressure on carcasses prices.

The thesis aims to offer a deeper understanding of the market structure in the agricultural meat sector. With a dominant player controlling a significant share of the market, the Norwegian meat industry presents an alternative to more commonly studied competitive markets. An exploration of how the industry operates under these conditions, with regulations, hopefully will give a better understanding of how political and economic factors affect pricing and competition.

Table of Contents

Table of tables

Tables of figures

Chapter 1: Introduction

The thesis aims to provide more knowledge of how a dominant firm affects the Norwegian meat industry. The meat industry is relatively neglected, despite its importance. By studying the pricing strategies of smaller firms, and the influence of a dominant market participant, we hope to provide valuable insights in the competitive, and challenging market environment to acquire carcasses in the Norwegian market. The Norwegian agricultural and meat industry provides an interesting case study due to the presence of extensive government regulations, and complex political goals. The competitive dynamics of the industry is heavily influenced by a dominant player. The dominant player serves as a market regulator, ensuring farmers across the nation have a market to sell their agricultural produce.

The largest player is a farmer owned cooperative, which represents farmers' interests in the market, and has a substantial influence in determining the market price. Smaller players compete with the cooperative to obtain resources from farmers. Smaller firms must adapt and be resourceful to ensure supplies. Because of a challenging environment to operate within, smaller firms have employed different strategies to mitigate the influence of the dominant player.

Despite the considerable influence the market regulator has on the Norwegian meat industry, there remains knowledge gaps in the literature regarding the competitive landscape. Much of existing literature has explored the role of the cooperative and the function of market regulation. Most of the literature and information has been produced by the same entities, therefore, literature on the subject is largely limited to agricultural organizations. Still, the strategies of smaller firms and the impact of market regulations remains largely unexplored for smaller non-cooperative firms.

1.1 Problem statement

The problem statement of the study is as follows:

How does the influence of a dominant firm affect the pricing strategies and the competitive landscape of smaller firms in the Norwegian meat industry?

To better understand the implications of this market structure, we have formulated three main research questions that will guide our study and help us elaborate the problem statement.

1. *To what extent can market participants independently establish their own prices for carcasses in the Norwegian market?*

2. *How does the presence of a dominant market participant influence the competitive dynamics and pricing strategies among other players in the industry?*

3. *How does regulatory measures and import quotas contribute to undermining the Norwegian price level?*

1.2 Limitations and assumptions

Our study of the influence of a dominant market participant on competitive dynamics and pricing strategies assumes that the market does not operate under perfect competition. The presence of a dominant player, entry barriers and extensive regulations limits competition.

When investigating the effect of regulatory measures and import quotas on the Norwegian price level, we presume that these measures directly impact the supply situation in Norway. We acknowledge the fact that other factors such as changes in consumer behavior, currency fluctuations and international trade policies can play a crucial role in availability as well.

While our study focuses on the Norwegian meat industry, it's important to acknowledge the potential cultural, environmental, and legislative differences that make the industry different from other meat industries around the world. Therefore, the findings of this study may not be generalizable to other contexts, or countries. However, by providing an understanding of the industry and its implications, we can potentially learn from countries which share similarities.

While market regulation encompasses a wide range of factors, our focus will be on prices for carcasses, regulatory stockpile, and imports. This implies that our analysis may not capture the full complexity of the regulations. Our analysis will be confined to the primary production stage, organized in cooperatives, and slaughterhouses, while excluding the farmer. We will consider the implications of our findings from an economic perspective, rather than assessing the potential benefits for society. This limitation may result in a narrower understanding of the overall impact of our research. Even though market regulation affects all meats in Norway, we exclusively mention meat as beef/bovine.

Chapter 2: Background literature

To provide a foundation of the Norwegian meat industry, it is necessary to explain how Norwegian agriculture works. This helps us establish the background and context for the industry, while also helping elaborate our theoretical framework. In the following background literature, we will outline concepts that contribute to our understanding of the industry's characteristics.

2.1 Norwegian agriculture

Norwegian livestock production is largely characterized by smaller production units and less intensive farming practices. The total production volume is significantly lower than that of several European and Nordic countries. However, requirements for efficiency and cost reductions have led to structural changes in Norwegian livestock production in the past 10-15 years, with a decrease in the number of operating units, while the size of the farms has increased (Kjuus et al., 2008, p. 7).

In Norway, few areas are suitable for agricultural cultivation. Due to topographical reasons, agricultural areas in Norway are small, scattered, and in some cases labor-intensive. Only 3.2% of the total land area is cultivated land, which is significantly lower compared to other countries. For comparison, the proportion of cultivated land is over twice as high in Finland and Sweden. In Denmark, more than 60% of the area is cultivated land (Christian et al., 2019, p. 40). Climate conditions are decisive for which crops can be cultivated and for the yield level. In large parts of the country, forage cultivation, mainly grass, is largely the only option. Livestock production based on grass cultivation, therefore, plays a significant role in Norwegian agriculture. Although livestock production takes place throughout the country, the majority is located from Trøndelag and southwards (Kjuus et al., 2008, p. 7).

Therefore, a highly active agricultural policy has been implemented in Norway. The parliament has set four main objectives for agricultural policy: food security, increased value creation, sustainable agriculture, and agricultural capabilities throughout the country (Meld. St. 11 (2016 – 2017), p. 9). These objectives are achieved by the three main pillars of Norwegian agriculture which is the yearly agriculture settlement, market balancing and import protection.

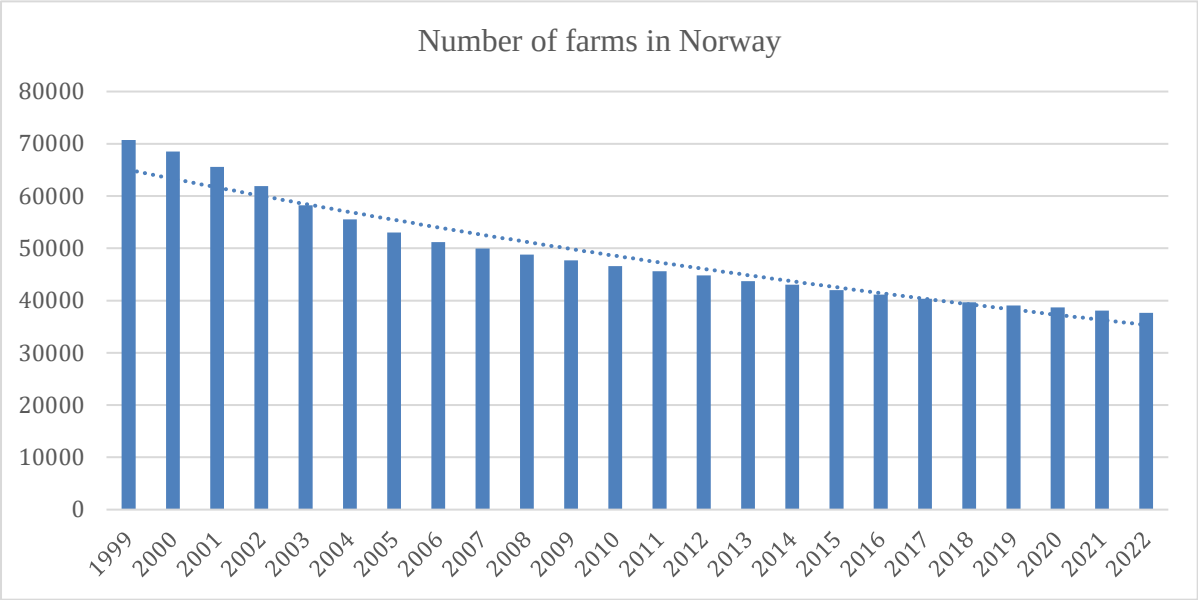

Figure 1: *Farm, agricultural land, and livestock (SSB, 2023).*

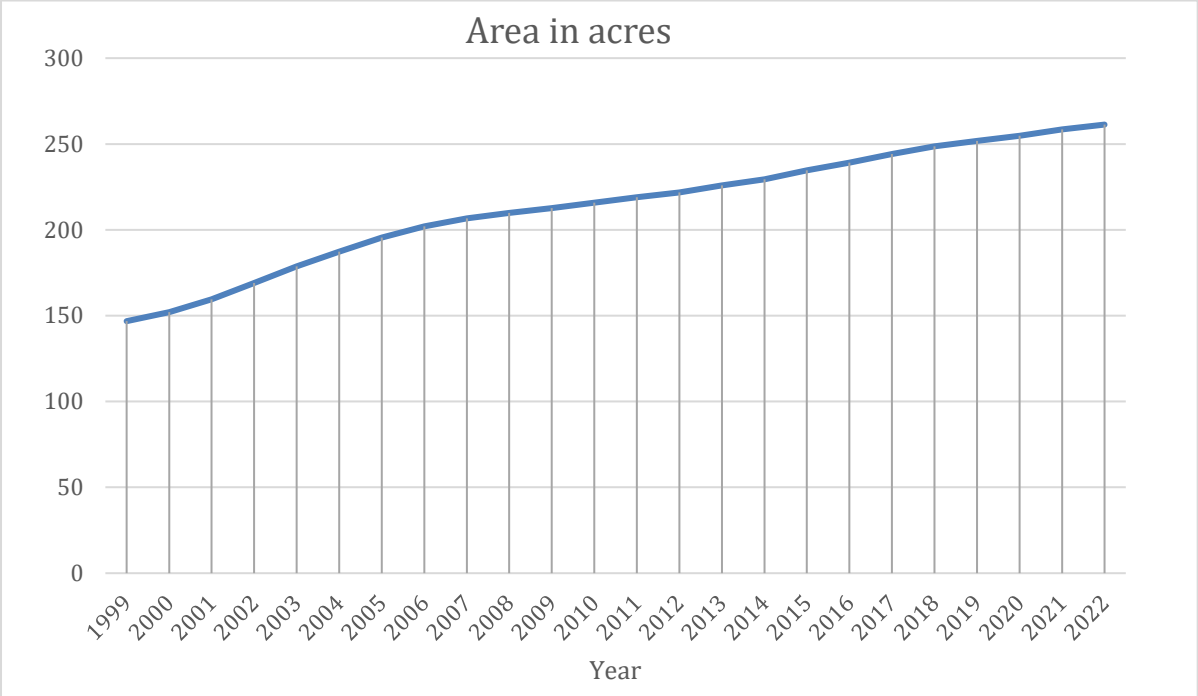

Figure 2: *Farm, agricultural land, and livestock (SSB, 2023).*

2.1.1 Agriculture agreement

The agriculture agreement is a trade agreement between the state and the agricultural sector. This agreement is a result of the annual agricultural negotiations between the government and the two agricultural organizations, Norges Bondelag, and Norsk bonde- og småbrukarlag. The agriculture agreement specifies maximum prices for agricultural commodities, as well as other economic factors that affect farmers' ability to generate income (Moi, 2022).

Each year, negotiations take place between the government and the agricultural sector, in what is known as the "agricultural settlement". The negotiations will determine the economic opportunities for farmers in the following year, as well as distribution of subsidies for Norwegian agriculture. The parties negotiate measures to be used to achieve the current agricultural policy goals, financial support, and target prices for specific products. The agricultural sector is the only industry in the country with self-employed entrepreneurs who have the right to negotiate directly with the state (Moi, 2022).

2.1.2 Market balancing

Market balancing involves setting a price on a representative commodity within a product category that can realistically be achieved during a specified period, rather than allowing the market to determine the price. A market regulator is then responsible for balancing the market using various market-regulating measures so that the average price during the period corresponds to the set price (Landbruks- og matdepartementet, 2015, p. 17). The agricultural cooperatives perform this task with the aim of balancing the market so that farmers achieve the target prices agreed upon by the state and agricultural organizations in the yearly agricultural settlement. In certain production areas, target prices are not agreed upon, but the market regulator establishes a planned average wholesale price that serves as a guideline for price determination, such as bovine meat (Landbruksdirektoratet, n.d.).

Market balancing measures are financed by the farmers themselves, through fees paid when livestock is delivered for slaughter. This ensures that consumers have stable supplies of agricultural products at a relatively consistent price, in accordance with what is decided in the agriculture settlement (Nortura, n.d.). The system differs from most other countries, such as the EU, where public authorities guarantee a minimum price and are themselves responsible for the regulatory measures (Nortura, n.d.).

2.1.3 Import protection

The regulatory system is largely built upon import protection, which involves setting import rates at a level which makes it unprofitable to import meat from abroad rather than purchasing it from Norwegian slaughterhouses or farmers (Andersen et al., 2008, p. 56). This import protection is supported by international agreements such as The World Trade Organization (WTO), as well as exceptions for agriculture in The European Economic Area (EEA). The EEA agreement provides quotas for import and export of certain meat products, while the WTO agreement establishes quotas for Norway's minimum market access (Andersen et al., 2008, p. 56). The Agricultural Directorate distributes import quotas through auction or application (Landbruksdirektoratet, n.d.-b). Moreover, there exist specific provisions for products containing less than 20% meat, as well as a special agreement for importing meat from the least developed countries. Despite certain exceptions to the import barriers, they continue to significantly limit the import of meat into Norway (Andersen et al., 2008, p. 56).

The import barriers effectively result in a nearly sealed-off market for the trading of meat goods within Norway's borders. According to research, import barriers play a critical role in promoting domestic price competition, particularly during the processing phase. Import barriers are essential for maintaining the current price regime and regulating the market (Andersen et al., 2008, p. 56). The Norwegian wholesale prices of meat are indirectly influenced by the competitive environment and underlying price trends, rather than direct impacts from international trade (Nortura, 2023, p. 18).

2.2 Market regulation by law

Market regulation is a form of legally sanctioned cartel, the law was created after the overproduction crisis of the 1920s and has its legal basis in “Omsetningsloven” (1936). As markets have evolved, Norway's commitments under multilateral accords have also evolved. Any analysis of market regulation should consider the current market conditions that have given rise to a different set of issues than those posed by the overproduction crisis of the 1920s (Nordlund et al., 2011, p. 11).

The purpose of the law is “to promote the trade of beef, sheep, pork, poultry and reindeer meat, grains and oilseeds, milk, eggs, fur skins, potatoes, vegetables, fruits, and berries (Lov til å fremja umsetnaden av jordbruksvaror, 1936, §1). It is a typical authorization law, with its

primary focus on market regulation for agricultural products. The objectives of the market regulations are detailed and extensive, covering stable prices, secure market opportunities, consistent price across the nation, consistent supply, and primary producer prices that align with agricultural agreement assumptions (Rustad, 2004, p. 22). “Omsetningsloven” is an intervention in competition in the market for agricultural products, but it does not intend to distort the competitive relationship between different ownership forms such as cooperatives and non-cooperative firms. The effects on competition conditions today, perhaps more than ever before, are one of the issues surrounding market regulations (Nordlund et al., 2011, p. 18). Today, the law must be understood in such a way that it does not intend to intervene in the competitive relationship between cooperative enterprises and independent enterprises. It is also not the case that the law can prevent regulatory tasks related to market regulation from being assigned to companies that are not organized as cooperative enterprises (Nordlund et al., 2011, p. 19). However, the responsibility for ensuring that agreed prices could be realized in the market was given to the cooperatives in 1958 and is written in the main agricultural agreement (Gustavsen et al., 2019, p. 9).

2.3 The market regulation scheme

The market regulation scheme consists of three components. Firstly, a regulator is assigned the responsibility of regulation. Secondly, the administration of the scheme under “Omsetningsloven” is under the jurisdiction of “Omsetningsrådet”, where farmers hold most of the members. Lastly, the target price is established through yearly agricultural negotiations between the state, “Norges Bondelag” and “Norsk Bonde- og Småbrukarlag” (Andersen et al., 2008, p. 57). Cooperatives have large processing plants and their own brands, to address this potential conflict of interest, the regulatory system has intentions to promote competition among independent slaughter and processing companies further down the value chain (Andersen et al., 2008, p. 57). To ensure that market regulation is fair to private actors outside of the agricultural cooperation during the processing stage an obligation to supply independent firms has been implemented. To achieve this, there is a political directive that requires the agricultural cooperation to have a substantial share of the total slaughtering. Although there is no specific definition of what constitutes a significant portion, given that the agricultural cooperation is responsible for roughly 70% of all slaughtering in Norway, it can reasonably be assumed that this criterion is met (Andersen et al., 2008, p. 58).

2.4 Market regulator

The market regulator has obligations and rights that are essential to fulfill the assigned tasks. It is also important that market regulation functions in a competition-neutral manner, to ensure that the arrangements and their implementation do not give the market regulator a competitive advantage (Smedshaug & Olsen, 2021, p. 11). This is formulated in the Agricultural Committee's report on the agricultural paper in 2017: "*The cooperative's assigned market regulator role must not be competition-distorting for anyone*". It is important to maintain confidence in regulatory arrangements. Transparency, clarity, and effective communication are therefore important aspects of regulatory measures (Smedshaug & Olsen, 2021, p. 11). The market regulator is obliged to ensure that all market participants have equal access to information about the activities that the market regulator performs under its regulatory responsibility. This includes production and consumer forecasts, price paths, and regulatory activities. The information shall be made available immediately after decisions on changes/actions have been made (Kjernli-wijnen et al., 2013, p. 14).

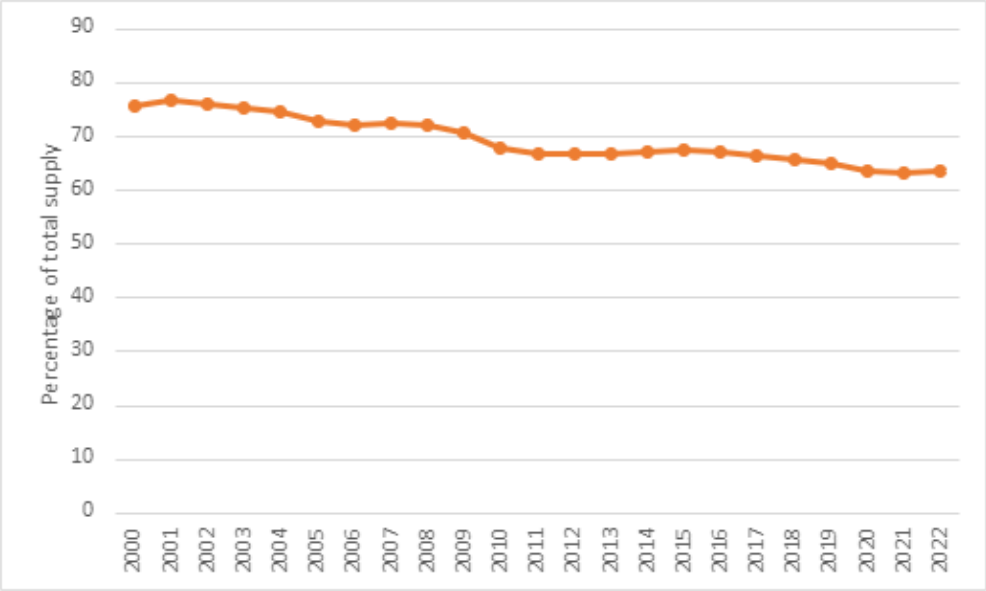

Figure 3: *Regulators share of cattle slaughter (Totalmarked, 2023).*

2.4.2 Obligation to receive

The obligation to receive means one has the right to sell livestock to the regulator, on the terms that apply at the relevant facility at the time of sale. The purpose of the receiving duty is to ensure that farmers are guaranteed a market for the goods they produce (Nortura, n.d.). This serves as an important component for reducing the farmer's risk and achieving a geographically distributed food production throughout the country. The receiving duty applies to every farmer in the country and is independent of volume, transport distance, seasonal variations, and the market situation. Responsibility and risk are covered collectively through the fees paid, ensuring that the farmer does not bear their own contract and counterparty risk for future deliveries (Smedshaug & Olsen, 2021, p. 11).

2.4.3 Obligation to supply

The purpose of the obligation to supply is to strengthen competition in the market for processing raw materials and prevent the regulator from gaining unfair competitive advantages. This means they must sell raw materials from their own slaughterhouses to other market participants at the same price they acquire the carcasses at (Smedshaug & Olsen, 2021, p. 12). In the event of a shortage of Norwegian meat in the market, import protection tariffs are usually reduced so that the imported goods are priced almost the same as Norwegian goods. Independent actors can order through the obligation to supply, and the regulator is obliged to distribute so all actors receive the same coverage of Norwegian meat (Kjernli-wijnen et al., 2013, p. 25-26). However, the obligation to supply is subject to certain limitations. The obligation is determined by the historical use of the obligation, for each individual producer, and therefore cannot be considered an unconditional obligation for competitors (Andersen et al., 2008, p. 57).

Chapter 3: Theoretical framework

To analyze the Norwegian meat industry, our theoretical framework emphasizes the theory of supply and demand, with addition of certain market situations and where regulation is exercised.

3.1 Supply and demand

The concept of a general economic equilibrium based on balance of supply and demand is essential in theoretical economics. In its simplest form the situation can be described roughly in the following terms: In a free market the price of each commodity depends on the extent to which it is demanded by consumers (Gale, 1955, p. 155). If after a given set of prices the demand for a good exceeds the available supply then its price rises thus causing the demand to decrease, while if supply exceeds demand the price will drop and demand will therefore increase. By this mechanism it is supposed that prices will eventually regulate themselves to values at which supply and demand exactly balance, these being the prices at economic equilibrium (Gale, 1955, p.155). Temporary surpluses and shortages are common in free markets since prices tend to move towards equilibrium levels. This is known as the law of supply and demand, where the price of a product is adjusted to achieve a balance between its quantity supplied and quantity demanded (Mankiw, 2018, p. 78).

3.2 Free competitive markets

The defining feature of a free market is that entry is unrestricted. This means that anyone, whether they are a buyer or a seller, can choose to take part in trading without any obstacles. For a market to be perfectly competitive, it is also important that the valuations of buyers and sellers align, which is more likely to happen when there are many potential participants in the market (Rio, 2013, p. 4). A competitive market is characterized by many buyers and sellers who have a no individual influence on the market price. Economists use this term to describe a situation where no single buyer or seller has enough market power to affect the price of the product or service being traded (Mankiw, 2018, p. 66). A perfectly competitive market, also known as a competitive market, is characterized by two main features, (1) many buyers and sellers are present in the market. (2) the products or services offered by different sellers are mostly homogeneous or identical in nature (Mankiw, 2018, p. 268).

3.3 Point of regulation

An important condition for market regulation is the exemption from Sections §10 and §11 of "Konkurranseloven" concerning cooperation between producers and abuse of dominant market positions. It is specified that the exemption only applies to actions taken by primary producers or their organizations that are necessary to implement agricultural policy (Forskrift om samarbeidsunntak, landbruk og fiske, 2004, §2). This means that primary producers can coordinate their market behavior through cooperatives without being subject to "Konkurranselovens" prohibition on horizontal price cooperation (Forskrift om samarbeidsunntak, 2004, §2).

The term "primary producers" refers to those who produce fishery and agricultural products and sell them at the first-hand level, such as fishermen and farmers. Buyers of these products are not included unless the buyer is an organization for primary producers. This refers to agricultural cooperatives and fish sales associations. When these organizations purchase products from primary producers on their own account, second-hand sales are therefore covered by the exemption (Forskrift om samarbeidsunntak, landbruk og fiske, 2004, §2). The Norwegian Competition Authority enforces "Konkurranseloven" on agricultural products in the value chain after the primary production stage. The stage after primary producers who cooperate in cooperatives (after slaughter), as shown in figure 4. The point of regulation is where market regulation is enforced by the regulator, within the "primary producer" stage for carcasses.

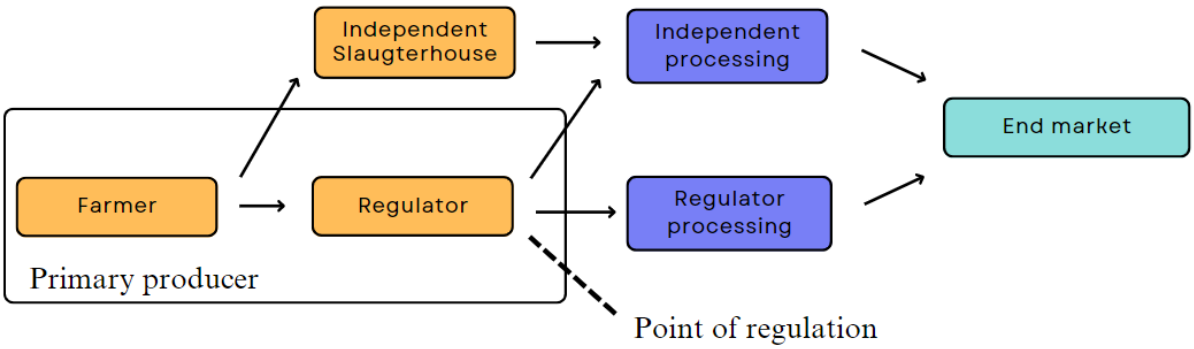

Figure 4: *Illustration of point of regulation and simplified value chain*

3.4 Regulators intervention on prices

The regulator establishes a maximum price for farmers, as stipulated in the yearly agriculture settlement, referred to as the wholesale price. This is the theoretical price farmers can obtain in the market before any deductions and additions. Furthermore, the settlement price is the amount farmers receive post-deduction. However, it is necessary to introduce the concept of price ceilings and price floors to understand the situation for slaughterhouses and farmers.

3.4.1 Price ceiling

When a maximum price is enforced for farmers by the regulator in the market, it can lead to two possible outcomes. If the price that equates the demand and supply is below the ceiling, the price ceiling is non-binding. In such a scenario, market forces operate naturally, and the economy moves towards the equilibrium point. As a result, the price and the quantity sold in the market remain unaffected by the price ceiling (Mankiw, 2018, p. 113). Figure 5 presents an interesting scenario where the regulator sets a price ceiling under the equilibrium price, making the ceiling a binding constraint on the market. The supply and demand naturally push the price towards equilibrium. However, upon reaching the price ceiling, it cannot, by law, rise any further. As a result, the market price aligns with the price ceiling (Mankiw, 2018, p. 113).

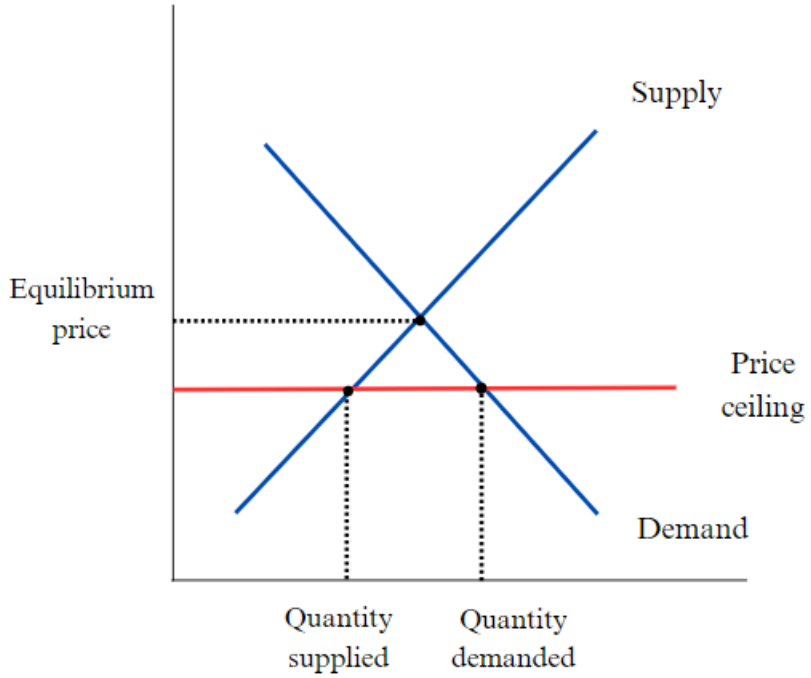

Figure 5: *Illustration of price ceiling (Mankiw, 2018, p. 113).*

3.4.2 Price floor

In this scenario the market's equilibrium falls below the established price floor, transforming the floor into a binding constraint within the market. While the dynamics of supply and demand naturally attempt to direct the price towards equilibrium, the law prevents the price from falling any lower once it reaches the floor. Consequently, a binding price floor leads to a market surplus (Mankiw, 2018, p. 117). A price floor which is set above the equilibrium fails to achieve efficient resource allocation (Brue et al., 2009, p. 62).

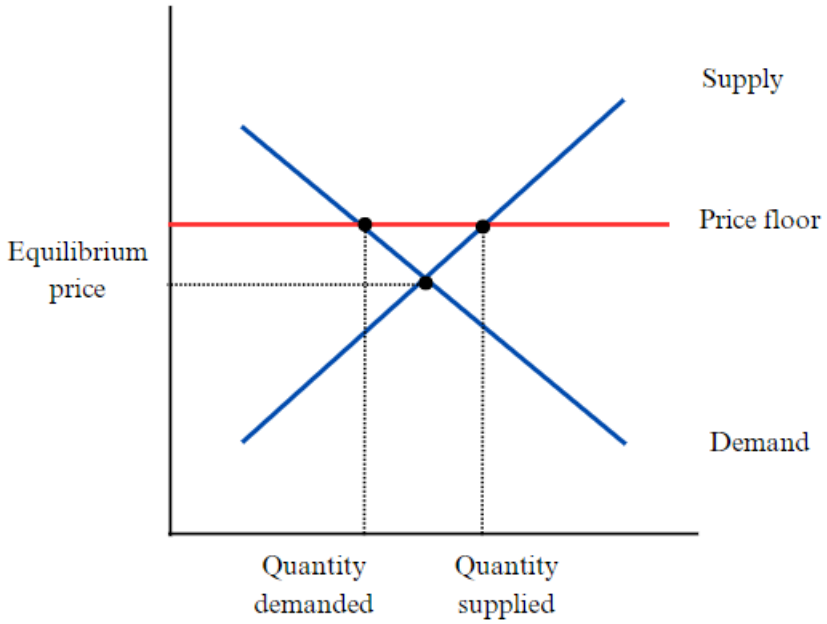

***Figure 6**: Illustration of price ceiling (Mankiw, 2018, p. 117).*

3.4.3 Import quotas

As for cattle, Norway is a net importer (Totalmarked, 2023, p. 3). The difference between the domestic quantity demanded and the domestic quantity supplied is bought from other countries. A simplification of how import quotas work is illustrated in Figure 7. This addresses the quantity demanded if the import price were to be equivalent to the world price. When a country allows trade and becomes an importer of a good, domestic consumers of the good are better off, and domestic producers of the good are worse off (Mankiw, 2018, p. 117). The higher prices occurring from a price floor encourage import of meat, increasing the quantity supplied, therefore undermining the price floor (Brue et al., 2009, p. 62).

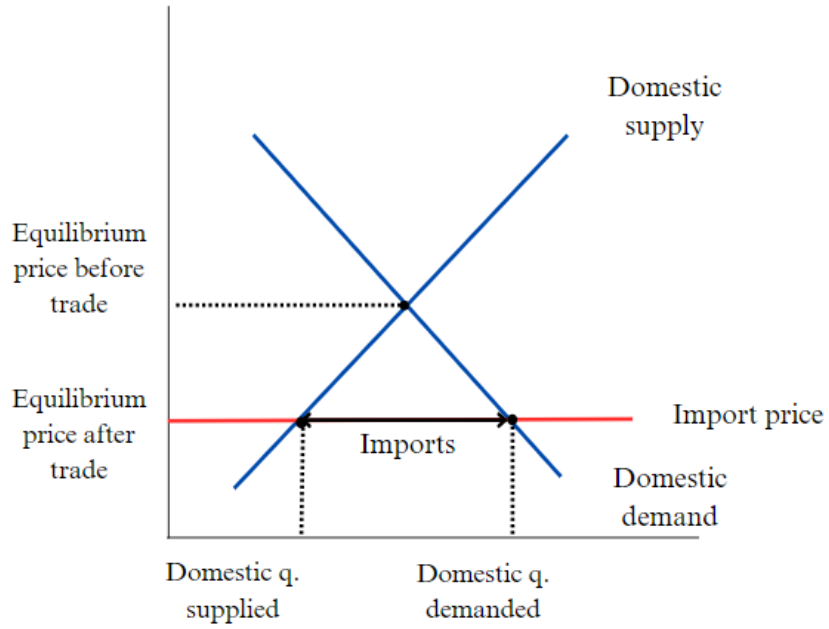

Figure 7: *Illustration of import (Mankiw, 2018, p. 172).*

3.5 Duopoly

A duopoly is a market with two (or very few), independent producers or sellers, and with only a few competitors in the market, their interactions carry even more weight. Prior to determining prices and quantities, each producer must consider not only the competitor's current strategy, but also their anticipated responses (Ginevičius & Krivka, 2008, p. 133). Both players are rational decision-makers whose actions will have an impact on each other as well as themselves. While their interests are tied together, they are not completely aligned nor completely opposed (Friedman, 1989, p. 133). Moreover, the limited number of players in the market increases the likelihood of non-competitive agreements. It is not complicated for two producers to coordinate their actions and observe the implementation of such an agreement. In such case monopolistic pricing would take over, resulting in highly unfavorable circumstances for consumers (Ginevičius & Krivka, 2008, p. 133). This suggests that if firm A maintains high prices, then firm B will do the same. However, if the Firm A lowers its prices, firm B will respond with a tit-for-tat strategy and reduce their prices as well. Essentially, both firms follow "the Golden Rule", treating others the way they want to be treated. This mutual understanding ensures that all prices remain high as any attempt to lower prices will result in retaliation (Varian, 2014, p. 550).

3.6 Pricing theory

Pricing theory states that the price of a specific good or service is determined by the interplay between the supply of the producer and the demand of the consumer at a given moment (Banton, 2022). Whether it is pure monopolist, oligopolists, or monopolistic competition, all face a downward-slowing demand curve. Firms can to a certain degree influence total supply through their own output decisions. In changing market supply, they can also influence pricing (Brue et al., 2009, p. 206). Partial cartels in pricing theory is a market situation where a few firms form a cartel and charge increased prices, even firms that do not explicitly agree to anti-competitive behavior. This will lead to an "umbrella effect" for non-cartel firms, this is inevitable. The theory explains that the price of non-cartel and cartel firms is equal. The partial cartel model views cartel members as separate entities that implicitly coordinate prices. The communication between the cartel firms can affect the equilibrium where prices are not on the same level (Odenkirchen, 2018, p. 1).

Each firm is a "price maker" which can set its price and output levels to maximize profits, however unlike a monopolist, a duopolist/oligopolist must consider how its rivals will react to any change in its price or output (Brue et al., 2009, p. 230). Because firms are few in this kind of competition, the dynamics are characterized by strategic behavior, which means self-interested behavior. Since firms are few, there exists a mutual interdependence (Brue et al., 2009, p. 230). It is demonstrated that communication enables the existence of multiple equilibriums that would not be sustainable otherwise. In the quantity competition models, it is generally presumed that if colluding companies decrease their output, external competitors are unable to supply the resulting reduction of goods, due to an increase in marginal cost of production (Odenkirchen, 2018, p. 4). The supply decreases and prices rise, this creates the umbrella effect. Research has demonstrated that cartel members anticipate this reaction and charge monopoly price for the remaining demand, while considering an increase in marginal cost of production (Odenkirchen, 2018, p. 4).

Chapter 4: Methodology

This chapter presents our methodological approach. We cover several aspects of the research process including data collection, analysis, and research bias. We intend to provide a detailed account of each of these aspects, including any limitations or challenges faced during the research process. This type of approach is common in academic writing, particularly in research papers or a thesis, where a detailed and comprehensive methodology is necessary to establish credibility and reliability of the research findings. Our master thesis is a case study, as recommended by Yin (2009) in methodological literature for addressing research questions, particularly "how" and "why" questions (Yin, 2009, p. 10). Case study research can be either quantitative or qualitative, our study is a qualitative case study (Zainal, 2007, p. 1).

4.1 Research methods

It's essential to understand the reasoning behind selecting qualitative in-depth interviewing for our research (Boyce & Neale, 2006, p. 3). This study employs a qualitative research design with data triangulation to increase the validity and reliability of the findings (Damodaran et al., 2011, p. 96). The triangulation strategy involves the use of secondary and primary data sources: existing literature and semi-structured interviews with key informants (Blythe et al., 2014, p. 545). The purpose of combining these data sources is to cross-verify the findings and generate a comprehensive understanding of the research topic (Creswell, 2009, p. 96).

A review of the existing literature has been conducted to identify key themes, patterns, and trends relevant to the research question (Watson & Xiao, 2019, p. 96). The literature review includes a systematic analysis of articles, reports, and other relevant sources. This will help us to establish a solid theoretical and empirical foundation for the study (Rother, 2007, p. 1). Secondly, semi-structured interviews are carried out with a purposively selected sample of participants who possess in-depth knowledge and experience related to the research topic (Berler & Magaldi, 2020, p. 4827). The interview guide is designed to explore participants' perspectives, experiences, and opinions, while also allowing flexibility for unanticipated insights to emerge (Berler & Magaldi, 2020, p. 4826). The interviews are audio-recorded, transcribed, and subsequently analyzed using thematic analysis techniques.

To cross-verify the data, findings from the literature review and interviews are compared (Creswell, 2009, p. 164). The process involves identifying convergences and divergences in the data, as well as any emerging patterns or themes that can provide a richer understanding of the research question (Alexander et al., 2007, p. 574). This comparison helps validate the study's findings and ensure the consistency and credibility of the conclusions drawn (Creswell, 2009, p. 185). By utilizing data triangulation with existing literature and interviews, the study aims to provide a deeper understanding of the research topic, addressing biases and limitations associated with relying on a single data source (Bans-Akutey & Tiimbub, 2021, p. 2).

4.2 Qualitative interviewing

When employing in-depth qualitative interviewing researchers engage with individuals who possess knowledge or experience relevant to the area of interest (Rubin & Rubin, 2005, p. 3). Qualitative interviewing helps to reconstruct events that researchers may not have personally experienced, and through explanations obtained from multiple interviewees, researchers can generate a comprehensive understanding of complex processes. In-depth interviewing enables researchers to delve into contradictory or counterintuitive issues (Rubin & Rubin, 2005, p. 4). In the interviewing process, to establish an open and trusting conversational partnership between researchers and interviewees is essential to develop a productive and respectful environment (Rubin & Rubin, 2005, p. 7). This partnership shows the researcher's appreciation for the interviewee's knowledge and insight. Each interviewee offers a unique perspective and different experiences, making them non-transferable with one another, enriching the data gathered (Rubin & Rubin, 2005, p. 7). However, it is important to note that this partnership is not entirely balanced, as the researcher formulates the research problem, questions, and guides the conversation, while the interviewee primarily gives the answers and shares their experiences (Rubin & Rubin, 2005, p. 7).

In qualitative research, the interviewer interprets the interviewees' experiences to generate meaning, which requires active listening, empathy, and analytical skills. Interviews can be categorized into semi-structured, unstructured, and fully structured (Mueller & Segal, 2015, p. 1). In this study, we used semi-structured interviews with an interview guide (appendix 1), which assisted in the process, while allowing variation in structure, enabling us to explore unexpected insights and themes. A balance between structure and openness is important for

generating meaningful data that reflects the participants' experiences (Gilbert & Miles, 2005, p. 71-72). One way to balance the structure and openness involves treating the interview guide as a flexible tool for knowledge gathering and interpretation, rather than a controlling factor, allowing the conversation to flow naturally (Kreiner & Mouritsen, 2005, p. 158).

We made an intentional effort to create a productive dialogue with the interviewees by combining guidelines for structure with a responsive approach. Using intervention techniques like follow-up questions, and adjusting the guidelines based on prior interview feedback. This methodology allowed for an open conversation, leading to a more comprehensive understanding of the research topic, also making room for the interviewee's opinion on complex matters, while also encouraging them to reflect on their experiences. Interviews can be challenging due to different logics that operate within them, especially the logic of representation and the logic of practice (Czarniawska, 2001, p. 263-264). To address biases and projection of professional image, we integrated the logic of practice into our interviews by focusing on practical examples, interviewee experiences, and follow up questions on conflicting topics (Czarniawska, 2001, p. 264). The questions allowed us to get authentic experiences and perceptions of the interviewees.

Chapter 5: Research design

Our research followed Yin's five-step model for conducting qualitative case-based research, which includes designing, preparing, data collection, analyzing, and reporting (Aberdeen, 2013, p. 69). Our thesis was initiated due to our interest in pricing, particularly within the agricultural industry. This interest came from our personal experience in the field.

5.1 Design and preparation

Following Yin's five-step model designing a systematic approach for collecting, measuring, and analyzing data to provide insight into the research question is essential. By creating a plan for how data will be gathered and evaluated, we can ensure that our findings are reliable and valid (Jugessur, 2022, p. 9-10). The core of our research design was the decision to use a qualitative case-based approach. Our research questions were developed with the intention of being exploratory and gain a deeper knowledge.

Preparing for the study we developed a semi-structured interview guide as our foundation for the interviews. After each interview we refined our interview guide as we gained more knowledge. We spent between two to eight hours preparing each interview, depending on the interviewee. This included reading literature, learning about the company, management, and their role in the meat industry. Questions did vary; however, the overall categories remained the same for a sense of comparability among industry players. The interview guideline comprised of these broad categories:

- Specific challenges facing the Norwegian meat industry.
- Competitive dynamics among market players.
- Regulations or government policies impacting competition.
- Market regulation.

During the research project, the snowball technique was used to identify potential interviewees of interest. The technique involves us interviewing individuals of interest and then asking them to suggest others who may be suitable for the study. In most cases the interviewees suggested potential candidates (Abubakar et al., 2015, p. 1). The industry is relatively small, and we leveraged the network provided by the interviewees.

5.2 Data collection

In line with the "data collection" phase of Yin's five-step model, we gathered empirical data for this case study between February and 31. May 2023. We conducted interviews with owners of small, medium, and large firms operating within the Norwegian meat industry, as well as individuals from non-governmental and governmental organizations. Additionally, we analyzed a variety of documents, including research papers, publicly available information, and presentations throughout the study.

When choosing a sample size, we had to consider that we are researching an area with a limited number of firms. We wanted to interview firms of different sizes, small, medium, and large firms. The most sufficient method to gather data was through purposive sampling, a method which aligns with our case study approach based on our research questions. Purposive sampling lets us select firms based on the qualities we were looking for in our research. Despite the limited number of firms, this method ensured that our sample was representative of the population studied (Dolores & Tongco, 2007, p. 7-8). A representative sample of the population being studied is considered valid in terms of external validity, as it represents the entire population. If measured correctly it is considered valid for internal validity, as it provides accurate and reliable results for the selected sample (Dolores & Tongco, 2007, p. 7-8).

We conducted a total of six qualitative in-depth interviews, with collaborative effort, we transcribed approximately 90 pages of interview transcripts. Each interview lasted between 45-90 minutes. We conducted two interviews in person, one via telephone, and three using video conferencing software such as Microsoft Teams. In addition, publicly available information and research papers were also analyzed to supplement the data collected from the interviews. During the interviews asking follow-up questions was an essential strategy to gain a deeper understanding of our topic (Flick et al., 2004, p. 206).

We decided to categorize the interviews, as represented in table 1, showing the distribution of the interests that were represented in the interview round. Some groups have overlapping interests, but we have kept them separate. The industry and regulator grouping have been kept separate because it is a precondition that those assigned the regulator role separate their industry business from their regulatory task. Within each group, there are different perceptions of the market situation and regulation system. This is further elaborated in the empirical background and empirical findings chapters of our thesis.

Table 1: *Categorization of interview objects with assigned codes*

Interest groups	Code	Number if interviews	Interview objects
Industry	1 (I)	1	Processors and manufacturers
Industry	2 (I)	1	Processors and manufacturers
Cross-border traders	3 (IM)	1	Import/exporters
Regulator	4 (R)	1	Market regulator
Organization	5 (O)	1	Non-government
Organization	6 (O)	1	Government
Sum		6	

5.3 Analyzing and reporting

The next steps in Yin's model involve analyzing the data and reporting our findings. We employed a thematic analysis as a means of identifying, analyzing, and interpreting patterns within qualitative data, aiming to gain a comprehensive understanding of the underlying issues (Ayat et al., 2022, p. 664). Thematic analysis, with its inductive approach, allows us to identify, analyze, and report themes or patterns that emerge from the data (Bondas et al., 2013, p. 400).

We began the analysis process with the transcription and organizing of our data. We read through the transcripts and materials to familiarize ourselves with the content, making note of initial ideas and observations. Then we started the process of open coding, employing the NVivo software provided by the University of Agder for efficient data categorization. Coding is when we systematically assign labels and organizing qualitative data in a manner to identify different themes and relationships between them (Elliott, 2018, p. 2851).

We identified significant phrases, statements, or ideas within the data and assigned descriptive codes to capture the meaning. As we progressed, we iteratively analyzed and refined these codes, grouping them into broader categories or themes that reflected the patterns and relationships emerging from the data. The categories first emerging were farmers, regulations, and pricing. Initially, our focus was centered on the concept of "price floor". However, as we worked with our data, we realized that it encompassed "exercising pricing power" more broadly, spanning a spectrum from instances where companies could independently set their prices to situations with non-negotiable prices. We revised some of our codes and adjusted other sections of the thesis to align with the perspective that emerged. Our coding process revealed that our data were particularly informative about the difficulties the industry faces in terms of imports, the regulatory stockpile, and pricing for smaller firms.

5.4 Clarifying research bias

Conducting qualitative interviews with only six participants in the meat industry presents several challenges, which can be addressed through careful planning and execution. One challenge is the potential for researcher bias, which could influence the interpretation of the data. Researcher bias can take two forms: the "pink elephant" bias, referring to the tendency to see what is expected (Wadams & Park, 2018, p. 73), and tunnel vision, where researchers decontextualize the concept of interest from its surrounding context and do not consider all data as relevant to the concept (Morse & Mitcham, 2002, p. 28-29). We recognized early on that we had the “pink elephant” bias, where we had a prefixed opinion of the market structure. To mitigate this, we committed to transparency and openness, with critical reflection and honest presentation of our findings, always linking it back to our raw data.

To further reduce the effects of bias, we made a well-designed research protocol outlining data gathering and analysis (Noble & Smith, 2014, p. 100). This system helped us correct data and minimize bias. Selection bias happens during the recruitment process and criteria for participant inclusion in a study. A crucial aspect of successful research is to recruit participants who align with the study objectives. To overcome this bias, we considered a selection of stakeholders when selecting the interviewees (Noble & Smith, 2014, p. 100).

The third form of bias arises unconsciously from the research design itself. For instance, bias can arise when a researcher's personal beliefs influence the selection of research questions and the methodology employed (Noble & Smith, 2014, p. 101). To address this issue, it’s important that we acknowledge and address factors such as individual experiences, ideas, biases, and personal opinions before the study to secure the transparency of potential research bias. Creating a rationale and appropriate research design aligned with the objectives will help reduce pitfalls associated with bias (Noble & Smith, 2014, p. 100). By adopting these strategies, we minimized the impact of bias and ensured the reliability and validity of our findings.

5.5 Weaknesses of study

A challenge is the potential for social desirability bias, where participants may provide answers that they believe the interviewer wants to hear, rather than their true opinions or experiences (Grimm, 2010, p. 1). To address this issue, we emphasized the importance of honest responses from the participants and utilized indirect questioning techniques, incorporating real-life examples to obtain more genuine and authentic responses (Larson, 2019, p. 535-536).

In qualitative research, small sample sizes are not necessarily a limitation, as the focus is on achieving saturation and internal validity rather than generalizability. Saturation refers to the point at which no new information or themes emerge from the data, indicating that there is no longer a need to gather additional data for our research (Mwita, 2022, p. 414). By the time we conducted our final interview, no new data emerged. Instead, the information gathered served to supplement and enrich the existing data. Internal validity, on the other hand, portrays to the extent to which the study's findings accurately represent the reality of the participants and the context being studied (Rooney et al., 2016, p. 617-618). To ensure saturation and internal validity in our research, we carefully selected participants with diverse backgrounds and experiences, engaged in iterative data analysis, and checked with the interviewees to verify the accuracy of our interpretations. We prioritized these aspects to provide reliable data during our research, despite the small sample size.

External reliability, also referred to as generalizability or transferability in qualitative research, refers to the extent to which the findings of a study can be applied to other contexts or populations (Andrade, 2018, p. 499). Achieving reliability can be challenging in qualitative research (Coleman, 2021, p. 2043). To increase reliability we use data triangulation to get a stronger demonstration of reliability, by using multiple data sources and collection methods, reinforcing the integrity and credibility of our research (Coleman, 2021, p. 2043).

For future research, we recommend adopting a bottom-up approach during the interviews. This would involve initially interviewing industry players, ranging from small business owners to larger companies, to gain a comprehensive understanding of how specific topics impact their operations, and get practical examples. Following this, data should be gathered from organizations and regulatory entities to evaluate how political systems and policies may not always align with real-world experiences and challenges. We believe this approach can provide a more in-depth perspective on our research topic.

Chapter 6: Empirical background

In our empirical background we present the companies, organizations, and their role within the Norwegian meat industry. Classification of the entities is done according to the table presented in chapter 5.2. In our case study of the Norwegian meat industry, a comprehensive understanding of our findings requires an explanation of the technical aspects related to what the farmer receives and what slaughterhouses must pay. Additionally, it is crucial to consider the import mechanisms that play a role in shaping the market dynamics and overall functioning of the Norwegian meat industry.

6.1 Background information of entities

Company 1 (I): A regional slaughter and processing firm, specializing in ecological, high-quality meat. The strategic focus relies on differentiation, emphasizing local affiliation and their commitment to more sustainable farming practices. Despite their regional focus, they distribute their products to supermarkets across Norway. However, their market behavior and pricing strategies are influenced by the market regulator. Independent, family-owned company.

Company 2 (I): A regional processor dedicated to delivering affordable cuts of meat. Their strategy centers on strong local affiliation and keeping relationships with customers, alongside securing contracts with local supermarkets. Although they do not slaughter their own cattle, they have the possibility to use the 'obligation to supply' from the market regulator. However, it has been strategically decided not to rely on this obligation at any cost. Instead, they source from other regions of the country. Independent, family-owned company.

Company 3 (IM): One of the largest importers and exporters of agricultural commodities in Europe, especially meat. The company's main task is to facilitate import to Norway, and import meat based on quotas or administrative tariff reductions. The primary task is to supplement the potential under- or oversupply of meat and cooperate with the regulator. It is a private firm; however, majority of the Norwegian branch is owned by the regulator.

Company 4 (R): The regulator is responsible for maintaining the market balance. The company is the largest receiver of slaughter in Norway. The company is responsible for setting the prices of carcasses in the market for farmers. An own entity within the company has been assigned this role. The regulator is organized in a cooperative with farmers as owners.

Organization 5 (O): Association for privately owned enterprises and firms. An umbrella organization which represents the Norwegian private meat industry's interest. Facilitating professional advice and a bridge between the market regulator, government, and other entities.

Organization 6 (O): Government organization which is responsible for performing directorate tasks on behalf of the government. The organization provides expertise, implements agricultural and trade policies, and facilitates the agriculture and food industry.

6.2 Average wholesale price

The average wholesale price is the semi-annual mean price for carcasses, set by the regulator. Price paths are used to steer delivery of livestock within a half-year to reach the level of Average Wholesale Price. The regulator adjusts the price path of meat throughout the half year, to correspond with the Average Wholesale Price (Nortura, 2022a). The idea is that the wholesale price should be capable of covering the costs that arise before an animal is completely slaughtered and hung. These costs include the expenses for animal transportation, the cost of slaughtering the animal, and other related costs. Both the farmer and market regulator are experiencing significant increases in important input factors, and these changes in cost must be reflected in the net listing. This means that the change in the settlement price, which the farmer receives, often differs from the change in the wholesale price (Nortura, 2023, p. 9). The wholesale price must be established while also considering both domestic production and import quotas, to achieve economic sustainability throughout the entire value chain up to the wholesale price point (Nortura, 2023, p. 2).

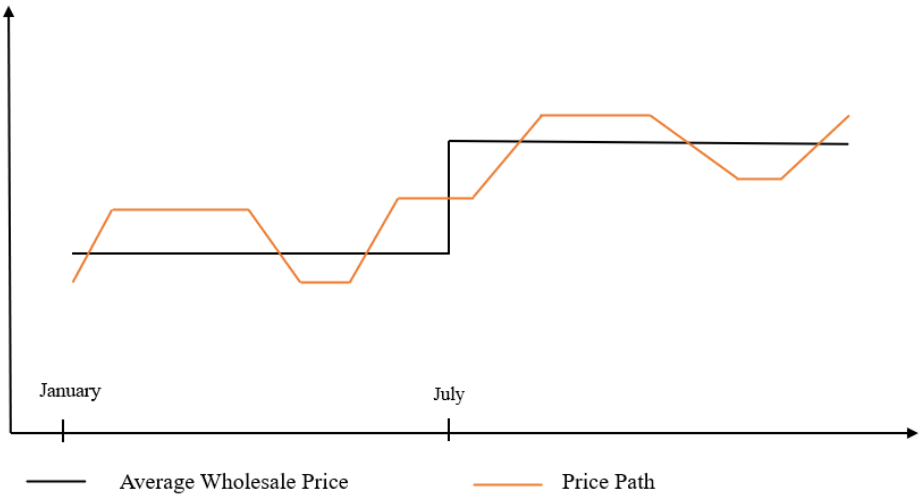

Figure 8: *Illustration of Average Wholesale Price and Price Paths (Nortura, 2022b).*

6.3 Settlement price

The wholesale price serves as the foundation for calculating the settlement price for all animals. The settlement price for farmers is determined by subtracting the costs incurred by the market regulator for slaughtering the animals from the wholesale price of the animal. Factors like changes in the value of by-products, skin and hides, and the market regulator's own additions/deductions, as well as public fees, are considered when determining the final settlement price (Nortura, 2022). When elements in the calculation for net listing change, the settlement price also changes (Totalmarked, n.d.).

If the market regulator is inefficient in slaughtering, the cost of slaughter will increase, resulting in a lower settlement price for the farmer. Conversely, if the market regulator is efficient in slaughtering, the settlement price will be higher. Many experience high costs from collecting livestock (transportation) from producers located far from the slaughterhouse, leading to difficulties in achieving a balanced settlement price for these producers. On the other hand, farmers located closer to the slaughterhouse will incur lower transportation costs, resulting in a higher settlement price (Landbruks- og matdepartementet, 2010, p. 77).

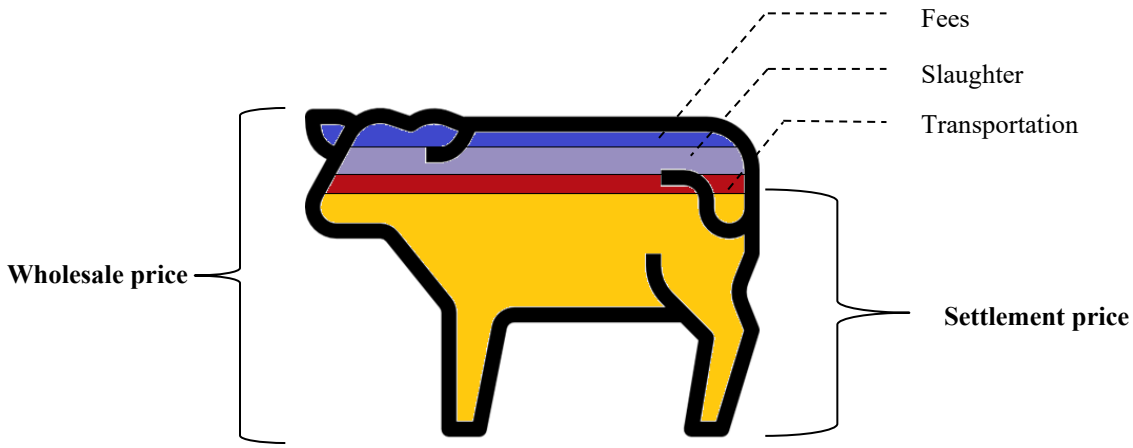

***Figure 9**: Illustration of wholesale price and settlement price (Nortura, 2022).*

6.4 Market regulator instruments

The market regulator has various tools at their disposal to maintain market equilibrium. One such tool is the regulatory stockpile, which removes surplus production from regular circulation. This is achieved by imposing a higher turnover fee on farmers' deliveries to slaughterhouses, which will fund the storage of excess production (Andersen et al., 2008, p. 58). As a result, primary producers will bear the cost through a reduced price for their delivered livestock. This will help reduce both prices and production, ultimately bringing the market closer to balance. However, it's worth noting that the regulatory stockpile only applies to slaughter delivered to the regulator. During times of surplus, export regulation has been used, which involves exporting meat at a subsidized price to alleviate excess in the domestic market (Andersen et al., 2008, p. 59).

The market regulator can reduce production on existing farms by giving the farmer less compensation for higher weight, thus decreasing overall volume, and reducing the oversupply, and increasing the price of carcasses. Delaying the start of production between delivery of slaughter animals and introduction of new animals is also a measure which can be taken. In case of a shortage, the market regulator can use price mechanisms to steer slaughter from periods of oversupply to periods of undersupply, to balance the market. In a period of shortage customers who request whole carcasses from the regulator will receive a reduced quantity, such as 80 percent of their order, and the shortfall can be covered by withdrawing from the regulatory stockpile or reducing tariffs on imports (Andersen et al., 2008, p. 59-60).

6.5 Import protection and import quotas

The import protection policy leads to Norwegian farmers receiving prices higher than the world market prices and results in a larger domestic agricultural production than it would have been otherwise. The Norwegian import protection policy for agricultural products has contributed to higher prices not only for producers but also significantly higher prices for consumers in Norway compared to similar prices in neighboring countries (Mittenzwei & Svennerud, 2010, p. 25). The GATT/WTO agreement in the agricultural sector (1995), required Norway to shift from a quantitative to a tariff-based import protection policy. Due to the imported product (including tariff) being priced considerably higher than the Norwegian product, Norwegian production has not yet faced significant import competition, except for some processed agricultural products (Rustad, 2004, p. 25). In isolation, the weak Norwegian Kroner, contributes to a slight strengthening of the import protection (Nortura, 2023, p. 13).

Import quotas vary in size and value, with tariff rates within them being significantly lower than regular rates. In most WTO quotas, the tariff rate stands at 25% of the regular rate. Most import quotas for animal products are distributed through auction (Norsk Landbrukssamvirke, 2017, p. 10). Unused quotas cannot be transferred over to next year (Forskrift om fordeling av landbrukstollkvoter, 2008, §10). In the majority of cases, the quota share can be traded and transferred to other importers. However, the sale of quota shares is limited to the involved parties, and the transfer of import rights requires reporting to the Norwegian Agricultural Directorate (Landbruksdirektoratet, n.d.-b).

The regulation regarding allocation of quotas states if the quota owner does not wish to use the allocated quota share, a written notice must be given to the Norwegian Agricultural Directorate without undue delay. The unused quota share, whether whole or partial, shall be withdrawn (Forskrift om fordeling av landbrukstollkvoter, 2008, §10). The quota will be made available for redistribution to other interested parties to ensure that the quota shares are being utilized effectively and efficiently, and that unused shares are not wasted. The market for Norwegian raw materials, particularly beef, faces difficulties due to quotas, which constitute a considerable share of the market. Quotas normally shrink the domestic market and frequently lead to price pressures on Norwegian raw materials. Over time, Norwegian producers have lost significant market shares to imported beef (Tufte, 2022, p. 7).

Chapter 7: Empirical findings

Our empirical findings are the result of a comprehensive interviewing process, based on our interview guide. Firstly, we provide evidence for how the participants perceive the market and different challenges. We then present the data on pricing of carcasses, the competitive landscape and regulatory stockpile. Lastly, we present data on how imports affect the pricing.

7.1 Market perception and challenges

Our empirical data reveals that the various interviewees share a similar perception of the actors and their roles in the Norwegian meat market. As explained in the methodology section, we differentiate between four categories: industry, import/export, regulator, and organizations. Interviewee 1 (I) briefly explains the mechanics of the market as follows: "*The private meat industry consists of approximately 150 companies involved in the entire value chain, including slaughtering, trimming, and production. On the other side, we have the market regulator with its subsidiaries"*. While there is a consensus of actors operating within the market, our data provide evidence that there is a notable divide between private and cooperatives, as outlined by interviewee 6 (O) "*on one side, there is the market regulator, while on the other side, there is the private meat industry".*

The data reveals that there are shared challenges that must be addressed in the industry, but each actor also has their own role with accompanying challenges. Significant variation emerges in the challenges described, as "*there have been significant challenges with cost development, high prices on energy and raw materials. Slaughterhouses and trimming companies reduce their purchase of beef carcasses, resulting in an oversupply of beef at a regulated level that has been placed in storage to achieve market balance" (#6O).* Our empirical data shows that the entire industry, throughout the value chain, grapples with increasing costs, with interviewee 2 (I) expressing "*our cost structure is currently high. We are competing with factories on price".* Interviewee 4 (R) states *"the price increases have hit the farmers, and there is a dramatic increase in costs throughout the value chain."*. Despite the industry facing rising costs, we discovered greater structural challenges among the different actors, related to their position and function in the market. Interviewee 3 (IM) described it as "*a significant pressure from the agricultural settlement, where farmers expect increased prices for their products every year".* The price increase by farmers is first pushed onto the industry, and then onto consumers. The

processors and manufacturing companies placed particular emphasis on market regulation and how it created an unfair competitive environment, "*the fact that … is a big player in the market is not problematic, however they are also a market regulator, which is politically determined" (#1I).* The data shows a significant portion of the industry is politically driven rather than market-driven *"where market forces are expected to align with political forces"* (#2IM). The political decisions are a result of the agricultural settlement, which sets the direction for the agricultural industry. In our interviews, particular attention is given to pricing, imports, and market balancing.

7.2 Pricing, competition, and regulatory stockpile

The market regulator is the largest actor in the market and has the "obligation to receive and supply". Smaller players face challenges in exercising pricing power in the Norwegian carcass market "s*ince the pricing is determined by the market regulator, everyone will naturally follow their pricing* (#1I). The regulator serves as an insurance for farmers to offset their livestock produce, which effectively acts as the price floor for the whole market, as "n*o one will sell their livestock for less than what …. has set the prices at" (#1I).* Interviewee 2 (I) expresses *"we are trying to align our prices with those set by the regulator".* There is a widespread understanding among our interviewees that the market regulator establishes the minimum price for the entire market *"as no raw material producer is willing to supply carcasses at a price lower than the regulators"* (#5O). Due to the size of the market regulator in terms of slaughter and the assurance (obligation to receive) it provides to farmers for the sale of their livestock as "*the idea behind the system, is to establish the price in the market for farmers"* (#6O). Interviewee 4(R) emphasized *"that wholesale price is the price ceiling for the farmer".* However, there is a common understanding that the settlement price, including the additional rates, is the price floor for acquiring carcasses.

Our interviewees share the common opinion that there is a price floor in the market. "*There is strong competition to receive livestock from the farmer"* (#4R), and it is pointed out there are other factors which are relevant to the competition. The competitive aspect of slaughtering relates to the additional rates that farmers receive for the livestock, "*where we compete to offer farmers additional payments for factors such as quality supplement, pool supplement, and contract supplement"* (#1I). In addition, the competitive situation is mentioned as a reason for differentiation *"as it is our priority to maintain a local affiliation"* (#2I). Several smaller

players in the market have strategically decided to compete in ways other than price to receive livestock *"where we emphasize our proximity, which can't be taken away from us"* (#1I). Interviewee 5 (O) also addresses that *"farmers are not just a number in a queue, but they have a personal relationship".* Geographical location is a significant competitive advantage for smaller players, as well as proximity to the market as "w*e know the farmers, the animals, and the area, which is our advantage"* (#1I). Since average wholesale price represents the price ceiling for the farmer, slaughterhouses must *"compete on cost efficiency"* (#6O), rather than pushing down the settlement price the farmers receive. It becomes clear that if the *"slaughterhouses are not efficient in their operations, the settlement price to the farmer would have been much lower"* (#5O), as one needs to compensate for lower efficiency. As we know the settlement price plus the addition rates is the minimum price for carcasses, and these costs are recouped in the subsequent processing stages for the industry.

The information we obtain reveals a further distinction between cooperative and private companies. The differentiation between cooperatives and private entities is not solely based on their organizational structure, but also how they operate in the market and the competitive environment. A particularly noteworthy finding is that the *"entire premise of competition relies on private actors paying more for livestock"* (#5O). The market regulator is a large and stable company with locations throughout the country and can leverage this when they source livestock. However, it remains politically determined that the market regulator must accept livestock, which means *"we must have infrastructure throughout the country, which is also a burden"* (#4R). As a result, private actors are therefore subject to a *"forced obligation to receive"* (#1I). If they choose not to receive, it goes to the cooperative. This is being further elaborated by interviewee 5 (O), which states *"we have implemented an obligation to receive for our members ".* This enables us to categorize the market into two players, the private and the cooperative. As a result of this, our interviewees express they "*only do business with private actors"* (#2I) instead of the market regulator when possible *"so we can support each other and try to create a common platform"* (#1I).

Our interviewees discuss the regulatory stockpiles that the market regulator has control of. The regulatory stockpile is a tool the market regulator has at their disposal for balancing the market. *"There is a surplus of cattle at the regulated level and is placed in regulatory stockpile to restore market balance"* (#6O). When there is a surplus, it goes into the regulatory stockpile, and it is removed from the market to be used during periods of shortage. Where interviewee 2

(I) says, *«I feel that when the supply is good, they don't have anything to give you; instead, it goes into the regulatory stockpile".* This was also discussed by interview subject 1 (I), who says "*when there is a surplus in the Norwegian market, the regulator puts it into the regulatory stockpile".* If there is a shortage of carcasses, slaughterhouses are asked to turn to their own producers, whereas processing firms have the opportunity to retrieve carcasses from the "supply obligation". This is challenging for firms who have integrated slaughtering and processing plants *"where we can't use the obligation to supply because we slaughter animals as well"* (#1I). Only pure processing firms have the ability to use the "obligation to supply". This is further confirmed by interviewee 2 (I) who says, *"we have the choice to use the obligation, but we chose not to trade with the regulator"*. To mitigate this *"we encourage our members to separate the processing operations from the slaughtering business"* (#5O).

The regulatory measures, including the stockpile, is financed by all the farmers who slaughter animals in Norway which *"the fee is paid to the regulator, who is responsible for maintaining the market balance"* (#1I). The regulatory measures are financed by the producers themselves. The fee is equal per unit delivered, which means large producers pay more than small ones. Risk is covered collectively; therefore, all producers must bear the cost of individual producers' oversupply. There is a clear distinction between what the regulator thinks and what the private actors think about the regulatory stockpile. It is problematic "*that the regulator can put all surplus into the regulatory stockpile and have the costs covered through the fees paid by the farmers"* (#5O). Private actors are required to *"bear the entire cost ourselves during periods of surplus"* (#1I). The regulator holds an obligation to purchase livestock from producers. "*Other actors may decline if they do not have a need for livestock*" (#6O). In practice, this does not happen, as private actors have introduced an obligation to receive and accept the livestock. It remains only the regulator who has access to the regulatory stockpile, and the regulator argued that *"private companies should bear the risk for the volume they purchase, and not the farmer. It should not be a risk relief for the industry"* (#4R). This would allow actors "*to purchase whatever they want and return any surplus to the regulatory stockpile"* (#4R) where the costs would be covered. Farmers continue to deliver livestock, but private slaughterhouses have reduced their purchases of cattle due to rising costs "*resulting in an oversupply of beef at a regulated level" (#6O). "If we have a surplus in storage, it is unlikely for us to request tariff reductions"* (#4R). This further leads to challenges with administrative tariff reductions and import quotas.

7.3 Tariff reductions and import quotas

From our interviews, we gathered data on various aspects related to importing into Norway. There exist two types of import where *«we differentiate between administrative tariff reductions and import quotas"* (#3IM). Administrative tariff reductions serve to facilitate the import of agricultural products as a supplement to Norwegian production, considering the needs of consumers and the food processing industry. *"The key aspect is to maintain market balance both short and long term; it is not guaranteed that a deficit of carcasses will be resolved through administrative tariff reductions if a surplus is projected for the year"* (#6O). All players may apply for administrative tariff reductions, but *"the market regulator's assessment is the most important"* (#6O). The supply and demand situation undergoes assessment every week and "*if we see a period of undersupply and there are no quotas available, it can be supplemented with administrative tariff reductions"* (#4R). All actors have the option to import with administrative reduced tariffs.

In contrast to administrative reduced tariffs, *"quotas are purchased at auction in the open market the year prior to when the quotas are supposed to be used"* (#5O). Companies purchase the quotas based on the market conditions that were in place in 2022, and they are to be used in 2023. As the data shows, the industry grapples with extraordinary costs, which also significantly affect the purchase, sale, and utilization of quotas. "*Market forces are operating efficiently in the buying and selling of quotas*" (#3IM), and it is "*up to the players to decide whether they want to utilize the quotas"* (#4R) for import or sell them. In the calculation for market balancing, one must take the quotas into account. However, "*this relies on historical consumption and what is sold at auction*" (#4R), not what is used for import. This finding is interesting because "*companies are choosing not to utilize quotas they have purchased"* (#5O).

The assumptions that were in place in 2022 for the purchase of quotas have changed significantly with the weakening of the currency and increased prices for slaughter. *"Last year, companies were paying far too high of a price for the quota compared to what they could import, resulting in the quotas not being utilized."* (#5O). This leads to a shortfall in the market balance and resulting in increased prices for carcasses in Norway. Quota prices are surpassing the Norwegian wholesale price for carcasses yet remaining below the cost when full tariffs are applied (import protection). *"The tariff quotas are pushing Norwegian price levels up because one has to pay the price for the quota in addition to the price from the exporting country"* (#5O). Since the quotas are bought and sold freely, some are choosing not to use them or to sell

them at a higher price to others. Companies that are trading and importing using quotas are not subject to market regulation, and only "*administrative tariff reductions serve as an instrument for the regulator"* (#4R). Holding unused quotas prevents the release from the regulatory stockpile and acts as a *"block for obtaining Norwegian raw materials, even if there is a regulatory surplus"* (#5O). During the period from January to September, supply of Norwegian meat is typically low, which means companies are forced to *"import to cover its demand"* (#5O) since Norwegian farmers are not able to deliver. This is an issue which becomes clear for the regulator as well since *"the date where you count cattle is during fall"* (#4R). Where subsidies for farmers are decided based on the amount of cattle at this point. Farmers deliver livestock for slaughter after the counting date, and thus an oversupply occurs at the end of the year. The regulator blames private firms for an import-based oversupply during the year, and the private firms blames the regulator for not facilitating supply more balanced during the year. The regulator is trying to set *"prices which incentives to deliver livestock during the first six months of the year"* (#4R). Where they have a *"clear ambition to have higher prices for carcasses the first six months of the year, when we need it"* (#4R). This encourages import as the supply is not enough to cover demand for the first half of the year.

Chapter 8: Analysis and conclusion

Market regulation does not have the intention to hinder competition in the meat industry. Its primary purpose is to protect the farmer, ensuring that neither overproduction nor underproduction occurs. From our data we can categorize two players in the market: the cooperative and private firms. These actors contribute to shaping the dynamics and competitive landscape of the industry. Our analysis is structured around our research questions, where we elaborate our findings, and give each question a conclusion, with a summary at the end to answer our problem statement. Suggestions for future research are presented as well.

1. *To what extent can market participants independently establish their own prices for carcasses in the Norwegian market?*

2. *How does the presence of a dominant market participant influence the competitive dynamics and pricing strategies among other players in the industry?*

3. *How does regulatory measures and import quotas contribute to undermining the Norwegian price level?*

8.1 Independence in price establishment

Our interviews reveal the role the market regulator plays in price setting of carcasses. The analysis categorizes two key actors in the Norwegian meat market and examines their interactions. Price theory, in this context, predicts an equal pricing between private firms and the regulator (Odenkirchen, 2018, p. 1). Even if firms don't explicitly align with the regulator's behavior, they would still need to match or exceed the regulator's prices to attract farmers. This implies that a high pricing strategy by the regulator would be mirrored by private firms. Similarly, if the regulator reduces prices, private firms will respond accordingly with lower prices (Varian, 2014, p. 550). However, this response doesn't apply if private firms chose to lower the compensation given to farmers, the regulator can choose not to follow. The regulator is obliged to accept livestock from every farmer, and this is where the regulatory stockpile becomes an issue. In a free competitive market prices will eventually regulate themselves to values at which supply and demand is at equilibrium, the law of supply and demand (Gale, 1955, p. 155).

The regulatory stockpile is a tool which allows the regulator to remove excess supply out of circulation during periods of oversupply and release it back into the market during periods of shortage. This mechanism stabilizes prices and is intended to give a steady supply of meat to consumers. In periods of oversupply on a regulatory level, instead of letting buyers benefit from lower prices, subsidized exports measures can be taken. The ability to shift excess supply out of regulation and into the regulatory stockpile without incurring costs adds a reinforcement of the price floor. The option of delivering livestock is available regardless of the market situation for farmers. As mentioned by the regulator, the regulatory stockpile should not be a risk relief for the industry, but act as an intended insurance for farmers to offset their produce, regardless of market conditions. From our empirical findings we know that regulatory measures are financed by the producers and risk covered collectively. For aggressive producers, focusing on large volumes, the fee becomes an effective risk relief. The tool is supposed to hold producers accountable for overproduction but could instead exempt aggressive and large producers from responsibility of overproduction. Our theory outlines that a price floor encourages overproduction from farmers (Mankiw, 2018, p. 117). They deliver livestock, the regulator removes it from market circulation, and the producers get an equal compensation per unit, regardless of the market situation. Therefore, it is important to acknowledge the difficulties the regulatory stockpile can have for the industry.

If private firms decide to offer farmers a price less competitive than the regulator, sourcing raw materials becomes challenging, as farmers would prefer to supply the regulator. As a result, private firms are forced to at least match, if not surpass, the prices offered by the regulator to secure raw materials from farmers. Given that the regulator sets a theoretical maximum price for the farmer (wholesale price), competition occurs at the level of the settlement price (after deductions), plus any additional rates that each firm can offer. This is the binding constraint within the Norwegian meat market, forming the price floor (Mankiw, 2018, p. 117). The regulator removes excess supply from circulation, which would otherwise push prices for carcasses down.

While our study did not focus on non-competitive agreements, the concentrated nature of the market increases the risk of such arrangements. It's crucial for regulatory entities to monitor market behavior to prevent potential collusion both in the primary stage of production and further down the value chain. The limited number of players in the market increases the likelihood of non-competitive agreements, even if they do not explicitly agree to doing so. In

such case monopolistic pricing would take over, resulting in highly unfavorable circumstances for consumers (Ginevičius & Krivka, 2008, p. 133). While the regulator and private firms' interests are interconnected, they are not completely aligned nor completely opposed (Friedman, 1989, p. 133). In this situation the regulator, being farmer-owned, has a vested interest in the welfare of the farmers. This means they might be inclined to set a higher wholesale price or higher additional rates to ensure their farmer-owners receive adequate compensation for their raw materials, however this might directly impact the regulators profitability and its farmer owner's income. The private firms can choose to compete by giving additional rates to the farmers. However, since the regulator is the price setter, they will naturally be inclined to at least compensate as much, if not more, as the regulator. Private firms compete on operational efficiency to appeal to farmers. The more cost-effective their slaughtering process, the higher the base compensation (settlement price) they can offer to farmers. Private firms can in some cases have lower additional rates or the same as the regulator, but be more cost efficient, in return raising the settlement price for the farmer.

Consequently, our data leads us to the conclusion that private firms possess a degree of pricing autonomy. They can decide their own approach by competing on additional rates offered to farmers and improve cost efficiency to increase the settlement price. However, the reality of the Norwegian meat market is that a fixed price floor exists, which is directly linked to the offerings of the regulator. The regulatory stockpile, financed by the farmers, facilitates the pricing regime in the Norwegian carcasses market by removing excess supply. This underlying factor exists for all players, effectively influencing the pricing decisions of private firms.

8.2 Competitive landscape with a dominant player

Regulatory laws should act competition neutral, however it does not prevent the regulator from keeping their market share. Our theoretical framework outlines the market regulation as an exemption of "Konkurranseloven" §10 and §11 (Forskrift om samarbeidsunntak, landbruk og fiske, 2004, §2). The exemptions specify actions taken by primary producers, or their organizations (cooperatives) which are necessary to implement agricultural policies, which will adjust their market behavior accordingly. There may be reason to expect that the regulator takes responsibility for maintaining prices, even if a supply surplus may be due to private firms attempting to gain a larger market share. Given this position, the cooperative has a significant amount of bargaining power and influence over the market, as smaller players are likely to have

to adapt to the regulator's pricing and strategic positioning. Assuming the duopoly in the Norwegian market for slaughter, their interactions hold even greater significance. Before private firms decides prices and quantities, they must consider not just the current strategy of the regulator, but also the regulators expected reactions (Ginevičius & Krivka, 2008, p. 133).

Private firms compete with the market regulator to provide attractive prices to secure supply from farmers. However, if the price is too high, they risk being unprofitable. If they price too low, they might not secure enough supply. This dynamic creates price competition, with the added complexity of the regulator's dual role as both a dominant market player and a representative of farmers' interests. It's a balance between maintaining competitive prices to ensure market share, and ensuring profitability for both market regulator and the farmers who own it. Competitors cannot neglect the possibility that the regulator may take tactical, purely strategic, or economic considerations into account when assessing regulatory measures.

Maintaining competitiveness within its environment may be influenced by uncertainty, affecting competitors' strategic decision-making and their ability to plan for long-term investments and development (Alhawamdeh & Alsmairat, 2019, p. 97). In our case, it appears that the market regulators dominance on slaughtering indirectly impacts smaller firms to focus on processing rather than compete directly with slaughtering. During shortages slaughterhouses cannot use the "obligation to supply", where in contrast to pure processing firms, have the opportunity to use the "obligation to supply" from the regulator. As one of our interviewees pointed out, they encourage separating the slaughter business from the processing operations. It is essential to consider the potential impact market regulation has on the competitive landscape in the industry when implementing business strategies. Competitors are therefore leveraging other aspects of their business, like proximity, relationships, and differentiation.

Our data reveals that the entire premise of the competition relies on private actors paying a higher price for carcasses. As a result, private firms form partnerships, such as the implemented obligation to receive. The partnership serves a multitude of purposes, providing a platform for pooling resources but is also intended to significantly reduce costs and increase operational efficiency. Pooling resources through these partnerships allows smaller firms to share knowledge, expertise, and even physical assets (slaughterhouses), thereby increasing their capacity and capabilities. This is particularly useful in an industry where large-scale operations often drive profitability. By sharing resources, private firms can compete against the regulator without bearing the full burden of the costs associated with expanding.

The concept of "coopetition" is becoming increasingly prevalent in the Norwegian meat industry, where a relationship can comprise of both cooperation and competition (Bengtsson & Kock, 2000, p. 414). It is a direct response to the competitive environment in the market. While firms compete to succeed, there is also considerable value in cooperation (Bengtsson & Kock, 2000, p. 416). Smaller firms in the Norwegian meat industry appear to embrace this concept, as our interviewees expressed, leveraging coopetition as a strategic tool to better pool their resources in the competitive landscape. In this context, firms acknowledge the reality of their competitive situation while recognizing shared interests in collaboration. This creates a potentially beneficial partnership where players compete in some areas of business but cooperate in others. However, the firms are undoubtedly in competition with each other where they compete for the same resources, target the same consumers, and operate within the same market constraints. This is the competitive aspect of their relationship. The partnerships between firms provide a platform for smaller firms to compete more effectively against the regulator, as our data shows, the private firms are avoiding trade with the regulator. By combining resources, private firms can increase their competitive power and influence in the market. They can negotiate better terms, secure more favorable deals, and potentially decrease the market dominance of the regulator.

In conclusion, the dynamics between the market regulator and smaller firms in the Norwegian meat industry shapes the competitive landscape. The regulator effectively controls market conditions to obtain carcasses. In response, smaller firms are paying more for carcasses and collaborating to utilize resources more efficiently to increase their competitive power. An important component of this strategy involves bypassing trade with the regulator and forming partnerships with each other. This approach seems paradoxical but highlights the response to challenging market environment (Stadtler & Van Wassenhove, 2016, p. 658).

8.3 Import undermining Norwegian price level

From our data we differentiate between two types of imports, the administrative tariff reductions and import quotas. The administrative tariff reductions serve as an instrument to supplement Norwegian production considering the needs of consumers and the food processing industry. When administrative tariff reductions are in place as a regulatory measure, all players can import to Norway with reduced tariffs. However, import quotas serve as a right to import

with reduced tariffs, regardless of administrative tariff reductions. From the data obtained we know that the market balance equilibrium is calculated based on historical consumption and import quotas sold at auction. The import quotas do not oblige companies to import, thus leading to difficulties balancing the market for the regulator.

Market regulator estimates the theoretical equilibrium, where they account for supply and demand in the Norwegian market (Gale, 1955, p. 155). If Norwegian farmers are not able to supply the quantity demanded, the remaining quantity will be imported. Our empirical findings show a structural challenge with undersupply during the first half year and oversupply the second half of the year. Imports are usually used between January and September to cover demand from the industry, since Norwegian farmers are not able to supply enough. During the second half of the year oversupply occurs and imports are therefore less needed. From an annual perspective, there will normally be overproduction, but looking at it on a quarterly basis, there will be periods of undersupply that must be covered by imports. Imports affect the quantity supplied in the market, as well as demand. Cheaper imported meats, means higher demand, which push the equilibrium price down in the Norwegian market (Mankiw, 2018, p. 172). The regulator must account for the quotas sold on auction, and the underlying assumption is that they are to be used the following year they're sold at auction. Import quotas facilitates a form for price control on Norwegian carcasses, since the quotas normally regulate prices down.

In our case, the quotas bought in 2022 were purchased based on the market conditions in place at the time. Quotas are to be used during the year 2023 and cannot be transferred to 2024. Market conditions have changed significantly from a year prior, with rising costs and weakening of the Norwegian currency (Ada, 2023). Firms bought quotas based on the underlying assumptions, paid an excessive amount for the quotas compared to estimated imports. From our theoretical framework we explained how imports are used to increase supplied quantity (Mankiw, 2018, p. 172). Unused quotas will shift the market balance the regulator has estimated. The shortfall in quantity supplied will give an upward price pressure for Norwegian carcasses. Our data provides evidence of companies not utilizing the full extent, or in some cases none of the quotas obtained. This is further confirmed by the fact that import volumes have drastically decreased for the year 2023 (Totalmarked, 2023, p. 3). Consequently, the average wholesale price for carcasses has increased in the Norwegian market.

Based on the collected data, the market for purchasing and selling quotas operates with a high degree of efficiency. Firms that decide not to utilize their quotas can alternatively sell them. In today's market, the price of these quotas in addition to the price from the exporting country, surpasses the wholesale price for carcasses in Norway. However, the price remains below the cost incurred when full tariffs are applied. A potential shortfall in the Norwegian market strengthens the economic appeal of quota-based imports. Given the case, these import quotas, despite their increased costs, are still a more financially viable option compared to buying imported meat with full tariffs applied. This leads to a price increase for carcasses regardless of quotas being utilized or not. Regulatory measures such as administrative tariff reductions are unlikely to happen if the regulatory stockpile is filled with carcasses, and quotas are still available for importing.

Our case study of the Norwegian meat market shows how import quotas and regulatory measures can influence the Norwegian price level. The administrative tariff reductions and import quotas, designed as tools to balance the domestic market, have shown unintended consequences under rapidly changing market conditions. Our findings reveals that the price level of carcasses in Norway is not solely based on domestic supply and demand but is influenced by regulatory measures, even though Norway is considered a sealed off market. Import quotas, intended to supplement domestic production shortfalls and act as price control, have in 2023 contributed to an upward pressure on prices. Our analysis suggests that while regulatory measures and import quotas have the potential to stabilize the market and manage price levels, their actual impact differs from the predictions the regulator have made, due to unforeseen changes in market conditions. Potential for a more adaptive regulatory approach might be needed to respond effectively to changing conditions.

8.4 Summary

In this study, we have answered the question:

How does the influence of a dominant firm affect the pricing strategies and the competitive landscape of smaller firms in the Norwegian meat industry?

Our findings have provided insights into the Norwegian meat market. We've learned that the industry operates under a complex set of conditions and regulations. Norwegian agricultural policy ensures that farmers have a market for their goods and a guaranteed compensation, regardless of the market situation. The assurance contributes to farming operations across the country and food security. However, this assurance has implications further down in the value chain. Our data leads us to the conclusion that private firms possess some degree of pricing autonomy, however there is a fixed price floor in the Norwegian market, which is directly linked to the offerings of the regulator. The regulator effectively controls market conditions to obtain carcasses where competitors are forced to pay as much, if not more, to obtain raw materials. As response competitors are organizing themselves in partnerships, being able to pool resources more efficiently because of the challenging competitive environment and bypassing trade with the regulator. The conclusion from our study indicates that the price level of carcasses in Norway is not solely determined by domestic supply and demand. Regulatory measures play an essential part, despite the Norwegian market being relatively closed off. Our analysis suggests that while regulatory measures and import quotas have the potential to stabilize the market and manage price levels, their actual impact in 2023 differs from the predictions the regulator have made, due to unforeseen changes in market conditions.

8.5 Suggestion for future research

This study represents research on how the influence of a dominant player affects the pricing strategies and competitiveness of smaller firms. Suggestions for future research are tied to our findings presented in our study, or aspects the study did not cover.

Given the significant role of the regulatory measures in shaping the Norwegian market, a more in-depth analysis of these mechanism and the influence they have on the market could provide useful insights. We would suggest examining how administrative tariff reductions, import quotas and other regulatory measures could be more efficiently used to balance the domestic market. While our study found that a price floor for the industry does exist, an evaluation of the impacts this price floor has on the market, both beneficiary and non-beneficiary. Research could explore how the price floor influence production decisions or market stability. In addition, future research could delve deeper into the dynamics of import quotas and market balance. An analysis of the decision-making process of firms regarding the utilization of quotas and their broader impact for the meat market.

References

Aberdeen, T. (2013). Review essay: Yin, R. K. (2009). Case study research: Design and methods (4th Ed.). Thousand Oaks, CA: Sage. *Canadian Journal of Action Research*, *14*(1), 69–71. https://journals.nipissingu.ca/index.php/cjar/article/view/73

Abubakar, S., Alkassim, R., & Etikan, I. (2015). Comparision of Snowball Sampling and Sequential Sampling Technique. *Biom Biostat Int*, *3*(1). https://doi.org/10.15406/bbij.2015.03.00055

Ada, L. (2023, May 3). *Kronen svekker seg ytterligere* . E24. https://e24.no/norsk-oekonomi/i/bgaEBg/kronen-svekker-seg-ytterligere

Alexander, V. D., Cronin, A., Fielding, J., Moran-Ellis, J., & Thomas, H. (2007). *The Analytic Integration of Qualitative Data Sources*. Sage. https://uhra.herts.ac.uk/bitstream/handle/2299/9891/CRONIN_et_al_2008_.pdf?sequence=3

Alhawamdeh, H. M., & Alsmairat, M. A. K. (2019). Strategic Decision Making and Organization Performance: A Literature Review. *EJ Econ Jurnals*, *9*(4), 95–99. https://doi.org/10.32479/irmm.8161

Andersen, R. K., Skinnarland, S., & Tveterås, R. (2008). Fra bonde til butikk: en studie av verdikjeder i kjøttbransjen. *Fafo*. https://www.fafo.no/media/com_netsukii/20061.pdf

Andrade, C. (2018). Internal, External, and Ecological Validity in Research Design, Conduct, and Evaluation. *Indian Journal of Psychological Medicine*, *40*(5), 498–499. https://journals.sagepub.com/doi/pdf/10.4103/IJPSYM.IJPSYM_334_18

Ayat, M., Kang, C. W., & Ullah, A. (2022). Impact of the Coronavirus disease 2019 and the post-pandemic construction sector (Pakistan). *International Journal of Managing Projects in Business*, *15*(4), 659–675. https://www.emerald.com/insight/content/doi/10.1108/IJMPB-11-2020-0349/full/pdf?casa_token=2kmNnqjmP-4AAAAA:f510sasWNo73M9tgA73AYX_VQkROqCE2F4c2YwDdKmseFMjA9qu3q0i4GszWp-8cyd5VW0_CDqoPlhkCTNbPqc4nLS6EBeUg61nBvaZ0O62G7hzY_GY

Bans-Akutey, A., & Tiimbub, B. M. (2021). Triangulation in Research. *Academia Letters*. https://www.researchgate.net/profile/Benjamin-Tiimub-2/publication/355425953_Triangulation_in_Research/links/616fd0f1b148a924b8013beb/Triangulation-in-Research.pdf

Banton, C. (2022, July 30). *What Is Theory of Price? Definition In Economics and Example*. https://www.investopedia.com/terms/t/theory-of-price.asp

Bengtsson, M., & Kock, S. (2000). “Coopetition” in business networks - To cooperate and compete simultaneously. *Industrial Marketing Management*, *29*(5), 411–426. https://doi.org/10.1016/S0019-8501(99)00067-X

Berler, M., & Magaldi, D. (2020). *Semi-structured Interviews*. Springer. https://link.springer.com/content/pdf/10.1007/978-3-319-24612-3_857.pdf

Blythe, J., Bryant-Lukosius, D., Carter, N., Dicenso, A., & Neville, A. J. (2014). The Use of Triangulation in Qualitative Research. *Oncology Nursing Forum* , *41*(5), 545–547. https://doi.org/10.1188/14.ONF.545-547

Bondas, T., Turunen, H., & Vaismoradi, M. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences*, *15*(3), 398–405. https://doi.org/10.1111/NHS.12048

Boyce, C., & Neale, P. (2006). *Conducting In-Dept Interviews: A Guide for Designing and Conducting In-Depth Interviews for Evaluation Input* (2nd ed.). Pathfinder international. https://nyhealthfoundation.org/wp-content/uploads/2019/02/m_e_tool_series_indepth_interviews-1.pdf

Brue, S. L., Flynn, S. M., & McConnell, C. R. (2009). *Economics: Principles, problems, and policies* (18th ed.). McGraw-Hill Irwin. https://library.nlu.edu.ua/POLN_TEXT/SENMK/economics_mcconnell.pdf

Christian, T., Gaarder, G., & Smedshaug, A. (2019). *Stort volum, usikker inntjening - Gjeld og jordbruk i Danmark*. https://www.agrianalyse.no/getfile.php/134533-1551171738/Dokumenter/Dokumenter%202019/Rapport%203%E2%80%93 2019%20Danmark%20%28web%29%281%29.pdf

Coleman, P. (2021). Special Article Validity and Reliability within Qualitative Research in the Caring Sciences. *International Journal of Caring Sciences* , *14*(3), 2041--2045. https://www.researchgate.net/publication/357876752_Special_Article_Validity_and_Reliability_within_Qualitative_Research_in_the_Caring_Sciences

Creswell, john W. (2009). *Research design : qualitative, quantitative and mixed methods approaches* (3rd ed.). sage inc. https://www.ucg.ac.me/skladiste/blog_609332/objava_105202/fajlovi/Creswell.pdf

Czarniawska, B. (2001). *Is it Possible to be a Constructionist Consultant? 32*(2), 253–266. https://journals.sagepub.com/doi/10.1177/1350507601322006

Damodaran, P., Ghrayeb, O., & Vohra, P. (2011). Art of triangulation: an effective assessment validation strategy. *Global Journal of Engineering Education*, *13*(3). http://www.wiete.com.au/journals/GJEE/Publish/vol13no3/07-Vohra-P.pdf

Dolores, M., & Tongco, C. (2007). Purposive Sampling as a Tool for Informant Selection. *Ethnobotany Research and Applications*, *5*, 147–158. https://ethnobotanyjournal.org/index.php/era/article/view/126

Elliott, V. (2018). *Thinking about the Coding Process in Qualitative Data Analysis*. https://www.proquest.com/docview/2155621346?pq-origsite=gscholar&fromopenview=true

Flick, uwe, Kardorff, E. von, & Steinke, I. (2004). *A companion to qualitative research*. Sage. https://books.google.no/books?hl=en&lr=&id=F6O-Ru4Ag1IC&oi=fnd&pg=PA253&dq=semi+structured+interviews+in+qualitative+research&ots=mmLUYov6Lh&sig=TT-_RSa-uc25wiyeCt2-cqV3lSs&redir_esc=y#v=onepage&q&f=false

Forskrift om fordeling av landbrukstollkvoter. (2008). *Forskrift om fordeling av tollkvoter for landbruksvarer (FOR-2008-10-10-1132)*. Lovdata. https://lovdata.no/dokument/SF/forskrift/2008-10-10-1132/KAPITTEL_1#§4

Forskrift om samarbeidsunntak, landbruk og fiske. (2004). *Forskrift om unntak for samarbeid mv. innen landbruk og fiske (FOR-2004-04-23-651)*. Lovdata. https://lovdata.no/pro/#document/SF/forskrift/2004-04-23-651?from=NL/lov/2004-03-05-12/

Friedman, J. W. (1989). Game Theory. In *Game Theory*. Palgrave Macmillan, London. https://doi.org/10.1007/978-1-349-20181-5_12

Gale, D. (1955). Tthe law of supply and demand. *Mathematica Scandinavica*, *3*(1), 155–169. https://www.mscand.dk/article/view/10436

Gilbert, P., & Miles, J. (2005). *A handbook of: research method for clinical & health psychology*. Oxford. https://books.google.no/books?hl=en&lr=&id=kmZ3Yt5pY0YC&oi=fnd&pg=PA65&dq=semi-structured+interviews&ots=UT6lVxIDBy&sig=esFqDDBwYFGDD6fcqyaaZ6radvg&redir_esc=y#v=onepage&q=semi-structured interviews&f=false

Ginevičius, R., & Krivka, A. (2008). Application of game theory for duopoly market analysis. *Journal of Business Economics and Management*, *9*(3), 207–217. https://doi.org/10.3846/1611-1699.2008.9.207-217

Grimm, P. (2010). Social desirability bias. In *Wiley International Encyclopedia of Marketing*. https://zhangjianzhang.gitee.io/management_research_methodology/files/readings/sdb_intro.pdf

Gustavsen, G., Haukås, T., Hoveid, Ø., Kårstad, S., Mittenzwei, K., Kårstad, S., Mittenzwei, K., & Romsaas, I. M. (2019). *Sammenhenger mellom pris, tilskudd og produsert mengde i norsk husdyrproduksjon* (Vol. 5, Issue 37). NIBIO. https://nibio.brage.unit.no/nibio-xmlui/handle/11250/2591078

Jugessur, Y. S. M. F. (2022). Reliability and Internal Consistency of data: Significance of Calculating Cronbach's Alpha Coefficient in Educational Research. *International Journal of Humanities and Social Science Invention* , *11*(4), 9–14. https://doi.org/10.35629/7722-1104030914

Kjernli-wijnen, S., Pettersen, I., Sørbye, S. E., & Rålm, P. C. (2013). *Markedsregulering - verdsatt, men omstridt*. https://nibio.brage.unit.no/nibio-xmlui/bitstream/handle/11250/2445495/NILF-Rapport-2013-05.pdf?sequence=2&isAllowed=y

Kjuus, J., Melhuus, S., Utgård, J., & Svennerud, M. (2008). *Perspektiver for norsk kjøttindustri: sammenligning av struktur i Norden*. https://nibio.brage.unit.no/nibio-xmlui/handle/11250/2494652?locale-attribute=no

Kreiner, K., & Mouritsen, J. (2005). The analytical interview: Relevance beyond reflexivity . *CBS*, 153–176. https://www.researchgate.net/publication/292766351

Landbruks- og matdepartementet. (2010). *Rapport fra Arbeidsgruppe om innfrakttilskudd slakt*. https://www.regjeringen.no/globalassets/upload/lmd/vedlegg/brosjyrer_veiledere_rapporter/rapport_fra_arbeidsgruppe_om_innfrakttilskudd_slakt.pdf

Landbruks- og matdepartementet. (2015). *Evaluering av markedsbalansering i jordbruket*. https://kudos.dfo.no/dokument/2553/evaluering-av-markedsbalansering-i-jordbruket-2

Landbruksdirektoratet. (n.d.-a). *Markedsreguleringen* . Retrieved May 10, 2023, from https://www.landbruksdirektoratet.no/nb/jordbruk/regulering-og-kvoter/markedsregulering-i-jordbruket/markedsregulering

Landbruksdirektoratet. (n.d.-b). *Om tollkvoter* . Retrieved May 10, 2023, from https://www.landbruksdirektoratet.no/nb/industri-og-handel/toll-og-import/tollkvoter/tollkvoter

Larson, R. B. (2019). Controlling social desirability bias. *International Journal of Market Research*, *61*(5), 534–547. https://doi.org/10.1177/1470785318805305

Lov til å fremja umsetnaden av jordbruksvaror. (1936). *Lov til å fremja umsetnaden av jordbruksvaror (LOV-1936-07-10-6)*. Lovdata. https://lovdata.no/dokument/NL/lov/1936-07-10-6

Mankiw, G. N. (2018). *Principles of microeconomics* (8th ed.). Security label. https://zalamsyah.staff.unja.ac.id/wp-content/uploads/sites/286/2020/10/Principles-of-Microeconomics-8th-Ed.-GREGORY-MANKIW-1.pdf

Meld. St. 11 (2016 – 2017). (2016). Endring og utvikling - En fremtidsrettet jordbruksproduksjon. *Det Kongelige Landbruks- Og Matdepartement*, 162. https://www.regjeringen.no/contentassets/37566c89c95f410e9bbec04265a7145f/no/pdfs/stm201620170011000dddpdfs.pdf

Mittenzwei, K., & Svennerud, M. (2010). *Importvern for norsk jordbruk: Status og utviklingstrekk*. https://core.ac.uk/download/pdf/285989303.pdf

Moi, Ø. (2022, April 5). *Hva er egentlig et jordbruksoppgjør*. Norges Bondelag. https://www.bondelaget.no/agder/nyheter/hva-er-egentlig-et-jordbruksoppgjor

Morse, J. M., & Mitcham, C. (2002). Exploring Qualitatively-derived Concepts: Inductive—Deductive Pitfalls. *International Journal of Qualitative Methods*, *1*(4). https://journals.library.ualberta.ca/ijqm/index.php/IJQM/article/view/4589

Mueller, A. E., & Segal, D. L. (2015). Structured versus Semistructured versus Unstructured Interviews. *The Encyclopedia of Clinical Psychology*, 1–7. https://doi.org/10.1002/9781118625392.WBECP069

Mwita, K. (2022). Factors influencing data saturation in qualitative studies. *International Journal of Research in Business and Social Science*, *11*(4), 414–420. https://www.researchgate.net/publication/361102862_Factors_influencing_data_saturation_in_qualitative_studies

Noble, H., & Smith, J. (2014). Bias in research. *Crossmark*, *17*(4), 100–101. https://ebn.bmj.com/content/ebnurs/17/4/100.full.pdf

Nordlund, anders, pettersen, ivar, Steine, gro, & vasaasen, arne. (2011). *Regulering for organisering – markedsregulering i kjøttsektoren*. http://www.nilf.no/PolitikkOkonomi/Nn/VolumPrisIndeksar.shtml

Norsk Landbrukssamvirke. (2017). *Tollvernet for animalske produkter*. https://www.landbruk.no/wp-content/uploads/2017/08/Tollvernet-for-animalske-produkter-ID-122126.pdf

Nortura. (n.d.-a). *Markedsregulering*. Retrieved April 8, 2023, from https://www.nortura.no/markedsregulering

Nortura. (n.d.-b). *Markedsregulering*. Nortura. https://www.nortura.no/markedsregulering

Nortura. (2022a). *Prisløype storfe 1. halvår 2023*. Nortura.

Nortura. (2022b). *Veien fra Planlagt Gjennomsnittlig Engrospris til avregningspris*. Nortura . https://medlem.nortura.no/nyheter/veien-fra-planlagt-gjennomsnittlig-engrospris-til-avregningspris-article27540-11885.html

Nortura. (2023). *Grunnlagsdokument for 1. halvår 2023*. https://totalmarked.nortura.no/getfile.php/13424661-1666180978/Totalmarked/Grunnlagsdokument/Grunnlagsdokument%20-%20PGE%201.%20halv%C3%A5r%202023.pdf

Odenkirchen, J. (2018). *Pricing Behavior in Partial Cartels*. *299*, 1–42. www.dice.hhu.de

Rio, F. del. (2013). *Perfectly competitive markets: Efficiency and distribution*. European Liberal Forum asbl. https://www.researchgate.net/publication/262817881_Perfectly_competitive_markets_Efficiency_and_distribution

Rooney, A. A., Cooper, G. S., Jahnke, G. D., Lam, J., Morgan, R. L., Boyles, A. L., Ratcliffe, J. M., Kraft, A. D., Schünemann, H. J., Schwingl, P., Walker, T. D., Thayer, K. A., & Lunn, R. M. (2016). How credible are the study results? Evaluating and applying internal validity tools to literature-based assessments of environmental health hazards. *Environment International*, *92–93*, 617–629. https://doi.org/10.1016/J.ENVINT.2016.01.005

Rother, E. T. (2007). *systematic literature review X narrative review* . https://www.scielo.br/j/ape/a/z7zZ4Z4GwYV6FR7S9FHTByr/?format=pdf&lang=en

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: the art of hearing data* (3rd ed.). Sage. https://books.google.no/books?hl=en&lr=&id=bgekGK_xpYsC&oi=fnd&pg=PP1

&dq=•+Rubin,+H.+J.+%26+Rubin,+I.+2005.+Qualitative+interviewing:+The+art+of+hearing+data.&ots=tJbxhKi8L9&sig=kdPq2CoysGPzPGeW9u-TjfSmemM&redir_esc=y#v=onepage&q&f=false

Rustad, L. J. (2004). *Landbruk i Norge og EU - status og utviklingstrekk*. https://nibio.brage.unit.no/nibio-xmlui/handle/11250/2499599

Smedshaug, christian A., & Olsen, P. I. (2021). *Markedsregulering Hva er det , og hva er Norturas rolle?* Agri analyse.

SSB. (2023, February 8). *Gardsbruk, jordbruksareal og husdyr*. Statistisk Sentralbyrå. https://www.ssb.no/jord-skog-jakt-og-fiskeri/jordbruk/statistikk/gardsbruk-jordbruksareal-og-husdyr

Stadtler, L., & Van Wassenhove, L. N. (2016). Coopetition as a Paradox: Integrative Approaches in a Multi-Company, Cross-Sector Partnership. *Organization Studies*, *37*(5), 655–685. https://doi.org/10.1177/0170840615622066

Totalmarked. (n.d.). *Avregningspris til bonde - nettonotering*. Totalmarked. Retrieved May 16, 2023, from https://totalmarked.nortura.no/pris/nettonotering/

Totalmarked. (2023). *Importstatistikk*. https://totalmarked.nortura.no/getfile.php/13431192-1681805084/Totalmarked/Faste%20oppdateringer/Importstatistikk%202023.pdf

Tufte, torbjørn. (2022). *Norsk landbruksvarehandel* . https://www.agrianalyse.no/getfile.php/136782-1646741457/Dokumenter/Dokumenter%202022/Notat%202-2022%20landbruksvarehandel%20(web).pdf

Varian, H. R. (2014). *Intermediate Microeconomics* (9th ed.). Norton & Company. http://candrafajriananda.lecture.ub.ac.id/files/2017/09/e-books-MICRO-INTERMDEDIATE-ed9-VARIAN.pdf

Wadams, M., & Park, T. (2018). Qualitative Research in Correctional Settings: Researcher Bias, Western Ideological Influences, and Social Justice. *Journal of Forensic Nursing*, *14*(2), 72–79. https://doi.org/10.1097/JFN.0000000000000199

Watson, maria, & Xiao, Y. (2019). Guidance on Conducting a Systematic Literature Review. *Journal of Planning Education and Research*, *39*, 93–112. https://journals.sagepub.com/doi/pdf/10.1177/0739456X17723971

Yin, R. K. (2009). *Case study research: design and methods* (4th ed.). Sage Inc. https://books.google.no/books?hl=en&lr=&id=FzawIAdilHkC&oi=fnd&pg=PR1&dq=Yin,+R.+K.+(2009).+Case+Study+Research:+Design+and+Methods+(4th+ed.).+Thousand+Oaks,+CA:+Sage+Publications.&ots=l_5R7hoSXt&sig=pQdbMMksjZYthxFgriOZ6ShjUXk&redir_esc=y#v=onepage&q=%22

Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan*. https://core.ac.uk/download/pdf/11784113.pdf

Reflection note

Marco Jenssveen Carrea

Summary of thesis

The thesis aims to provide a better understanding of how a dominant firm affects, and impacts pricing and competitiveness for non-cooperative firms. In contrast to more competitive markets, the Norwegian agricultural industry operates within complex regulations and political goals, which naturally affect the industry. Therefore, it is possible to categorize the market into two main players, which significantly affect the competitive landscape. Our research explores the possibility smaller firms have to independently establish their own prices for buying carcasses and how the presence of a dominant player affects the competitive landscape. As we delved deeper into the industry, we discovered an interesting aspect regarding how import quotas is pushing Norwegian price levels up, regardless of their utilization.

Using a qualitative case study, where interviews serve as the primary data source for our research, we obtained reliable and authentic data from industry players. Furthermore, we applied theoretical concepts, mainly within supply and demand, to analyze the consequence market regulation has for the industry.

Our data and analysis provide us with a comprehensive view of the research questions. The findings are interesting as non-cooperative firms possess a degree of pricing autonomy; however, the reality is a fixed price floor within the Norwegian meat industry does exists. The settlement price serves as the price floor, and negotiable prices are subject to competition among industry players. The regulator sets the premise of competition, however smaller firms continuously pay more for carcasses to secure enough supplies. To our surprise, the quotas sold at auction are now challenging the Norwegian price level, instead of acting as a price control for cheaper imports. Even if Norway is considered a sealed of market, the shortfall of quantity supplied is enough to push prices.

Establishing the link between the thesis, accountability, and responsibility

The thesis relation to accountability and responsibility must be seen within the agricultural context. Political and economic goals are not always able to harmonize in an efficient way. First, I have chosen to discuss the ethical dilemmas related to control of supply, the role of the regulator and their influence. Secondly, I discuss these issues considering knowledge obtained during my five years at UiA, then I present alternatives to this situation.

Control of supply

In the context of the Norwegian meat industry, control of supply refers to the ability the market regulator has to decide the number of carcasses which enters the markets. The control is managed through influencing price floors, farmers outputs, import regulations and the regulatory stockpile.

The situation in Norway is affected by a strong regulatory player. The market regulator, being farmer owned, can potentially control supply situations to benefit its own interests. The regulator has the ability to remove excess supply from market circulation, without incurring any costs. This subsequently influences the wholesale price for carcasses. This creates a stable market for farmers to offset their produce and secure the farmers' financial interests. Creating an artificial supply condition which serves the farmers' interest is unethical. Instead of letting market forces operate naturally and go towards an equilibrium, intervention on the supply side can potentially keep prices higher than necessary. The regulator can be assumed to maintain its current price regime even if oversupply occurs, in a non-intervention equilibrium this would lower the price of carcasses.

However, this strong control over supply has implications for the market, primarily for smaller firms. Smaller firms are struggling to compete in a market where 70% of the slaughter is controlled by the regulator, and prices decided by the regulator (Andersen et al,. 2008, p. 58). The price floor is supposed to offer fair compensation for producers, but it acts as a barrier for smaller firms. Limiting their ability to compete on pricing and forcing them to leverage other aspects of their business such as proximity, relationships, or differentiation. The competitive landscape in the Norwegian meat industry is highly concentrated to one player for slaughtering.

Even if the regulatory laws should act competition neutral, it does not prevent the regulator from keeping their market share.

As the market regulation has been designed, it would be a challenge to make a recommendation to how it could be done differently. It depends on the subjective perspective from consumers, farmers, and competitors, and what the objective is. The regulations are in place to ensure farmers financial stability and an agricultural foundation in Norway. There are multiple aspects which are not elaborated to sufficiently give a correct answer. However, the ability to remove excess supply out of the market, into the regulatory stockpile without incurring costs is a competitive advantage helping to reinforce the price floor. Assessing prices frequently and letting farmers bear more of the counterparty risk could improve the situation. As of now, farmers bear none of the risks related to production. Another measure would be to reduce import tariffs so foreign meat could enter the market, increasing the competition between foreign and Norwegian farmers, which might help increase productivity and innovation.

Role of regulator and influence

The regulators' role becomes ethically complex given their role as a market regulator and a representative for farmers. Farmers have a vested interest in obtaining higher compensation for their products, which could lead to the regulator pushing prices up. The wholesale price is decided by the cooperative, where the board mainly consists of farmers (Nortura, 2023). This dual role leads to situations where the interests of farmers, producers and consumers is not fairly balanced.

The impact of politics in Norwegian agriculture is extensive, as the regulatory function is decided by law (Lov til å fremja umsetnaden av jordbruksvaror, 1936, §1). The data gathered from participants of the research project specified that the agricultural industry is primarily driven by political objectives and not economic objectives. This affects the power dynamics where politicians and the government hold considerable influence in Norwegian agriculture, mainly through the work of the regulator. It is implicitly given that a regulator must be able to affect markets, in other words, the regulator must be the dominant player to maintain control. As the regulator's primary task is to ensure financial stability for farmers, incidents where the regulator is forced to destroy produce because of oversupply are common, both meat and eggs

(Stavrum, 2023). From an environmental and ethical perspective, destroying produced goods, and raising prices is unethical. Instead of letting consumers benefit from lower prices, the political decision to maintain the current price regime is of more importance. The prices are decided based on yearly negotiations between farmers and the government, in the agricultural settlement. In economic theory maintaining a price floor leads to a market surplus (Mankiw, 2018, p. 117), and fails to allocate resources efficiently (Brue et al,. 2009, p. 62).

The composition of the regulator's board, mainly consisting of farmers, and not corporate professionals, raises the issue of potential bias in decision-making. In this case there is always the risk that self-interest might compromise the social responsibility given to the regulator. The regulator is tasked with the duty of maintaining the market balance, ensuring farmers' interests, and providing fair pricing which serves all stakeholders in the meat industry. However, a board which directly benefits from decisions made, could give tendencies towards policies which favor the farmers. Thereby may disrupt the balance the regulator is expected to ensure. Transparency is an attribute of good governance, and it becomes essential in this context to ensure the credibility of the decisions made. Genuine transparency can be hard to achieve when those who do decision-making are the same who directly gain from them.

As my program within auditing and accounting, a suggestion would be to involve an independent third-party auditor to monitor political decisions and their impact on the market. This could provide an unbiased perspective and identify areas of conflict. An auditor can ensure compliance and verify the integrity of the decisions made (Flowerday & Von Solms, 2005, p. 12). This could help identify potential bias, influence or decision-making which interests particular stakeholders. As independent auditors are detached from the industry and are presumably better positioned to provide an unbiased evaluation of decisions made. Auditors could analyze the effectiveness of current instances in place to manage political influence in the industry. Perhaps the most important aspect of bringing in an external auditor is the potential deterrence effect it can have as the decision makers would be aware of actions taken are subject to an external audit process. Potentially increasing culture of responsibility, integrity, and accountability, externally and internally

Conclusion of accountability and responsibility

To start of this conclusive chapter, I must first acknowledge the substantial personal learning and growth that has occurred trough the research done. As economists, we often resort to theories and simplified models as the foundation to understand the real world. However, the exploration of the Norwegian meat industry has made me realize the incredible value in going beyond the theoretical framework, and seeing the reality which exits. Exploring how real-world industries operate, how the reality which the industry operates in is not only affected by theoretical models, but legislations, personal opinions, bias, and self-interest.

From our research, we've come to identify the challenges occurring by having a regulator controlling the supply. It is a multitude of challenges which are not easily solved. The price floor is especially important because it is designed to protect farmers. However, it is not without compromising other stakeholders. It creates a challenging competitive environment for smaller players in the industry. Smaller firms must leverage other aspects of their business to secure enough supplies. Reducing import tariffs for carcasses might increase the welfare of the consumers but compromise farmers. Letting farmers bear more of the counterparty risk would potentially make farmers deliver livestock more effectively during the year. As presented, oversupply happens frequently, ultimately letting produce be destroyed to not enter market circulation, this is a problem which has to be addressed if we are going to strive for a more sustainable future.

The composition of the regulators board raises questions about potential bias and conflict of interest. Their role to ensure market balance, farmers interest and fair pricing, conflicts with the self-interest of obtaining adequate compensation. This might result in policies favoring the farmers, or other stakeholders. Transparency is therefore key to maintaining trust in the regulator. The involvement of a third party, independent auditor could potentially ensure compliance and confirm integrity and highlight bias or decisions taken in favor of certain stakeholders. The deterrence factor would be of more value, to ensure good culture persist in the organization. Reflecting on our work we find ourselves in a position of deep understanding, as well as concerned observers of the Norwegian meat industry. There is a collective responsibility among all stakeholders, which does not only encompass profit margins or market shares, but about sustaining an industry that feeds Norway.

References:

Andersen, R. K., Skinnarland, S., & Tveterås, R. (2008). Fra bonde til butikk: en studie av verdikjeder i kjøttbransjen. *Fafo*. https://www.fafo.no/media/com_netsukii/20061.pdf

Brue, S. L., Flynn, S. M., & McConnell, C. R. (2009). *Economics: Principles, problems, and policies* (18th ed.). McGraw-Hill Irwin. https://library.nlu.edu.ua/POLN_TEXT/SENMK/economics_mcconnell.pdf

Flowerday, S., & Von Solms, R. (2005). Continuous auditing: Verifying information integrity and providing assurances for financial reports. *Computer Fraud and Security*, *2005*(7), 12–16. https://doi.org/10.1016/S1361-3723(05)70232-3

Lov til å fremja umsetnaden av jordbruksvaror. (1936). *Lov til å fremja umsetnaden av jordbruksvaror (LOV-1936-07-10-6)*. Lovdata. https://lovdata.no/dokument/NL/lov/1936-07-10-6

Mankiw, G. N. (2018). *Principles of microeconomics* (8th ed.). Security label. https://zalamsyah.staff.unja.ac.id/wp-content/uploads/sites/286/2020/10/Principles-of-Microeconomics-8th-Ed.-GREGORY-MANKIW-1.pdf

Nortura. (2023b). *Konsernstyret*. https://medlem.nortura.no/organisasjon/eierorganisering/styret/

Stavrum, G. (2023, March 1). *Staten betaler bøndene milliarder av kroner for overproduksjon av kjøtt*. Nettavisen. https://www.nettavisen.no/norsk-debatt/staten-betaler-bondene-milliarder-av-kroner-for-overproduksjon-av-kjott/o/5-95-832266

Reflection note

Lars Olav Skarberg

Summary of thesis

The last few months me and my partner Marco have been exploring the meat industry, focusing mainly on three aspects. The first one being how smaller independent firms can set their own prices in a market with a dominant player, how the dominant firm affects the competitive landscape and strategies for independent companies. Lastly, we investigate import quotas and how they are challenging for the Norwegian market. Due to the time and the scale of the meat industry we had to set certain limitations. Our analysis will be confined to the primary production aspect and slaughterhouses, while excluding the farmer. We will consider the implications of our findings from an economic perspective for companies, rather than assessing the potential benefits for society.

We decided to use a qualitative case study, collecting data by conducting semi-structured interviews, as well as different research papers and documents to further strengthen our data. Interviews were conducted with owners of small, medium, and large firms operating within the Norwegian meat industry. Both non-governmental and governmental subjects we interviewed to gain a broader understanding of the subject matter. Since there is only a limited number of firms, we had to use purposive sampling as it allowed us to select firms with the right qualities. All the interviews were recorded and transcribed. After we had transcribed our data, we started to identify phrases, statements, or ideas within the data and assigned descriptive codes to capture the meaning. As we progressed, we analyzed and refined our codes, grouping them into broader categories or themes that reflected the patterns and relationships emerging from our data. The coding revealed that our data were particularly informative about the difficulties the industry faces in terms of imports, regulatory tasks, and pricing.

We concluded that independent firms could decide their own approach by competing on additional rates offered to farmers and improve cost efficiency. However, the reality of the Norwegian meat market is that a fixed price floor exists. The dynamics between the market regulator and smaller firms shape the competitive landscape, as the regulator sets the premises for competition and effectively controls market conditions to obtain carcasses. In response, smaller firms are collaborating to utilize resources more efficiently and increase their

competitive power. Lastly, we found that import quotas and regulatory measures can influence the Norwegian price level.

Introduction

The term international in the sense of economics refers to activities, interactions, or phenomena that go beyond national boundaries and involve multiple countries or nations. It covers a broad spectrum of fields, including politics, economics, trade, culture, law, and global affairs. These areas involve interactions and collaboration between countries (Salvatore, 2013, p. 12-13).

Two forces that can impact the Norwegian meat industry, are less market concentration and import quotas.

Forces impacting the Norwegian meat industry

The agriculture industry is one of the primary and oldest industries in the world. However, Norwegian agricultural is different as the trading of meat mainly consists within the domestic market, rather than participating in international trade, due to effective import barriers (Andersen et al, 2008, p. 56). After the overproduction crisis of the 1920s, a law was introduced as a response, and allowed for a legal sanctioned cartel (Nordlund et al, 2011, p. 11). The purpose of this law is to keep the market in balance and "to promote the trade of beef, sheep, pork, poultry and reindeer meat, grains and oilseeds, milk, eggs, fur skins, potatoes, vegetables, fruits, and berries (Lov til å fremja umsetnaden av jordbruksvaror, 1936, §1). These regulatory measures and protective policies make the Norwegian meat market nearly sealed off, with the purpose t protect the interests of domestic farmers and producers.

Market concentration

Market concentration refers to the degree of dominance or concentration of market share held by a few large firms or players within a specific industry or market (Cambridge Dictionary, n.d.). From our data we know the Norwegian meat market functions as a duopoly with two main players: cooperative and non-cooperative. If the market were to liberalize and let

international companies compete on the Norwegian market, the market dynamic would change. Foreign companies would take up market share and the Norwegian market would become less saturated. This may lead to a lower price of Norwegian carcasses, more competition, changes in consumer preferences and demand for specific products.

Opening the market would lead to less concentration and more competition, as international companies would start competing in the Norwegian market. Increased competition would encourage innovation, product quality, and more product development to gain a competitive edge. Consumers would likely benefit from a wider range of meat products and options. The increase in competition among companies may lead to companies engaging in more aggressive price competition to gain a competitive edge. They might lower their prices to attract customers and incentivize them to choose their products over those of their competitors. Price competition can result in a drop in the overall price of Norwegian meat as companies strive to offer competitive prices to capture market share. The increased competition may lead to companies focusing on cost reduction by increasing their efficiency, by investing in better production processes or adopting new technologies. Lowering the production cost of meat, forcing the Norwegian farmers to innovate.

As companies strive to differentiate themselves and stand out from their competitors, companies can differentiate themselves by providing specific production methods, such as organic or grass-fed farming practices. With growing consumer demand for sustainable and ethically sourced meat, companies may invest in these methods to attract customers who prioritize these qualities. Or by providing a wider selection of cuts of meat to cater to different consumer preferences. They might offer premium cuts, value cuts, or specialty cuts that are not commonly available in the market.

The combination of increased competition, price competition, and cost reduction pressures would create an environment where companies are motivated to continually improve their processes and offerings. This drive for innovation would not only result in more affordable meat products for consumers but also foster advancements in production techniques, sustainability practices, and overall industry efficiency.

Import quotas

The second force that would have an impact on the Norwegian market is import quotas. The regulatory system is largely built upon import protection, which involves setting import rates at a level which makes it unprofitable to import meat from abroad rather than purchasing it from Norwegian slaughterhouses or farmers (Andersen et al., 2008, p. 56). Import barriers play a critical role in promoting domestic price competition, particularly during the processing phase. Import barriers are an essential for maintaining the current price regime and regulating the market (Andersen et al., 2008, p. 56). The Norwegian wholesale prices of meat are indirectly influenced by the competitive environment and underlying price trends, rather than direct impacts from international trade (Nortura, 2023, p. 18). So if companies want to import they have to buy quotas, with tariff rates within them being significantly lower than regular rates.

If the regulatory system was to be internationalized or open for more import it would most likely have a significant impact on the market and the way import protection works. Import quotas facilitates supply, but restrict the amount which can be imported, thus still causing the price of goods to increases, if there is a shortage in Norway. The regulator accounts for the quotas sold on auction, and the underlying assumption is that they are to be used the following year they're sold at auction. Import quotas facilitates a form for price control on Norwegian carcasses, since the quotas normally regulate prices down.

However, in an internationalized market, the interaction between domestic and imported goods becomes crucial. If Norwegian farmers are not able to supply the quantity demanded, the remaining quantity will be imported. Imports affect the quantity supplied in the market, as well as demand. Cheaper imported meats, means higher demand, which push the equilibrium price down in the Norwegian market (Mankiw, 2018, p. 172).

Today tariffs works to limit import into the Norwegian marked, internationalization may lead to a tariff reduction to expand market access and increase trade. Lowering tariffs may reduce the need for import quotas as a means of protection and could result in a more open market for agricultural imports, making imported goods more affordable for Norwegian consumers. Consumers may get access to a wider variety of imported goods at lower prices. Consumers can enjoy a greater range of choices, improved product quality, and potentially more affordable

options. Tariff reduction encourages competition, leading to increased efficiency and innovation in domestic industries.

Conclusion

The Norwegian meat industry is influenced by market concentration and import quotas. If the market was to open for international competition to reduce concentration, the market regulation would have to change to address the new market situation. As of now, the market is constructed to facilitate balance in the market and to protect the farmers, by compensating farmers fairly for their produce and having strict import protection. If the agriculture sector were to be internationalized, the market regulation scheme would have to change to fit the new market situation and new import regulations. The price of Norwegian meat would most likely decrease, as the price of meat in Europe is cheaper. Increased competition would make the market less concentrated and may lead to more options for consumers.

Overall, opening the Norwegian meat market to international competition has the potential to bring benefits to consumers in terms of lower prices and increased product variety. However, it requires thoughtful consideration and adjustments to regulatory measures to ensure a smooth and fair transition. As import protection is essential for maintaining the current price regime and promoting domestic price competition, as well as protecting the farmers in Norway.

References

Andersen, R. K., Skinnarland, S., & Tveterås, R. (2008). Fra bonde til butikk: en studie av verdikjeder i kjøttbransjen. *Fafo*. https://www.fafo.no/media/com_netsukii/20061.pdf

Cambridge Dictionary. (n.d.). *Market concentration*. Retrieved May 27, 2023, from https://dictionary.cambridge.org/dictionary/english/market-concentration

Lov til å fremja umsetnaden av jordbruksvaror. (1936). *Lov til å fremja umsetnaden av jordbruksvaror (LOV-1936-07-10-6)*. Lovdata. https://lovdata.no/dokument/NL/lov/1936-07-10-6

Mankiw, G. N. (2018). *Principles of microeconomics* (8th ed.). Security label. https://zalamsyah.staff.unja.ac.id/wp-content/uploads/sites/286/2020/10/Principles-of-Microeconomics-8th-Ed.-GREGORY-MANKIW-1.pdf

Nordlund, anders, pettersen, ivar, Steine, gro, & vasaasen, arne. (2011). *Regulering for organisering – markedsregulering i kjøttsektoren*. http://www.nilf.no/PolitikkOkonomi/Nn/VolumPrisIndeksar.shtml

Nortura. (2023). *Grunnlagsdokument for 1. halvår 2023*. https://totalmarked.nortura.no/getfile.php/13424661-1666180978/Totalmarked/Grunnlagsdokument/Grunnlagsdokument%20-%20PGE%201.%20halv%C3%A5r%202023.pdf

Salvatore, D. (2013). *International economics* (11th ed.). Wiley. https://ccsuniversity.ac.in/bridge-library/pdf/Dominick-Salvatore-International-Economics.pdf

Appendix 1

Interview guide used for semi-structured interviews. This was from our last interview. Our interview guide has changed over time and our understanding of the subject.

Intervjuguide

Introduksjon:

- Presentasjon av oss
- Formål med oppgaven og hvilke temaer den skal omhandle
    - Utfordringer i norsk kjøttindustri
    - Konkurransesituasjon mellom bedrifter
    - Reguleringer eller statlige policyer som påvirker markedet
    - Markedsregulering

Innledende spørsmål:

1. Hva slags rolle har dere i …… i forhold til norsk kjøttindustri?

2. Hvilke spesifikke utfordringer mener dere den norske kjøttindustrien står overfor når det gjelder prissetting/ fastsette priser for helt slakt?

3. Er det noe dere mener er spesielt utfordrende med norsk kjøttindustri?

Pris, import, konkurranse, reguleringslager

4. Når dere fastsetter prisløypene gjennom året, hensyntar dere solgte kvoter, eller faktisk brukte kvoter?

    a. Kvotene kan jo "velges" å brukes. Hva gjøres med kvotene som ikke brukes?
    b. Hvordan kartlegger dere dette?
    c. Kvotene blir kjøpt i november året før basert på de forutsetningene ….

5. Er det problematisk at kvotene kan kjøpes og selges bedriftene imellom?

6. Når ber dere …… om administrative tollnedsettelser, og hva må ligge til grunn hos dere da?

7. For enkelt å si at prognosen ligger over de to ukene. Må jo være noe annet som bunner i dette?

8. Når det er nok på reguleringslager, hvorfor ber man eventuelt om tollnedsettelser?

9. Konkurrerer ….. som slakteri primært på kostnadssiden ved slakt, eller er det andre ting som lokasjon, pristillegg o.l?

10. Vil det ha noen påvirkning om ..... ikke er effektive i slaktingen sin?

11. Eventuelt hva er det som stopper økning i engrospris? Baseres på markedsbalansering eller hvordan regulator er i markedet? Er det for å dekke økte/reduserte kostnadene for bøndene eller for regulator

12. Hva er fordelene, og hva er ulempene ved å være markedsregulator?

13. Er reguleringslager en mulighet alle burde ha tilgang til? Altså dobbel mottaksplikt. Hva er deres syn på dette?

14. Ser dere på reguleringslager som en konkurransefordel, eller er det noen ulemper med et slikt lager?

15. Ved benyttelse av mottaksplikt får man ikke tillegg, benyttes denne mottaksplikten i praksis. Eller er det kun en sikkerhet?

Detaljer:

1. Hvordan vil dere beskrive konkurransesituasjonen mellom dere og de andre aktørene i markedet? Konkurrerer man først og fremst på pris, eller er det andre faktorer involvert?

2. Vil dere si at ….. sin engrospris/avregnignspris er prisgulvet på kjøtt i Norge, eller er det mulig å forhandle lavere priser med uavhengige bønder? Hvorfor vil bonden eventuelt selge dyr til lavere pris enn Nortura? Tilskudd og tilleggs ordning, kjent med det? Forklare litt?

3. Kan dere diskutere eventuelle reguleringer eller statlige policies som har direkte innvirkning på prising av kjøtt? Er det påvirket politisk eller økonomisk i større grad?

4. Kan dere diskutere eventuelle reguleringer eller statlige policier som har direkte innvirkning på konkurransen innen den norske kjøttindustrien?

    a. Legger ….. opp til konkurranse mellom slakterier?
    b. Forskrift 14 i konkurranseloven sier at samvirker med primærprodusent er unntatt lovgivningen, for å gjennomføre de politiske føringene etter jordbruksavtalen. Skaper dette noen problematikk?
    c. Har dere, etter din mening, opplevd noen tilfeller på prissamarbeid eller konkurransehemmende praksis mellom aktørene i markedet?

Appendix 2

Consent form given to interview participants.

Are you interested in taking part in the research project?

***"A case study of the Norwegian Meat Industry: The Regulatory stockpile, import quotas and price dynamics"*?**

Purpose of the project
You are invited to participate in a research project where the main purpose is to outline the impact regulatory measures such as the regulatory stockpile, import quotas and price dynamics.

Research questions/ objectives:

1. Can market participants independently establish their own prices for carcasses in the Norwegian market?
2. How does the presence of a dominant market participant influence the competitive dynamics and pricing strategies among other players in the industry?
3. How does regulatory measures and import quotas contribute to undermining the Norwegian price level?

The data is collected for our master thesis in auditing and accounting.

Which institution is responsible for the research project?

University of Agder (UiA) is responsible for the project (data controller).

Why are you being asked to participate?

You are being asked to be interviewed as part of our research because of your role and knowledge about the industry. The selection criteria involves both people and organizations working with, or whit in the meat industry or processing of meat.

What does participation involve for you?

If you chose to take part in the project, this will involve a phonecall/physical interview or email exchange. It will take approx. 30-60 minutes. The interview will include topic such as

market regulations, import quotas and price dynamics. Your answers will be recorded electronically.

Participation is voluntary
Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data

We will only use your personal data for the purpose(s) specified here and we will process your personal data in accordance with data protection legislation (the GDPR).

- Marco Jenssveen Carrea, Lars Olav Skarberg and supervisor Rafael Heinzelmann (UiA), will have access to the information provided.
- We will replace your name and contact details with a code. The list of names, contact details and respective codes will be stored separately from the rest of the collected data.

What will happen to your personal data at the end of the research project?

The planned end date of the project is 01.06.2023.

The data will be stored on UiA's OneDrive servers, which are only accessible with password. Anonymisation will be done as soon as we have processed the data after the interviews. Information will be stored no longer than needed for finishing the research project.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you.
- request that your personal data is deleted.
- request that incorrect personal data about you is corrected/rectified.
- receive a copy of your personal data (data portability), and
- send a complaint to the Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with University of Agder (UiA) The Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research has assessed that the processing of personal data in this project meets requirements in data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- University of Agder via Rafael Heinzelmann, contact: Rafael.heinzelmann@uia.no
- Our Data Protection Officer: Trond Hauso, contact: personvernombud@uia.no

If you have questions about how data protection has been assessed in this project by Sikt, contact:

- email: (personverntjenester@sikt.no) or by telephone: +47 73 98 40 40.

Yours sincerely,

Project Leader	Student
Rafael Heinzelmann	Marco Jenssveen Carrea & Lars Olav Skarberg

---

Consent form

I have received and understood information about the project "Analyzing the impact of raw material prices on food pricing: the Norwegian meat industry", and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in an interview

- ☐ to participate over phone, email or teams
- ☐ to be recorded during the interview

I give consent for my personal data to be processed until the end of the project.

(Signed by participant, date)

Appendix 3

Approval from Sikt/NSD regarding our data collection.

5/25/23, 5:58 PM Meldeskjema for behandling av personopplysninger

Sikt

Meldeskjema / Analyzing the impact of raw material prices on food product pricing: A ... / Vurdering

Vurdering av behandling av personopplysninger

Referansenummer
763238

Vurderingstype
Automatisk

Dato
24.02.2023

Prosjekttittel
Analyzing the impact of raw material prices on food product pricing: A study of the Norwegian meat industry

Behandlingsansvarlig institusjon
Universitetet i Agder / Handelshøyskolen ved UiA / Institutt for økonomi

Prosjektansvarlig
Rafael Heinzelmann

Student
Lars Olav Skarberg

Prosjektperiode
01.01.2023 - 01.06.2023

Kategorier personopplysninger
Alminnelige

Lovlig grunnlag
Samtykke (Personvernforordningen art. 6 nr. 1 bokstav a)

Behandlingen av personopplysningene er lovlig så fremt den gjennomføres som oppgitt i meldeskjemaet. Det lovlige grunnlaget gjelder til 01.06.2023.

Meldeskjema