



Norway – the Black Sheep in the Scandinavian Grocery Industry

A Comparative Study of Profitability, Efficiency, and Productivity in the Scandinavian Grocery Market

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This thesis was written as a part of the Master of Science in Economics and Business Administration at NHH. Please note that neither the institution nor the examiners are responsible – through the approval of this thesis – for the theories and methods used, or results and conclusions drawn in this work.

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This thesis was written as part of our master's degree at the Norwegian School of Economics (NHH). During the fall, we have been given the opportunity to fully deploy ourselves into the world of grocery chains in Scandinavia. The writing experience has been exciting, educational, and challenging at times. We are happy and eager to share this thesis with NorgesGruppen, NHH faculty, or whoever stumbled across our paper. In the title of this thesis, we only list the names of two authors. In reality, the contributors are plenty. Therefore, we would like to thank those who provided us with support and much-needed expertise.

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Abstract

The prevalent view of excessive profits in Norwegian grocery chains has made it an important matter for politicians, competition authorities, and the media. It is often claimed that the competition in the Norwegian grocery industry is weak. This is often justified by claims of high prices, lack of international actors, and poor product selection compared with other countries.

This thesis aims to convert perception to the corresponding financial figures, comparing them with Norway's neighboring Scandinavian countries. Drawing from the findings the thesis aims to contextualize the debate, in which many unsubstantiated claims and arguments are more common than actual data. The method is based on analyzing five to ten years' worth of financial data from the three largest actors in each country. Using key financial ratios to provide valuable insight into comparing the countries and their evolution over the past five years. Accompanying the financial ratios, the thesis also analyzes labor productivity trends in each enterprise over the past ten years.

Analyzing the price development of food and non-alcoholic beverages in Scandinavia, we found that Norway had the steepest decline in prices. From August 2021 to August 2022, we found that the price growth in Denmark and Sweden were significantly higher than in Norway.

Gross margins vary considerably between different grocery chains. However, the difference seems to be more correlated with the negotiating power with food suppliers and whether the grocery chains have a store operating in a premium segment. We found that the largest actors have the highest gross margins. Furthermore, the thesis observes a converging trend in operating profit. Throughout the observation period, most of the firms present operating profits in a four to five percent range. There are fluctuations, yet there seems to be a convergence that all grocery chains are hovering around. However, the largest actors are not able to convert advantageous margins into higher profits.

The labor productivity development of the Norwegian grocery chains is relatively strong in the period 2011-2021. NorgesGruppen and Rema 1000 are only outperformed by ICA, while Coop Norway was outperformed by Rema 1000 Denmark in addition to the three aforementioned chains. Our findings provide context and refute the idea of abnormality and unethical profiteering in the Norwegian grocery market.

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1. Introduction

1.1 Background

The Scandinavian grocery industry has gone through massive structural changes over the past decades. Increasing vertical integration in the supply chain; has led to a higher degree of power among the grocery chains. This integration has also increased efficiency significantly. One example is NorgesGruppen's integration of NG-flyt in stores, with new analysis techniques and automatic shelf replenishment. As of today, the Scandinavian grocery industry is highly concentrated and consists of only a handful of main actors. What separates Norway from Sweden and Denmark, is the absence of foreign competitors. Their limited opportunities to take advantage of procurement agreements they have outside of Norway because of Norway's desire to protect Norwegian agriculture is often cited as one of the main reasons why they do not succeed with this. In Norway, there is a broad political agreement to protect Norwegian agriculture by shielding the industry from imports. To keep the market open to foreign competition, the government needs to reduce barriers to entry as far as possible without abolishing import protection (Sørgard, 2017). In the public discourse in Norway, it is often claimed that the competition is weak. This is often justified by claims of high prices and poor product selection compared to other countries, without distinguishing between different causal relationships using empirical studies. However, it is not given that the threat of many small actors with a strong desire to grow creates greater competitive pressure than competition from equal-sized actors. Therefore, it is difficult to determine whether the Norwegian market's lack of small actors indicates that competition is lower here than in Sweden and Denmark (Wifstad et al., 2018).

In 2016, the government of Norway concluded that the competition in the grocery industry is not sufficient (Regjeringen, 2016). They started an external investigation of "Barriers to entry in the grocery industry". The report concluded that the utilization of economies of scale in purchasing is the most important reason why it is difficult for new actors to enter the market. In the wake of this investigation, certain politicians have concluded that the competition in the grocery industry is still too weak, the prices are too high and the product selection too poor. Representatives from both the Conservative Party and the Labor Party have put forward proposals for drastic measures in the form of price regulation to reduce the scope for economies of scale in procurement, to make it easier to enter the Norwegian market (Høyre,

2018). Whether such measures would promote or weaken competition in the market has not been analyzed. In May 2022, there was a broad majority in the Norwegian Parliament which is now advocating several measures to ensure better competition, a wider selection, and cheaper food. The Norwegian Competition Authority fears that these measures will have the opposite effect since the grocery chains will increase the share of their own brands, which will not be regulated (Bjørndal, 2022).

Lack of competition and few competitors in an industry is often associated with high profitability and low productivity growth. In the Norwegian grocery market, there are only Norwegian actors, with three actors dominating the market. The Swedish grocery giant ICA withdrew from the Norwegian market in 2014 after many years of low profitability. The German Lidl did the same in 2008, after a short time in the Norwegian market. However, NorgesGruppen, Rema 1000 and Coop are still competing in the Danish and Swedish grocery markets. The question is then whether the competition in Norway is sufficient, or whether Norwegian grocery chains charge higher prices, as well as exploit economies of scale, and thus achieve higher margins than grocery chains in Sweden and Denmark where they have more competitors in the market.

1.2 Research Question and Purpose

Changing power relations in the food supply chain over recent years have led to questions about to which extent large grocery chains are increasing the costs more than necessary between supplier and consumer. Are Norwegian grocery chains left with a larger part of the value creation than necessary, at the expense of suppliers at one end of the supply chain and consumers at the other? One can ask whether the Norwegian food industry is particularly weakened by this development.

There are several ways to elucidate the above questions, but this thesis will focus on development in margins, efficiency, and productivity. With a desire to avoid a too narrow perspective, this thesis will study the development of the largest Scandinavian grocery chains. The purpose of the thesis is to assess the Norwegian grocery market. The starting point of the

thesis will be an investigation into recent profitability, efficiency, and productivity figure presented in annual reporting by domestic actors. This examination will provide the needed pillar stones to understand the current state of the Norwegian market. To further contextualize and comprehend the findings, a cross-Scandinavian comparison will follow. The comparison rests on the assumption that these three countries share enough characteristics to be proxies. Most political discussions about the subject in Norway villainize domestic actors and observe the Norwegian market in a vacuum, completely disregarding data and trends from neighboring countries in the Scandinavian union.

1.3 Outline of Thesis

The thesis consists of eight chapters that attempt to answer our research question. Following this introductory chapter, the next chapter presents an overview of the Scandinavian Grocery Market. Including remarks on each country's market and the key actors operating in the region. In proceeding chapter three, previous research in areas of interest is discussed and the necessary framework is presented. Furthermore, a theoretical framework applicable and relevant to the analysis gets briefed. Reviewing appropriate techniques for conducting financial statement analysis and labor productivity analysis. The fourth chapter outline the methodology of the thesis. In this chapter, the data collection process gets presented. Besides the collection of data, research instruments and analysis tools utilized in the study are provided. This chapter intends to inform readers of design choices, data collection, and finally the usage of research instruments. In the subsequent chapters five and six, results from the conducted analysis get presented. The presentation of the thesis analysis starts in chapter five, in which a financial statement comparison gets presented. In the analysis, a comparison between grocery chains' key financial ratios gets presented. Results are visualized in data tables and appropriate graphs. Following the examination of financial data, the thesis aims to compare productivity development in chapter six. Based on the empirical study the thesis aims to conclude if the productivity trend differs from country to country. Chapter seven offers a discussion of the findings presented in the two previous chapters. This assessment will apply financial theories briefed in chapter three to explain and understand the result. The final chapter aims to extrapolate the core-finding of the study. Throughout the concluding chapter, the thesis aims to contextualize the results. Building upon the framework and analysis, the intended goal is to provide context to profitability and productivity in the Scandinavian

Grocery Industry. The findings aim to challenge the supposed notions of over-profitability and corporate greed which might harm factual and empirical grounded commentary.

2. The Scandinavian Grocery Industry

The Scandinavian grocery industry has an estimated value of about 64 billion euros and encapsulates over 20 million people (United Nordic, 2022). The Scandinavian countries share common economic, structural, and geographical factors. These commonalities are shown in the grocery market with shared shopping patterns and similar consumption of goods. Although their similarities, there are still major discrepancies between prices from market to market. There is no better example of this than the phenomenon of Norwegians traveling to Sweden to buy grocery goods. Norway is usually highly ranked on global price indexes, having a reputation for being an expensive country. Sweden and Denmark are trailing behind Norway in the Eurostat price level index but are still above the EU average. However, when applying the variable of percentage share of household expenditure all three countries fall far below the EU average.

The vertical chain can be broken down into three parts: suppliers, wholesalers, and grocery stores. The supplier side consists of the actors who produce and resell the products sold in the stores. There are several independent suppliers such as Orkla, Tine, Nortura, Ringnes, Procter & Gamble, and Mondelez in addition to the grocery chains' own brands and the primary producers, farmers, fishermen, etc. The Norwegian import protection of agricultural goods shields certain products from foreign competition, which has led to a high concentration on the supplier branch in the supply chain. The wholesalers buy the products from suppliers and are responsible for the storage and distribution of goods on behalf of the grocery stores. Today, the largest part of the wholesale sector is integrated into umbrella organizations. Smaller chains, such as Bunnpris, or internet-based stores such as ODA, must therefore to a large extent use the wholesalers owned by the umbrella organizations (Wifstad et al., 2018).

This thesis will mainly focus on grocery stores, which are a vital function for modern society. The model of gathering goods for the household has shifted our shopping patterns. Creating consumer surplus daily by saving time and resources for individuals. The first modern self-service store opened in 1916. Since then, the grocery market has increased at a steady pace. In this thesis, we will cover the three largest grocery chains in each country. We will cover each chain separately in the following chapters. However, we can get an idea of the scale of each chain by looking at the number of stores they operate.

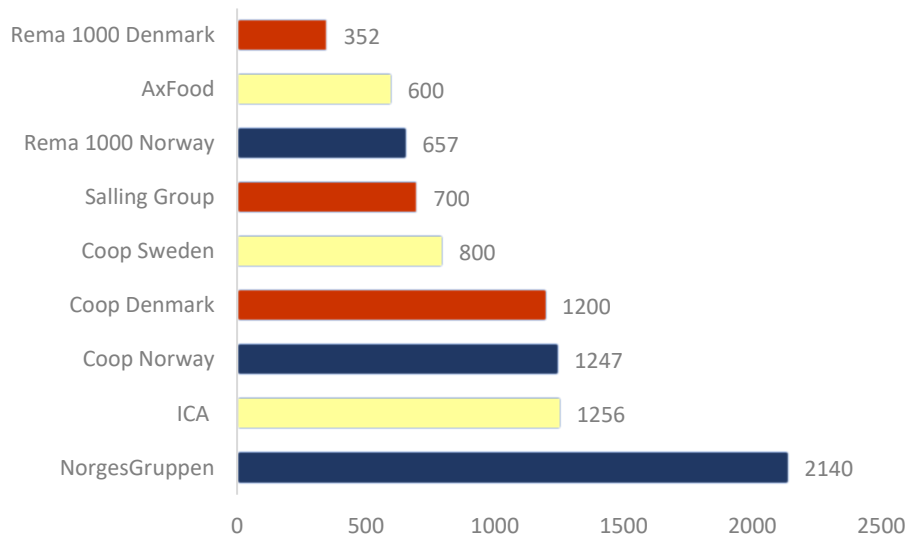


Figure 2.1: Number of Stores per Grocery Chain in Scandinavia as of 2022.

There is a much higher store density in Norway, than in the rest of Scandinavia. The settlement pattern in Norway is probably the most important reason why we have many small stores. The high store density ensures that people have easier access to groceries where they live (Steen et al., 2020). This is also an indication that several actors are fighting for the same customer base.

2.1 Norway

The grocery market in Norway has changed a lot in the past 40 years. At the beginning of the 1980s, only 39% of stores were part of a larger chain. Most stores were therefore owned by individual retailers. The upcoming years completely disrupted the trend of individual non-brand stores. After a mere eleven years, the larger chains have amassed 92% of Norway's grocery stores (NorgesGruppen, 2022).

The 2000s share a similar trajectory with larger and fewer chains completely dominating the market. In 2021 the market is highly concentrated and the three largest chains NorgesGruppen, Coop, and Rema 1000 share 96,6% of the Norwegian grocery market (Dagligvarukartan – DLF, 2022).

Norway is the only Scandinavian country that follows the old tradition of having closed stores on Sundays. The law requires larger stores to remain closed and only allows smaller stores to stay open. Some stores opt to have a small store within the compound of the larger store, to be

operating on Sundays as well. The distribution of market shares in Norwegian grocery is illustrated in Figure 2.2.

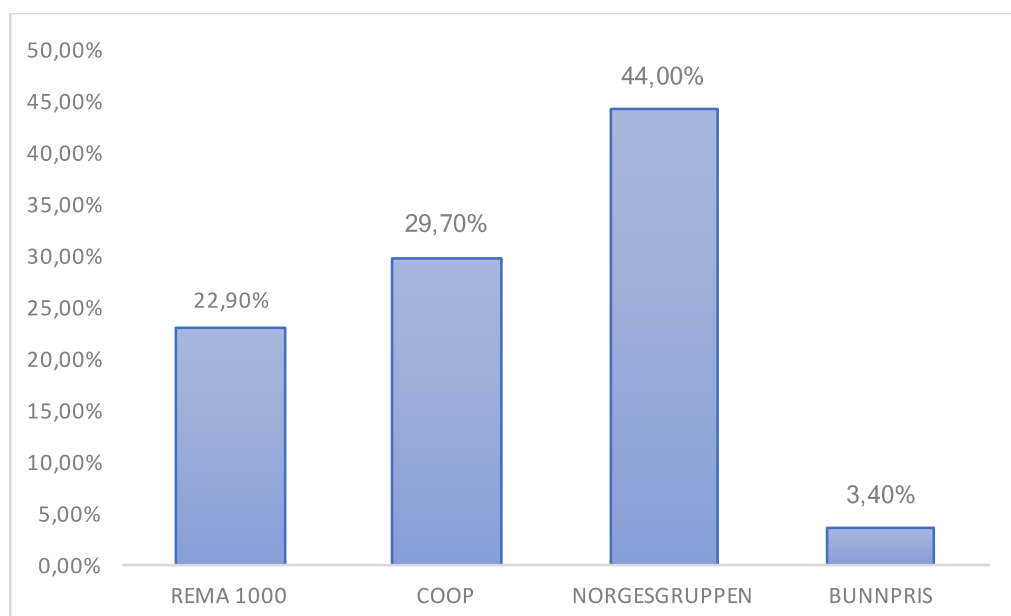


Figure 2.2: Market Share Norway (Dagligvarukartan – DLF, 2022).

2.1.1 NorgesGruppen

NorgesGruppen is the largest actor in the Norwegian grocery industry. The grocery wholesaling group possesses 44% of the market share in Norway and consists of 2140 stores spread throughout the country. The group has strong chain concepts (Kiwi, Meny, Spar, Joker) which cover the full range of grocery segments. In NorgesGruppen's portfolio of stores, a mix of corporate-owned and franchised are included (NorgesGruppen, 2022).

ASKO is NorgesGruppen's wholesale branch, responsible for the flow of goods between producers and grocery stores. The wholesale branch also supplies industrial households, convenience stores, and Horeca (hotels, restaurants, and caterers) (NorgesGruppen, 2022).

2.1.2 Coop Norway

The core of Coop Norway shares the idea behind Coop Denmark and Coop Sweden. Having a common history of being founded as Coop Norden. The Nordic collaboration ended in 2007 and 2008, returning to national cooperatives (Coop Norge SA, 2022). The remaining part of the Nordic collaboration is Coop Trading A/S. Which functions as the sourcing company for the enterprise in every country. They source food and near-food products at a competitive price.

Coop Norway is a cooperative owned by approximately 2 million members. In 2021, Coop had 1247 stores and a market share of 29,7%. They are operational in all segments with different chains offering a variety of shopping experiences. Coop Norway is responsible for the wholesale and logistics operations of Coop stores. Coop Norway is the only wholesaler in Norway that does not deliver to other grocery chains.

2.1.3 Rema 1000 Norway

Rema 1000 is a discount grocery store owned by Reitan Retail. The group consists of 657 stores and encapsulates 23% of the Norwegian market. The chain is based on a franchised discount concept, where the merchants own the stores they run. The merchants collaborate with Rema 1000 Norway through the use of their systems and routines, as well as external agreements related to suppliers and marketing. Rema 1000 aims to be the lowest-price alternative, competing with KIWI and Coop Extra. They aim to do this by following their guiding phrase of “The simple is often the best” (REMA 1000, 2022). Rema 1000 controls its wholesaler branch, through Rema Distribution Norway AS.

2.2 Denmark

Denmark shares a lot of characteristics with Norway’s grocery store development. Starting from a market consisting of individual retailers to successively being more concentrated and dominated by larger chains.

Denmark has the largest amount of market participants in Scandinavia. In the table for market share, there are six contenders. In contrast to Sweden and Norway, we find four and not only three chains above 10% share (Dagligvarukartan – DLF, 2022).

Denmark differentiates from Sweden and Norway’s geography, being a smaller country with a higher population density.

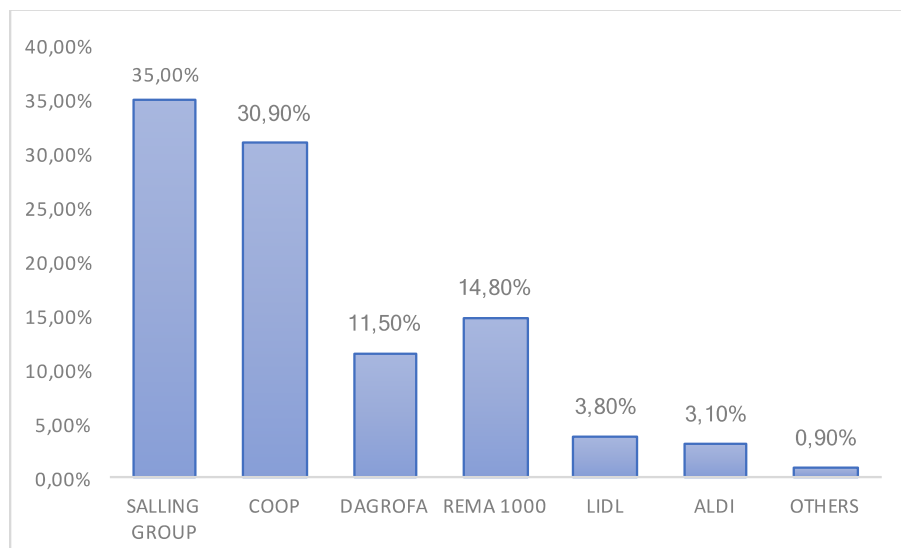


Figure 2.3: Market Share Denmark (Dagligvarukartan – DLF, 2022).

2.2.1 Salling Group

Salling Group is Denmark's largest retailer, with a market share of 35%. Several chains operate under the Salling group umbrella, including Netto, Føtex, Bilka, and Salling. The company stores are mainly located in Denmark, with some presence in both Poland and Germany. In Denmark, the number of stores is around 700. When taking their presence in Poland and Germany into consideration the amount increases to 1700.

The corporate group is not limited to grocery chains. The store named Salling operates in the fashion industry, while Bilka is categorized as a hypermarket. Not limited to the sales of groceries but also electronics and clothing. Thus, the empirical analysis will use the financial statement of Netto and Føtex, which are closely mirroring the structure of Swedish and Norwegian grocery chains (Salling Group, 2022).

Salling Group is 100% owned by the Salling Foundation. Therefore, profits made by the corporate group are either invested back into the company or donated to charitable causes (Salling Group, 2022). This limits the interest in short-term profits, incentivizing long-term growth incentives.

2.2.2 Coop Denmark

Coop works as a cooperative owned by 1,9 million Danish members. They have a market share of 31% and operate over 1000 stores in the region. The chain consists of different chain segments, providing customers with grocery stores for all occasions. The chain segments

operated by Coop are Kvickly, SuperBrugsen, DagliBrugsen, Brugsen, Irma, and Fakta. They also operate an online supermarket, called coop.dk MAD (Coop Danmark, 2022).

2.2.3 Rema 1000 Denmark

In 1994 the Norwegian-based company opened its first store in Denmark. Since then, Rema 1000 can now be found in over 350 locations spread across the country. The core concept remains the same as in Norway, a franchised discount concept. The supply side of Rema 1000 buys large quantities of goods from producers and then supplies the franchised stores with bulk-bought goods. Attaining economies of scale, while still having non-central-owned grocery stores. Sharing the chain values and characteristics of providing customers with the lowest price possible, at the expense of excess costs such as store aesthetics (Reitan Retail, 2022).

2.3 Sweden

The history of Swedish grocery stores' evolution is like its neighbors. Starting as a market dependent on individual retailers but growing into a market dominated by larger chains.

Sweden's grocery market is the largest in Scandinavia. Encapsulating a yearly revenue of 290 billion SEK in 2021 (IBISWorld, 2022). Reaching over 10 million inhabitants, nearly equaling Norway and Denmark's population combined.

The Swedish market concentration is like Norway's, in the sense that only three actors have a substantial stake. The most noticeable is the Swedish corporate group ICA having a 53% market share. Making them even bigger and more leading than NorgesGruppen in Norway.

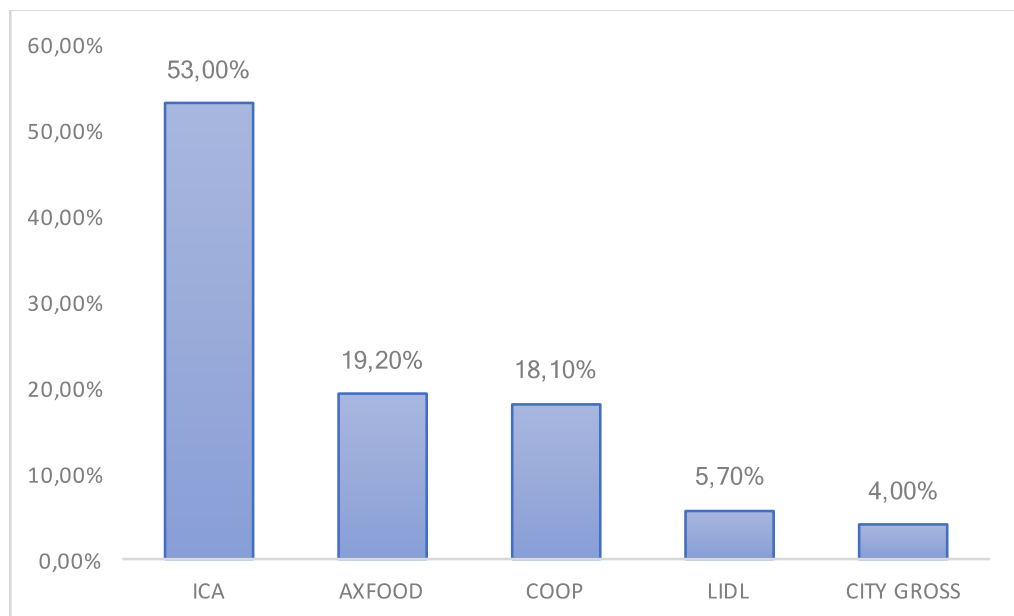


Figure 2.4: Market Share Sweden Source: (Dagligvarukartan – DLF, 2022)

2.3.1 ICA

The story of ICA started in 1917, When Hakon Swenson started Hakobolaget, the predecessor of ICA. The firm intended to help retailers compete. Offering grocery stores the opportunity to join forces, by sharing purchasing centers. The coordination helped with providing the economics of scales chain enterprises offered (ICA, 2022).

Today the Swedish grocery market is dominated by ICA. The corporate group had 53% of the market in 2021 running 1256 stores spread throughout the country. Under the ICA Sweden umbrella, a wide variety of grocery stores exist, for all customers and all occasions. They operate four chain concepts: ICA Maxi, ICA Kvantum, ICA Supermarket, and ICA Nära.

ICA Sweden is part of ICA-Gruppen. ICA-Gruppen offers a diversified portfolio with ventures such as ICA-Banken, a banking division offering financial services. In the business portfolio, a pharmacy called “Apotek Hjärtat” is also included. Finally, the Swedish grocery chain also operates “Rimi” in the Baltics (ICA, 2022). To ensure relevance to the research question the mentioned non-grocery branches will be excluded.

2.3.2 Coop Sweden

The structure of Coop Sweden follows the cooperative model. Which infers ownership of the group to its members. The different chains attributed to Coop have an 18% market share in Sweden, in close competition with AxFood.

The ownership of the cooperative is spread out through the 3,7 million Sweden members. The chain operates around 800 stores, spread throughout the country (Coop, 2022).

2.3.3 AxFood

AxFood describes itself as a leading food retail group. They aim to be the leader in affordability and sustainability. In the AxFood network, a wide variety of stores and services exist. The enterprise got channels for both retail grocery sales and B2B business. Willys and Hemköp work as their main channel to retail customers. Business-to-business sales are conducted through Snabbgross. The devolvement, logistics, and sourcing are done by Dagab, a vital part of the AxFood family.

AxFood operates 316 group-owned stores. Taking collaborating-franchise stores that number reaches 600 (AxFood, 2022). The public-listed company is the second largest retailer in Sweden, outperforming Coop by one percentage point.

3. Theory and Literature Review

In this chapter, we will give an account of what we believe to be relevant theory and related literature when discussing factors affecting the margins of Scandinavian grocery chains. The theories we present below will form a good basis for either substantiating or refuting common hypotheses about margins and productivity in the Scandinavian grocery market.

3.1 The Financial Statement Analysis Framework

The purpose of a financial statement analysis is to evaluate whether a company is adequately capitalized, profitable, and able to meet its long and short-term obligations (Palepu et al., 2019). We separate financial statements into three parts: the balance sheet, the income statement, and the cash flow statement. Financial statement analysis could be used for different purposes, in this thesis we want to compare the performance of the three largest grocery chains in each of the Scandinavian countries. The outcome will be further analyzed to see if there are certain reasons why there are differences or similarities between countries and chains. A selection of key ratios will be calculated for each of the grocery chains. These ratios are chosen on the background of their relevance in the industry and will be helpful when evaluating the profitability and efficiency of the retail chains. Further, it will be interesting to study whether there is a relationship between profitability and labor productivity growth.

3.1.1 Application of Financial Statement Analysis

Financial statement analysis is a common practice in today's market. Strong sentiments about profitability ratios, return on equity, price to earnings, and other key metrics are commonly mentioned around equity and enterprise operations. However, application in the right manner and the ability to conclude the right solution are rarer. The main complication of comparison can be explained by the saying "comparing apples to oranges". The saying refers to a comparison made between two distinctly different things. Thus, making an unresolvable and useless comparison. The importance of relevance in comparison dictates the usefulness of the information. Therefore, a central part of conducting meaningful analysis is to decisively confirm similarities in *Industry*, *Size*, and *Life-Cycle* (Palepu et al., 2019).

To ensure relevance in the presented analysis, the thesis focus on two groups of financial metrics. The metrics groups used are *Profitability Metrics* and *Activity Metrics*. The application of a narrow set of metrics provides clarity and focus from the analysis, avoiding white noise associated with too many assessment variables.

3.1.2 Profitability Ratios

Overview

Profitability ratios refer to metrics used to measure a company's ability to generate profit. The profit is often relative to other key metrics, such as sales or assets. These ratios are central when analyzing mature companies. When applying profitability ratios to companies, one must evaluate the relevance of the ratio for the industry. In retail, for example, the gross profit margin is highly relevant while being out of the scope of the service industry.

The revenue driver for grocery stores is the sale of goods. As mentioned above, gross profit is highly relevant for retailers. The business model relies on the premium that stores charge on the acquiring cost from suppliers to the price customers pay in stores. Another relevant profitability ratio is the operating profit. When evaluating the profitability of companies across industries and countries, there are advantages of using operating profit instead of net profit. The difference between the two similar ratios can be found in operating profit excluding posts not relevant to the core business. Operating with different leverage or under different tax jurisdiction display no effect on the operational side.

There are two different sides to profitability, short-term and long-term profitability. Short-term profitability provides insight into a company's ability to accumulate profits at the current time. In contrast, long-term profitability can be described as a forward-looking indicator of future profits. In most valuation methods, a combination of the two concepts determines the total value. Since the valuation should reflect the total sum of cash flows, long-term profitability has the largest effect.

The two different sides of profitability require two different efforts. Opting for profitability figures in a short period often requires significant cost reductions, while upholding revenue. The reduction can be expensed from investing in future projects or cutting the worker count. Cost reduction might harm future flows of cash to maximize the present. The opposite is true of creating long-term profitability. Investing in the business is a key driver of future profitability.

In this thesis' profitability analysis, attention will be put on the historical margins achieved by retailers. Focusing on results and in which trajectory they have moved. Thus, investing activities, revenue increases, and similar growth indicators will not be included. All companies in our data set have achieved scale and maturity. Companies in their state of maturity classify as "cash cows", providing maximum return for the revenue. Since the prospect of rapid expansion shows no merit or possibility.

It is worth noticing that profitability does not equal cash flow. The most common accounting method, accrual accounting, seeks profitability and not liquidity. Therefore, a company showing high profitability figures can still be illiquid and not capable of paying dividends. These accounting techniques and distinctions between profit and cash have led to the use of FCF¹ and EBITDA (Christy, 2009).

In the analysis section of the paper, consideration will exclusively be put on profitability achieved by accounting standards. The leading research question throughout aims to answer profitability, while not taking valuation or available cash into reflection.

Gross Profit Margin

The difference between a firm's revenue and the cost of goods sold is gross profit. Gross profit margin is an indication of the amount of money left after subtracting the cost of goods sold and is computed as:

Formula 3.1: Gross Profit Margin

$$\text{Gross Profit Margin} = \frac{\text{Revenue} - \text{Cost of Goods Sold}}{\text{Revenue}}$$

Gross margin is influenced by the price premium that the firm's products command in the market and the efficiency of the firm's procurement and production process (Palepu et al., 2019).

Operating Profit Margin

A firm's operating profit margin shows the profitability of the company's business activity. It represents the percentage of sales that turns into profits, excluding interest and tax. In contrast

¹ FCF = Free Cash Flow - calculated as the difference between cash flow and investment expenditure.

to gross margin, which only takes revenue minus the cost of sold goods into account, operating profit includes all financial costs associated with operating the business. However, operating profit excludes costs such as debt interest, and tax since these posts are not directly related to operations.

The operating profit margin is calculated using the formula below.

Formula 3.2: Operating Profit Margin:

$$\text{Operating Profit Margin} = \frac{\text{Operating income}}{\text{Revenue}}$$

The operating profit margin is expressed as a percentage, of how much net income is generated from every monetary unit of revenue.

3.1.3 Factors Affecting Company Profitability Margins

There are several factors affecting a company's profitability ratios. The central idea of these ratios is how much of the revenue companies can retain while contemplating costs. A company has two different costs: cost of goods and structural costs.

A company's profitability can be affected by revenue input or cost input. There are two possible ways for enterprises to upsurge revenue, either increase sales or increase the price of products. Expansion through customer acquisition often bears a cost, marketing, or other similar endowers to reach a targetable audience. All while, raising prices are dependent on the existing customer base accepting the higher cost for the same product. There are several important factors to business pricing power. Central to the prospect of pricing power are product elasticity, competitors, and branding power.

Impacting profitability through reducing costs has similar effects on margins without relying on customer acquisition or existing customers withstanding trending price shifts. A decline in the cost of goods sold is contingent on the suppliers, which businesses need to be able to decrease the price of goods. Important factors affecting the ability to decrease the cost of goods are the concentration of suppliers, market share of suppliers' sales, and quantity discounts. The other bulk of costs can be identified as fixed costs. Fixed costs revolve around administration, wages, and other posts not directly related to sales. Factors affecting fixed

costs are, but not limited to, wages, electricity, and administration costs. There is a linear relationship between revenue and COGS², while fixed cost can often be nonlinear to revenue.

3.1.4 Activity Ratios

Overview

Activity ratios measure how efficiently a company is leveraging the assets on its balance sheet, to generate revenues and cash. Grocery stores are dependent on an efficient and fast-moving inventory. Most goods sold in stores have limited storage capability. Grocery stores with low activity ratios may indicate poor purchase judgement from suppliers or even spoiled products. It is most useful to use activity ratios to compare competing companies within the same industry and to assess how a particular company is performing compared to its peers. By studying historical development in various activity ratios, one can form a picture of the company's future prospects.

Inventory Turnover Ratio

The inventory turnover ratio measures how quickly inventory is sold. In general, the higher the inventory turnover, the better the company is performing, because inventory is selling at a fast pace.

The inventory turnover ratio is calculated using the following formula:

Formula 3.3: Inventory Turnover Ratio

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods sold}}{\text{Average Value of Inventory}}$$

To calculate the average inventory, one takes the value of the inventory from the previous operating year, adds this to the value of the inventory at the end of the current operating year, and divides the sum by two. A low ratio can infer a slow-moving inventory, tying up capital. In contrast, a high ratio implies that the company's inventory moves rapidly. One can further calculate the inventory turnover in days.

² COGS = Cost of Goods Sold - the book value of goods sold in a specific period.

Formula 3.4: Inventory Turnover Ratio in Days

$$\text{Inventory Turnover in Days} = \frac{365}{\text{Inventory Turnover Ratio}}$$

The inventory turnover in days measures the average number of days it takes for a company to turn inventory into sales.

3.2 Labor Productivity Analysis Framework

Productivity is commonly defined as output in relation to input. In other words, the ratio between the amount of goods produced and the amount of input factors that are set to produce the goods (Østenstad, 2017). If a company is increasing production, without an equivalent increase in factor input, it has increased its productivity (SSB, 2017). The factor input is usually labor or capital input. Labor productivity is the most common measure of this type, though capital or even material productivity measure are occasionally used (Syverson, 2011). More complex measures include several factors at once. The terms total factor productivity (TFP) and multifactor productivity (MFP) are often used interchangeably, as both seek to explain production growth apart from the growth which is due to changes in several input factors at once (Gabrielsen et al., 2011). As mentioned in the introduction of this chapter, we will calculate and compare the labor productivity growth of the largest Scandinavian grocery chains.

In the short term, labor productivity shows how much a company is able to produce relative to labor input (SSB, 2017). An increase in labor productivity is often due to new or improved technology. Another factor could be increased knowledge, e.g., higher education among employers or better management and work methodology. Although improved technology and increased knowledge are some of the most important productivity drivers, there are several other factors influencing productivity growth. The purpose of mapping productivity development is often to uncover weaknesses in business activities over time and the risk of weakened competitiveness and value creation. A more detailed explanation of labor productivity and how this is measured will be presented in the upcoming paragraphs.

3.2.1 Measuring Labor Productivity

Productivity is relatively straight forward as a concept but since it is a result of several factors, it is difficult to measure precisely. The ideal productivity measure would consider every possible factor affecting productivity, unfortunately, that measure does not exist. The first set of issues when calculating labor productivity is linked to the measurement of output. This is because most businesses produce more than one type of output. Whether these different types of output should be aggregated, measured separately, or measured in other ways can be difficult to determine. The typical approach has been to use revenues deflated to real values in the common year, using price deflator series (Syverson, 2011). In chapter three of their book, Steen & Pettersen (2020) adjust revenues, purchase of merchandise, and consumption of other goods and services using different price indexes. The same approach will be used in this thesis.

As a measure of labor, we use the number of man-years for each chain. This is consistent with the methods used by Steen & Pettersen (2020), as well as SSB (2017). As with the output value, there are some sources of error when measuring labor. One element of uncertainty is the number of hours worked for each man-year since the number of hours each employee work throughout a year differs. There are also differences in what is considered a “normal working week” in the three Scandinavian countries. According to the tax authorities in Norway (2022), a normal working week corresponds to 37,5 hours. The standard working week in Denmark corresponds to 37 hours (Denmark.dk, 2022) while in Sweden they consider 40 hours of work per week to be the standard (Swedish Work Environment Authority, 2022). Although there is a “normal working week” for each country, there is uncertainty associated with the working hours per week, since the chains may operate with individual agreements. In chapter 6.1.5, we will measure labor productivity both adjusted and unadjusted for working week differences. Another element is that most chains hire labor or use enterprises that replace their employees (Steen & Pettersen, 2020). A third element is that workers have different qualities and contribute differently to the production process.

3.2.2 Calculation Method for Labor Productivity

Labor productivity is defined as the relationship between production and labor, and is usually measured using the following formula:

Formula 3.5: Labor Productivity:

$$LP = \frac{Output}{L}$$

Where (LP) stands for labor productivity and (L) stands for labor and is measured in either man-hours or man-years. The output is the value of goods and services produced, after subtracting the input costs related to production. The definition of output gives no obvious indication of how to calculate this for grocery chains. The output value is in official statistics calculated as the production value (A) minus purchased goods and services (B). Roughly calculated, the production value is equal to revenue minus merchandise adjusted for inventory changes. This is calculated net of value-added tax and product taxes. The output in fixed prices must be calculated so that the change in value creation is cleansed of the effects of price changes both for production value and product input. Output in fixed prices is calculated by first deflating production value and product input separately and then calculating the difference between production value and product input at fixed prices, so-called double deflation (Pettersen & Dombu, 2015).

In this thesis, we will measure the growth in labor productivity over time, where we are concerned about the driving forces behind the growth. We have therefore chosen to compare changes in figures, rather than levels. The formulas below describe the productivity term. The same approach is used by Pettersen & Dombu (2015).

Formula 3.6: Labor productivity in current prices

$$\frac{Production\ value\ (A) - Purchased\ goods\ and\ services\ (B)}{Number\ of\ man - years\ (C)}$$

Formula 3.7: Labor productivity in fixed prices:

$$\frac{\frac{Production\ value\ (A)}{Price\ index\ of\ goods\ sold\ (D)} - \frac{Purchased\ goods\ and\ services\ (B)}{Price\ index\ of\ purchased\ goods\ and\ services\ (E)}}{Number\ of\ man - years\ (C)}$$

Formula 3.8: Labor productivity growth in fixed prices:

$$\left(\frac{LP_t\ in\ fixed\ prices}{LP_{t-1}\ in\ fixed\ prices} - 1 \right) * 100$$

Labor productivity consists of five elements: Production value (A), Purchased goods and services (B), Number of man-years (C), Price index of goods sold (D) and Price index of

purchased goods and services (E). To find the output value in fixed prices, the figures are deflated based on industry-specific data. Whether the labor is measured in man-hours or man-years is per se irrelevant, as we want to measure the relative development rather than absolute values.

3.2.3 Price Indexes

As mentioned in the previous paragraph, the productivity growth will be adjusted for pure price effects, i.e., price changes that are not due to changes in product, quality or service. Relative development in turnover and purchase prices for trade goods largely explains relative growth in labor productivity. However, the indexes often cover a slightly too broad range of goods and services, such that the productivity measure will be affected by pure price changes. Minor errors in the price indexes may have a great influence on the calculated output value in fixed prices.

3.2.4 Taxes and Fees

Taxes and fees are affecting all elements of labor productivity: the price development, turnover and production value, cost associated with product consumption and energy, as well as reported producer prices. The food industry in Scandinavia pays large fees for alcohol and tobacco, as well as fees related to sugar, non-alcoholic beverages, and packaging. The scope of these fees makes it particularly important to ensure that there is consistency between tax adjustments in the price indices and the calculation of output value.

3.2.5 Labor Productivity Versus Broader Productivity Measures

When output increases more than the number of man-years, there is an increase in productivity. However, the reason may be due to the use of input factors other than labor. Labor productivity can therefore be misleading. The fact that labor is replaced by increased use of machines and equipment is not necessarily an expression of increased efficiency in the form of better resource utilization in general, i.e., increased labor productivity does not have to mean increased profitability. To describe real efficiency improvement, the term total factor productivity (TFP) is usually used instead. Growth in TFP is measured as the difference between production growth and growth in all input factors that companies pay for (Pettersen & Dombu, 2015).

3.3 Market Competition

3.3.1 Perfect Market

In economic theory, the most preferable market state revolves around perfect competition. Perfect competition describes a market condition in which firms are price takers. Competing market participants force each actor to accept the equilibrium price of the market (Perlego, 2013).

The framework relies on several conditions to occur. Identical products, atomistic buyers and sellers, no existing information asymmetry, and finally no barrier to enter or restriction to leave. In industries in which all those conditions stay true, market forces will drain all excess profits. The end state is an equilibrium where no new actors want to enter the market, nor do any existing ones want to leave.

Perfect competition can be interpreted as a utopia for economic theory. There are few scenarios in which these conditions can be perfectly met. There is almost always a hindrance to perfect competition. Regulations, information asymmetry, or barriers to entry exist everywhere. The zero-profit equilibrium has seen criticism in the absence of creativity and also shutting the door for entrepreneurial activity (Makowski & Ostroy, 2001).

3.3.2 Imperfect Markets

In real-world scenarios, most industries suffer from imperfect markets and therefore imperfect competition. Imperfect competition means that actors operating in the market can gain excess profits. Sellers gain the advantage of influencing prices, to earn more profits (Robinson, 1953).

There are several characteristics of an imperfect market structure. Both monopoly and oligopoly describe scenarios of non-perfect competition. A monopoly occurs when the market is dominated by one seller. In monopoly scenarios, there is no substitute and the actor have pricing power. Oligopolies differ from monopolies' unilateral market share. In an oligopoly, few large actors dominate the industry. In the following scenario, they either set prices together or are obliged to follow one party's pricing to be able to compete. Markets dominated by one or just a few actors, often have high barriers to entry.

3.3.3 The Leverage of Size

A large contribution to the oligopoly market structure in Scandinavia can be derived from the importance of scale. In common with most retail industries the buying power from large actors in the market presses prices down. This leads to a situation in which smaller actors without the same negotiation leverage are unable to compete with the established chain. Strengthening the low-competition environment even further (Silberston, 1972).

The reality of price discrimination is not only relevant in the appearance of new competition in the market. Existing grocery chains also suffer from price discrimination from suppliers. In a report from 2017, the Norwegian Competition Authority outlined that NorgesGruppen experiences lower prices than its competitors Coop Norway and Rema 1000. The price cut varies, from 0% to over 15% of the cost of goods sold by suppliers (Menon Economics, 2019). The market forces of increasing buying power exaggerate market dominance from the largest actor.

Similar patterns of size advances in negotiations with suppliers exist in both Denmark and Sweden. This makes it more difficult for new actors to enter the market. Smaller independent actors can't compete with the larger established chains, hindering new participants in the market.

This important factor can offer some explanation for the trend in which the largest chains grow even larger, outperforming competitors. However, there are other factors crucial to growth and profitability in the grocery market. One equally important factor is differences in efficiency, a subject that will be expanded upon further down the chapter.

3.3.4 Retail Concentration and Store Availability

Retail concentration and store availability differ in the Scandinavian market. In a recent publication, Steen & Petersen (2020) concluded that Norway had a significantly higher store concentration than its neighbors. The analysis focused mainly on the Swedish market since the two countries share geographical profiles, in contrast to Denmark's smaller area and more inhabitant-dense profile. Most noticeably the study outlined that Norway had fewer stores in the rural areas, while more stores in most central counties in relationship to Sweden. In the publication, Steen & Petersen's findings conclude that even though Norway has more than twice as many stores per inhabitant, the number of stores available within 10 minutes of

traveling time is surprisingly similar. The results indicate that Norway has too high density of stores in the capital area.

3.3.5 Consequences of An Imperfect Market

Norwegian Competition Authority

There has been a lot of discussion about regulatory oversight of the Norwegian Grocery industry. In 2020, the Norwegian Competition Authority issued statements about the grocery chains operating in Norway. The large market share of few market participants has been a thorn in the eyes of regulators and the public for a long time. The outspoken critic and threat of record fines due to alleged coordination shook the three largest actors. The authority issued a statement about the crime at hand. The issues at hand were “price spies”, a concept used in the industry. Price spies scan the prices of industry competitors, leading to a price-cartel situation. The director of the Norwegian Competition Authority commented on the case “Our investigation shows that the practice of scanning prices in each other's stores may have led to the chains together pushing prices upwards. Our preliminary assessment is that the collaboration has made it easier for the chains to follow each other in pricing, and given the chains increased incentives to raise prices and weakened incentives to lower prices. The collaboration may have led to Norwegian grocery customers having to pay higher prices in the chains' stores” (Konkurransetilsynet, 2020).

NorgesGruppen, Coop, and Rema 1000 all shared their disagreement with the assessment. Claiming these practices reduced prices, providing the customers with lower prices. At this moment, all chains in Scandinavia follow the Norwegian competition case with great anticipation. Precedence for fines could cause contagion in similar industries.

3.3.6 Hindrance of New Entrance

The Norwegian Import Tax

The Scandinavian societies are known to be heavily regulated. Laws, regulations, and trade barriers exist in all countries. As mentioned in chapter 1.1, Norway has import protection for agricultural goods which is influencing the competition and prices in the grocery industry. It has been implemented to help secure Norwegian production of agricultural goods. The aim is to protect Norwegian producers from cheaper imported products from abroad.

A report from Oslo Economics and Oeconomia in 2017, concluded that the protectionist approach taken by the Norwegian regulators has made the market hard to enter. The difficulty for foreign competitors centers around the fact that they cannot leverage their economies of scale inside Norway. They are unable to do so because of the substantial tax tariff put on goods imported from suppliers outside of Norway. The cost associated with this tax makes selling foreign agricultural goods economically unsustainable. This creates a situation in which foreign suppliers and established private labels become useless in the Norwegian market. The conclusion presented was that the regulatory body causes higher concentration on the Norwegian market. They infer that the cost of this barrier got transported to the customers, leading to higher grocery prices (Oslo Economics, 2017).

Import protection is one of the main reasons why we experience a lack of international competition in Norway. However, one must remember that Norway is a small market. Furthermore, it is challenging to operate efficient logistics in an elongated country, with scattered settlements. On the continent, one can set up large central warehouses that can serve large customer groups. In Norway, one is dependent on handling smaller warehouses spread over large distances.

3.4 Profitability in the Grocery Industry

Profitability performance is a crucial factor in all business ventures. The main driver of profitability differs between industries. In Livingstone and Tigert's study (1987), the importance of profit margins got emphasis. In the referenced study, the authors outlined that the ability to keep a spread between gross margin and operating cost is key for profitability. Dunne and Lusch (1999) published an important finding, referring to the interrelationship between various categories of store performance and profit margin. The study found that market-based performance and productivity made a central difference in achieving profitability.

Hernant (2009) wrote a paper investigating the profitability performance of Swedish Grocery Stores. The paper examined the impact scale, local market condition, and operational conduct had on economic performance. The paper concludes that market condition affects conduct, and by extension performance. However, conduct is far from perfectly associated with the market condition. The performance of stores does not follow a casual chain in which profitability can be predicted solely by examination of market conditions. The analysis

displayed that grocery stores can be profitable in sub-optimal market conditions. Furthermore, stores with low profitability might operate in optimal conditions. Based on the findings, the author concluded that the difference between low and high profitability lies in the interplay between the operating environment and management.

The thesis stipulates the insight that a low profitability margin can't solely be explained by market functions. Neither, that the industry is condemned to systematic low profitability metrics. Providing grocery store managers with a meaningful and important task of management.

3.4.1 Principal-Agent Problem

The principal-agent problem describes a common conflict and has become a standard factor in political science and economics. The root cause of the issue is divergent ownership and control of ventures (Jensen & Meckling, 1976). Principals, which can be classified as owners, hire agents to make operational decisions in the enterprise while still retaining ownership. Making agents responsible for control without aligning incentives for both parties.

There are ways to counteract the conflict. The main task is to resolve misaligned incentives. The principal need to create a situation in which there are enticements for the agent to think and act like a principal. Most commonly, principals try to get incentives aligned by offering agents stock-option compensation or other financial bonuses based on performance.

3.4.2 Principal-Agent Problem Franchise

The Scandinavian Grocery chain industry operates from two different types of ownership structures. The first being central-owned stores and the second franchise-chain. A franchise can be described as an individual retailer operating under a larger enterprise umbrella. The individual retailers receive the franchiser's brand recognition and the perks that economy of scale offers. The economy of scale lower supply costs for retailers since the central organization buys supplies in bulk and offers purchasing power in negotiations. In return for the provided perks, the franchisee pays a fee. A fee that could be based on a set amount or percentage of results (FTC, 2015).

The design of a franchise is to avoid the principle-agent problem. By giving individuals the incentive of owning the store, the principles align the incentives for both actors. While the

franchisee keeps much of the gains, the franchiser-parent also prospers due to higher fees. Opting to create a win-win situation in which both parties are equally satisfied (Lafontaine & Slade, 2001). In addition to solving the principle-agent problem, giving individuals the ability to be stakeholders in their own ventures hedge risk from the parents. The risk shifting from sole owner to franchise owner can be profitable and strategic to balance risk appetite and lock in cash flows.

3.5 Productivity in the Grocery Industry

3.5.1 Efficiency and Productivity

The terms efficiency and productivity both show the relationship between input and output. Productivity is used as a measure of performance in the production process and compares this to previous periods. Efficiency is a relative comparison of how a business is performing compared to competitors. Efficiency tells whether production should be increased or whether resource use should be reduced. Increased efficiency often leads to increased productivity. In this thesis, we will assess the productivity and efficiency of the grocery chains in Scandinavia, using labor productivity and inventory turnover ratio respectively.

3.5.2 Productivity in Inefficient Markets

There are several mechanisms affecting productivity growth. There is no research consensus on the correlation between industries with lacking competition and low productivity growth. Competition's effect on research and development has been studied multiple times with diverging results. However, one main contribution to the research literature was published in 2004 when Aghion and Howitt conclude that a significant inverted U-shaped relation exists between competition and R&D.

3.5.3 Productivity within Franchise

The literature states that leaders tend to give less than their best effort when they have a fixed compensation. In franchise-owned stores, merchants are responsible for the result of the entire operation, which gives them a great incentive to work efficiently and minimize costs. In this way, surveillance is less needed from the principal, and the agent is compensated based on the effort of the store. These factors motivate the merchants to run their stores as efficiently and profitably as possible and thus work in the best interest of the principal (Shane, 1998).

Aligning incentives, and thereby creating an environment in which results are based on internal motivation and not governance from surveilling managers has a positive effect on labor productivity.

4. Data and Descriptive Statistics

4.1 Introduction

The goal of this thesis is to compare the Norwegian grocery market to the Swedish and Danish markets, focusing on the profitability, efficiency, and productivity of the leading chains within each country. By doing so, the aim is to understand if Norwegian actors achieve higher margins than their Scandinavian counterparts. Next to the margin comparison, the thesis will investigate the productivity trend. To ensure relevance, the data collection is conducted using important criteria. The analysis method will also be modified to guarantee validity and reliability.

4.2 Data Collection

The process of collecting data varies for different inputs. Data assembled from official statistics and annual reports will be present in the report. The primary source of quantitative statistics will be the company's annual reporting. From the annual report, five to ten years of financial statements will be gathered and be the basis of comparison. The financial analysis stretches over five years, while the labor productivity analysis stretches over ten years. Collecting annual reports is done from each company's public website. For the Norwegian and Danish grocery chains, we will use Proff.no and Proff.dk, which provide accurate and concise data from the last five years. For the Swedish companies, we will use Allabolag.se adjusted to the corresponding annual report.

During the collection of data, there will be a process of selection to ensure the reliability of included quantitative data. The analysis will focus solely on the Scandinavian grocery industry. Thus, business ventures outside the scope of relevance will be excluded. Instances of relevance exclusion will be ventures in other industries. The ICA Group for example operates in both pharmacy and banking through Apotek Hjärtat and ICA Banken. These segments would harm the ability to make relevant comparisons through financial statement analysis. Financial statement analysis done cross-industries have low relevance, due to structural differences.

The analysis will be limited to grocery chain operators in the Scandinavian region. Thus, grocery chain operators outside will also be excluded. The geographical differences will affect

the understanding of the dynamic in the relevant market. Continuing the former example of the ICA Group, an exclusion of Rimi will be made. A branch with operations limited to the Baltics.

For several of the chains, the distribution branch is included in the group accounts, such that the effect of the distribution branch is included in our calculations. This inclusion will aim to exclude the factor of transfer pricing.

The process of elimination begins in the section on data collection. During the assembling of data, several key distinctions take place. The relevance question works as a guiding principle to the selection. Even though the collection procedure aims to provide the following analysis part with a foundation, the next chapter will outline additional steps made to ensure a satisfactory table of data.

4.2.1 Financial Data

NorgesGruppen

Data from NorgesGruppen is taken from their annual report, supplied by Proff.no. Since the firm focus lies in food and grocery retail, the thesis includes every food segment operational in the group. Under the corporate umbrella, a diversified portfolio of grocery stores exists. Operating in every segment from supermarkets to central convenience stores. Diverse store segments and categories of grocery chains, lead to dissimilar margins. Nevertheless, much of the revenue can be accredited grocery store retail. The decoupling and maneuvering of financial statements might reckon the risk of error, harming the analysis.

Rema 1000 Norway

Gathering data from Rema 1000 presented two separate issues. The first issue included a problem gathering key data from 2021. Acting exclusively as a franchise enterprise the annual report included no information on combined revenue or combined cost. Furthermore, before 2021, Rema 1000 Norway and Rema 1000 Denmark shared financial reporting in Rema 1000 A/S.

To solve the first problem, we search for relevant 2021 data from Rema 1000 Norway. Reitan Retail presents the yearly figures of their subsidiary Rema 1000 on their website. The presented information gets extracted from the corporate group report and implemented in the analysis. Secondly to counteract joint reporting a decoupling of entities gets introduced. The

decoupling method incorporated a subtraction of Rema 1000 Denmark's financial figures on the joint statement. Subtracting financial involvements from Denmark's division on Rema 1000 Norway. The applied method leaves only the desired part in the analysis dataset.

Rema 1000 Norway is excluded when calculating the inventory turnover ratio. The reason for this is the lack of proper inventory figures. We tried to subtract the inventory figures of Rema 1000 Denmark from the joint statement, but this left us with unreasonable low figures for Rema 1000 Norway.

Coop Norway

Coop is the only grocery retailer that operates in the entirety of Scandinavia. Sharing corporate structure and business model in each region. The collection of data from Coop is done from Proff.no and Proff.dk for Coop Norway and Denmark, while the collection of data from Coop Sweden is done mainly from annual reports. Swedish firms are not required to share costs associated with operations. Therefore, collecting data from Swedish grocery chains requires a more thorough search in the annual reports.

The main focus of the cooperative is grocery retail. Coop operates within six different chain concepts: Obs, Extra, Coop Prix, Coop Mega, Coop Marked, and Matkroken. The Corporate group holds two retailers selling goods outside the grocery classification, Obs Bygg, and Byggmix. These mentioned shops sell building materials. The combined revenue of the two equals about twelve percent of Coop's total revenue. Taking into consideration the relatively small percentage of total revenue, accompanied by the similarities the two retail industries share. A decision to retain the statement in its entirety is made. However, this might weaken the result of our analysis.

Furthermore, as mentioned in Chapter 2 Coop Norway operates as a cooperative. The cooperative structure of Coop Norway creates issues in ensuring accurate reporting numbers. However, since the difficulty of ensuring precise reporting is greater than the contribution it will offer to the thesis, Coop will be included as reported by Coop Norway's official annual reports.

Salling Group

The Salling Group's catalog of business ventures is diversified in a variety of retail industries. The selection consists of clothing, electronics, and grocery stores. To ensure relevance in the

data collection, several key distinctions are made. A decoupling of non-relevant divisions is conducted. In which there is only the inclusion of relevant financial figures.

Proff.dk provides the data for the grocery retailers within the Salling group. The analysis of the Salling group includes Netto and Føtex. They are also exclusively dedicated to grocery retail. Providing the most suitable and relevant ground for the application of analysis and thereafter comparison.

Rema 1000 Denmark

The gathering of financial data from Rema 1000 Denmark provides no distress, nor any issues. From Proff.dk a sampling of five consecutive annual reports provides complete financial information. The financial statement provided no information about the COGS in 2017, therefore we extracted COGS data from the Norwegian and Danish Rema 1000 joint report.

Coop Denmark

Data collected on Coop Denmark are extrapolated from Proff.dk. Under the umbrella, a variety of grocery retailers exists, with stores across Denmark. There are no substantial diverging ventures creating problems with the reported figures. Therefore, acquired five-year data provides the fundament for the analysis.

As mentioned in the passage about Coop Norway, the cooperative corporate structure reckons challenges in the data collection from Coop. The analysis will be based on five years of annual reporting made by the firm Coop Denmark. There are doubts related to whether this reporting includes all relevant entities within the corporate structure. Since the research question aims to investigate and observe the margins within Scandinavia, we conclude that the inclusion of Coop Denmark as presented in the annual reports won't contribute to a harmful effect on the analysis.

ICA - Sweden

Reporting for the ICA Group encompasses several entities within the ICA-sphere. As mentioned in the preview, ICA operates in several industries today. Including a banking division with ICA Banken and pharmaceutical retail with Apotek Hjärtat. To remove the financial influence of non-applicable industries a selection process will occur. The process includes isolating the revenue received from ICA Sweden, which is the object of interest.

However, since ICA Sweden does not report cost as an individual entity to find the associated cost the analysis will be based on a weight percentage of the total cost based on the weight percentage of revenue. AllaBolag.se includes operating profit for ICA Sweden, thus the total sum of the cost of goods plus operating costs is known. The weighted model used to find associated cost affects only the interpretation of cost spread. The sum of cost is known, requiring no assumption or projection. Eliminating the risk of modeling errors by biasing the results and conclusions.

AxFood

Using a combination of AllaBolag and annual reports provides a full financial picture for the period of interest. Like the ICA Group, AxFood's portfolio is wide and covers a lot of segments. In the business portfolio, only one company conducts operations outside the scope of groceries. Apohem is a full-scale online pharmacy, offering both over the counter and prescription drugs. However, since the online pharmacy contributes less than a basis point of total revenue. The decision to leave the data set unaffected seemed reasonable.

Coop Sweden

The corporate structure of Coop Sweden provided a minor inconvenience in the collection process. Differing from neighboring regions. Coop Sweden is owned by KF, "Kooperativa Förbundet". Koopeartiva Förbundet owns Coop Sverige AB and, Coop Butiker & Stormarknader. Together forming the totality of Coop grocery retail stores in the country.

The collection utilizes reporting data from the subsidiaries and the annual report from "Koopeartiva Förbundet". The sum of revenues and operating profits can easily be extrapolated from AllaBolag.se, while the cost of goods calculation will be based on the equivalent Koopeartiva Förbundet annual report. The process follows the same technique used for the ICA Group. The goal is to assign the cost of goods and operational costs while having accurate profit figures.

Mirroring the corporate structure of Coop in Norway and Denmark, there are several difficulties in ensuring accurate data from the reports provided to the public. Since the goal of the thesis is to provide a comparative framework for Norwegian chains, we conclude that the inclusion of Coop Sweden as presented in the KF report won't harm the analysis.

4.2.2 Labor Productivity Data

The collection of labor productivity data largely follows the structure given for the collection of financial data. In addition to financial reports, official statistics from Eurostat will be used. Eurostat provides overall productivity measures which are used to compare the Scandinavian grocery markets on a more general level. Eurostat also provides price indexes for each country, used when deflating the output value. Regarding the collection of man-years, some assumptions were made. The financial reports of Salling Group for 2011 and 2012 were absent, such that man-years had to be calculated based on average growth in man-years for the period 2013-2021. The same goes for the COGS in 2011 and 2012. The revenue for 2011 and 2012 was found in later reports, while the COGS had to be estimated. The estimation was done by finding the average COGS as a percentage of revenue from 2013 to 2021. This value was further multiplied by the revenue of 2011 and 2012, to find the COGS for the respective years.

4.3 Analysis Method

The main form of analysis is based on collected descriptive statistics. Our data is derived from companies in different countries. Every company included in our analysis operates and receives revenue in local currency. Taking this into consideration, the analysis will be ratio based. By opting for ratios, we avoid currency conversion and having to conclude a common spot price variable.

Applying analysis methods blindly might lead to a misleading conclusion. In the analysis, we do several technical modifications to ensure an accurate outcome. A significant part of these modifications is already done in the collection of data. Accounting for non-grocery operations and international business ventures. Thus, providing the most accurate entry data possible. There will also be changes to some financial ratios, and adjustments to improve their ability to give insight into margins and productivity.

Microsoft Excel will be the preferred analysis platform for both the financial statement analysis and the labor productivity analysis. Working with a processed and compact dataset, Microsoft Excel provides a suitable platform. Comprehensible tables and figures will occur throughout the analysis to provide insight and visualize findings.

4.4 Reliability and Validity

In all research papers, it is important to look at the study's credibility, which is done by looking at the research's quality. Reliability relates to the accuracy of the research data, which data have been used, the way it has been collected, and how it has been further processed. Validity is a term for how well one is able to measure what one intends to measure or examine (Johannessen et al., 2016).

4.4.1 Reliability

Reliability aims to evaluate the trustworthiness of the results from the study. Central to reliability is that the same fallouts occur if the study would be conducted by another party. If the results would differ when conducted in an identical environment, the reliability of the conclusion would suffer (Saunders et al., 2012).

Financial statements provide reliable data for analysis. There is no risk of unreliable sampling of these company-presented reports. The analysis is based on a five-year period, including three years of non-pandemic data. We believe that the collected data will provide a foundation for us to count a cohesive market analysis. Giving a platform for both company and country-relevant insight.

Problems in reliability can occur in either the presentation of data made by firms included in the analysis or reporting errors that can't be perceived or anticipated. Working with firms operating in a heavily regulated industry, within highly regulated countries induce zero to no risk of fraud or reporting errors. The more reasonable reliability problem occurs at the point of estimation during the gathering process. To receive several key components of the financial data, estimations and assumptions must be implemented. These estimations are made to increase the accuracy of the thesis conclusion. The reliability issues attributed to the thesis conclusion in absents of estimations would be greater.

4.4.2 Validity

Validity is the other vital aspect to take into consideration when evaluating the method and measurements. The term validity aims to explain the accuracy of a method to measure something. A valid method measures what it claims and closely corresponds to real world-

values. Validity is often categorized as one of the following four types *Construct Validity*, *Content Validity*, *Face Validity*, and finally *Criterion Validity* (Jhangiani et al., 2019).

Construct Validity

Construct validity aims to explain if the method applied measures the concept of its intent. The idea is to ensure that the measurement provides the right answer to the corresponding question. Construct validity is the most central piece in the validity framework, thus carrying a lot of weight and importance. The key to achieving a valid construct is to ensure that existing relevant knowledge guide indicators and measurements. In addition, guarantee the relevance of measurement, and causality.

The thesis aims to investigate profitability and productivity in the Scandinavian market. The research questions want to answer if the notion of over-profitability and corporate greed in the Norwegian grocery industry rests on factual claims.

Content Validity

Content validity emphasizes whether the method represents the entirety of aspects relevant to the construct. The goal is that the research method covers all parts of relevance of the subject in question. In presence of missing aspects, the content validity is threatened. Moreover, if either an important part is left out or irrelevant parts get included, the produced result no longer mirrors the true hypothesis.

Face Validity

Sharing similar characteristics with the former content validity, face validity aims to consider the surface suitability of a test. The largest distinctions between the two terms can be derived from face validity being more informal and a matter of subjective assessment. Thus, it is often considered the weakest form of validity.

Criterion Validity

The final validity factor is criterion validity. The key function is to evaluate the relativity of the test result, and how closely a test result corresponds to another test result. The term criterion can be described as an external method, aiming to measure a similar thing. In most cases, the criterion is a well-established test, which already is considered valid. If a relevant criterion is found and deemed suitable. The correlation between the new method and the

corresponding criterion measurement provides intel on whether the chosen method measures the intended objective.

Internal and External Validity

The concept of validity often gets classified into two subgroups: *Internal* and *External* validity. Evaluating the internal validity broadly revolves around the extent to which a research study manages to determine causality (Schram, 2005). Ensuring warranted claims, eliminating alternate explanations, to reinforce the conclusion. Internal validity emphasis rests on the accuracy and strength of the research method.

In contrast, external validity discusses to which extent the outcome can be applied to other settings. Strong external validity exists if research findings can be generalized, applied to the world at large, and translated into another context. These two terms are not mutually exclusive. A strong internal validity does not infer convincing external validity. The relationship holds in the reversal case as well.

5. Finacial Statement Analysis

Through online newspapers, social media, and other sources of information, one is often left with the impression that Norwegian grocery chains push prices more than they do in our neighboring countries, which leaves them with greater margins than Swedish and Danish chains. This part of the thesis seeks to analyze the profitability and efficiency development of the largest Scandinavian grocery chains by using the ratios mentioned in chapter 3. The financial data will be collected according to the approaches described in chapter 4.2.1. Initially, the price development in Scandinavia will be analyzed, to examine how the price level in Norway has developed compared to our two neighboring countries.

5.1 Price Development

Following the war between Ukraine and Russia, grocery prices have increased drastically. The two countries are among the most important exporters and producers of cereals and oilseeds, as they possess enormous areas of arable land. Russia is also a key player in global energy and fertilizer markets, being the number one natural gas exporter and second-largest oil exporter (OECD, 2022). Following the stop of energy supplies from Russia to western countries, energy prices have risen sharply which immediately hits production-, storage-, and transport costs. In addition to this, central and eastern Europe has been through a severe drought period in 2022. Low water levels in major rivers and lakes cause a halt in energy production, and farmers have seen their crops been destroyed due to extreme heat and lack of water.

The drastic price increases have led to a resurgence in the discussion regarding Norwegian grocery prices. In May 2022, the Minister of Trade and Industry in Norway announced four measures to ensure a better balance of power in the grocery market and contribute to a broader selection and lower prices for consumers. We quote the Minister of Trade and Industry in Norway: *“I repeat that I am very concerned about the situation in the grocery market. There are too few actors and too difficult for new actors to establish”* (Nærings- og Fiskeridepartementet, 2022). The minister’s statement is compatible with statements found in several of the country’s leading economic newspapers. One could easily end up with a narrow perspective, where the focus is solely on the situation in Norway. This thesis expands the horizon and studies the prices, margins, and productivity in the three Scandinavian countries.

The price level in Norwegian grocery is higher than in Sweden and Denmark, but how has the relative price development been in the last decade? Figure 5.1 shows the development in prices of food and non-alcoholic beverages in Scandinavia from 2011 to 2021, compared to the average price level in the EU.

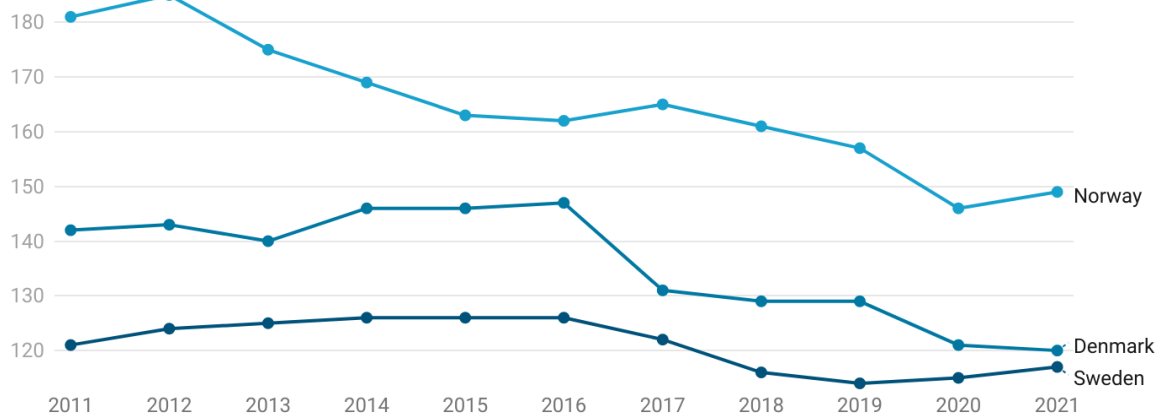


Figure 5.1: Price Levels of Food and Non-Alcoholic Beverages in Scandinavia. 2011-2021. Index EU27=100. Source: SSB.

Norway's prices of food and non-alcoholic beverages were 81% above the EU average in 2011 and 49% above the EU average in 2021 (EU27=100). Denmark was 42% above the EU average in 2011 and 20% above the EU average in 2021. Sweden was 21% above the EU average in 2011 and 17% above the average in 2021. Norway has had the steepest decline in prices of food and non-alcoholic beverage, relative to the EU average. Steen & Pettersen (2020) did a similar examination of food prices in Norway and neighboring countries in chapter 4 of their book. They studied prices of food and non-alcoholic beverages from 2003-2018 and found that Norwegian prices were increasing until 2013. After 2013, the differences between Norwegian prices and the EU average have decreased significantly.

Furthermore, one can study which goods differ the most from each other in terms of price, in an attempt to explain the underlying causes of price differences in food and non-alcoholic beverages. A fair assumption is that prices on agricultural products are more expensive in Norway due to import protection. We can compare the relative price differences of 2011 to the relative price differences of 2021:

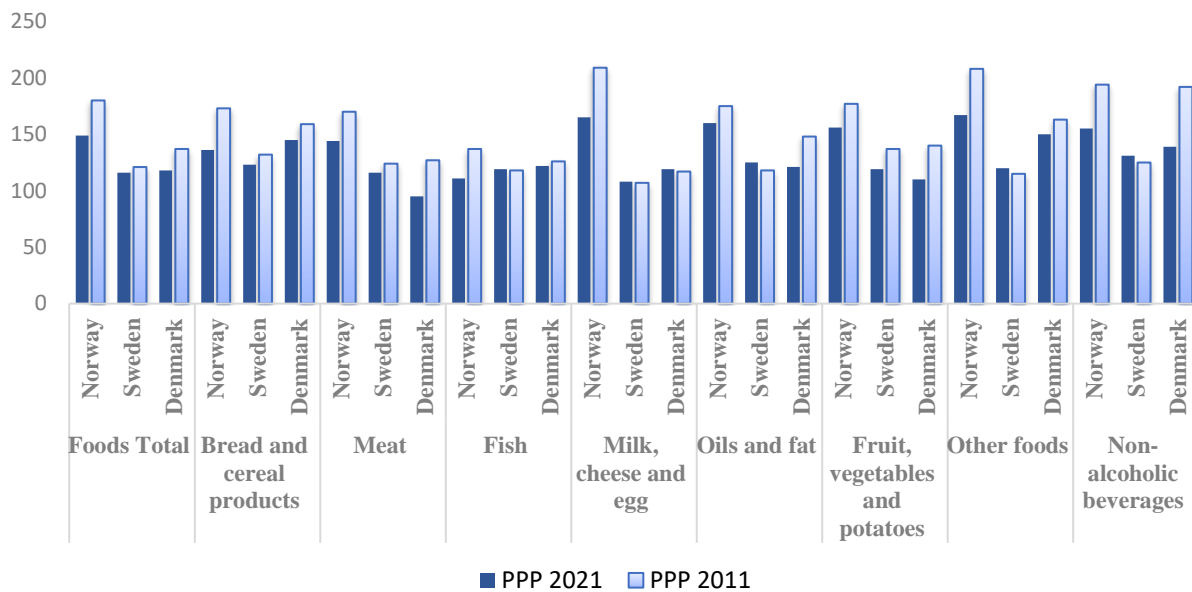


Figure 5.2: Relative purchasing power parities on a selection of food products in Scandinavia. Index EU27=100, 2011 vs 2021. Price level index incl. VAT. Source: SSB.

We find that prices in Norway and Denmark change significantly, while prices in Sweden are steadier. In Norway, one can see a decline in the price of all goods included from 2011 to 2021, relative to the EU average. The same goes for Denmark, except for prices of milk, cheese, and egg which increase 2% in the period, relative to the EU average. Sweden on the other hand, increase prices on products such as fish, milk, cheese and egg, oils and fat, other foods, and non-alcoholic beverages, compared to the EU average. The relative price level of milk, cheese, and egg in Norway, went from 109% above the EU average in 2011 to 65% above the EU average in 2021. In Sweden and Denmark, prices dropped by 1% and 2% respectively for the same goods between 2011 and 2021. We see a similar trend in other foods, where prices in Norway dropped 41% in the period, in Denmark fell by 13%, while in Sweden prices increased by 5%.

Recent figures from 2022 show that prices of food and non-alcoholic beverages in Sweden and Denmark are getting close to Norwegian prices. The Harmonized Index of Consumer Prices (HICP) shows that prices on food and non-alcoholic beverages in Denmark, Sweden, and Norway have increased by 15,9%, 14,3%, and 10,3% respectively, from August 2021 to August 2022.

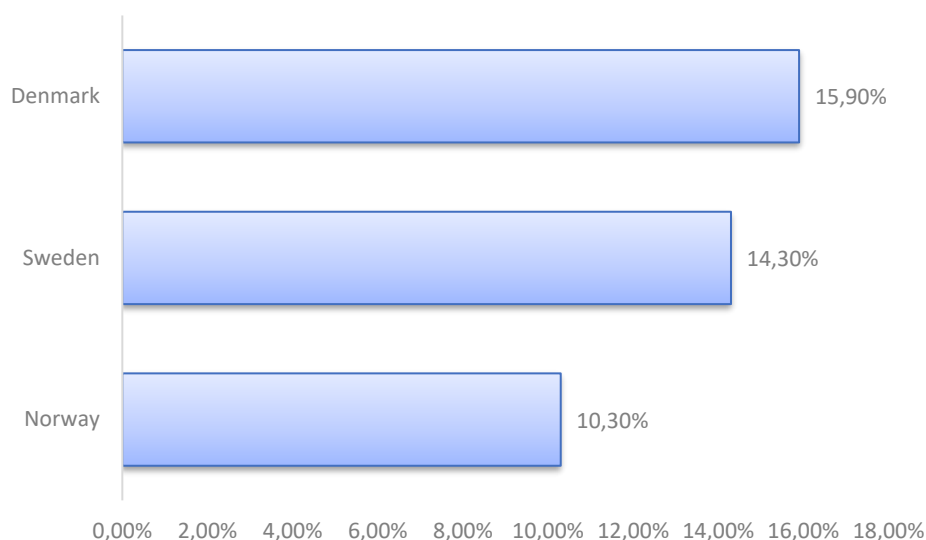


Figure 5.3: Price Increases Food and Non-Alcoholic Beverages. August 2021 to August 2022. Index: HICP. Source: Eurostat, 2022.

Prices on food and non-alcoholic beverages have increased 54,4% more in Denmark than in Norway from August 2021 to August 2022. In Sweden, prices of food and non-alcoholic beverages have increased 38,8% more than in Norway. The historically high agricultural settlement of NOK 10,9 billion in 2022, is contributing to more stable food prices in Norway.

To contextualize these price increases, we can look at the year-over-year price increases on food and non-alcoholic beverages from 2019 to 2021.

	2019-08	2020-08	2021-08	2022-08
Denmark	2,20 %	0,70 %	0,60 %	15,90 %
Sweden	3,40 %	2,00 %	0,40 %	14,30 %
Norway	0,90 %	3,60 %	-3,00 %	10,30 %

Table 5.1: Year-over-Year Price Increases on Food and Non-Alcoholic Beverages. August 2019 to August 2022. Index: HICP. Source: Eurostat, 2022.

The increased prices for electricity, fuel, packaging and raw materials have made a significant impact on the prices of food and non-alcoholic beverages from August 2021 to August 2022.

5.2 Profitability Analysis

The profitability analysis is presented in different subsections. Initially, there will be a comparison between the firms operating in the same country which aims to display the financial performance of actors operating under the same market condition. Furthermore, a joint Scandinavian performance assessment will follow when each country's result has been presented.

Beware of using Coop's profitability results in direct comparison with other chains, since the collected figures could misrepresent the complete picture of Coop's financial performance. This effect will be discussed and further expanded upon in Chapter 7.

5.2.1 Profitability Ratios Norway

Presented below are the gross margin and operating profit margin of the Norwegian grocery chains. To start the analysis, attention will be put on the gross margin. As mentioned, and presented in the third chapter theory, gross margin is the margin between acquiring cost for the retailer and income from the sale. In the period 2017 to 2021, NorgesGruppen has a gross margin that is consistently around 26%. The line presenting the figure looks visually indistinguishable year over year, displaying the consistency and structural margin NorgesGruppen aims to accomplish. Rema 1000 presents operating margins slightly below NorgesGruppen. Rema 1000 differs from NorgesGruppen in the year-over-year fluctuations. Starting in 2017 with a gross margin of 20%, this figure has seen a slight incline which has moved the ratio to about 22% in the last years. Coop, the final actor in the Norwegian market is a leap behind the mentioned firms. Coop presents financial figures below its competitors. Since 2017, Coop has hovered around a gross margin of 13%. Like NorgesGruppen, the visual line is indistinguishable year over year. This indicates a structural gross margin, not caused, or traced to temporary market conditions.

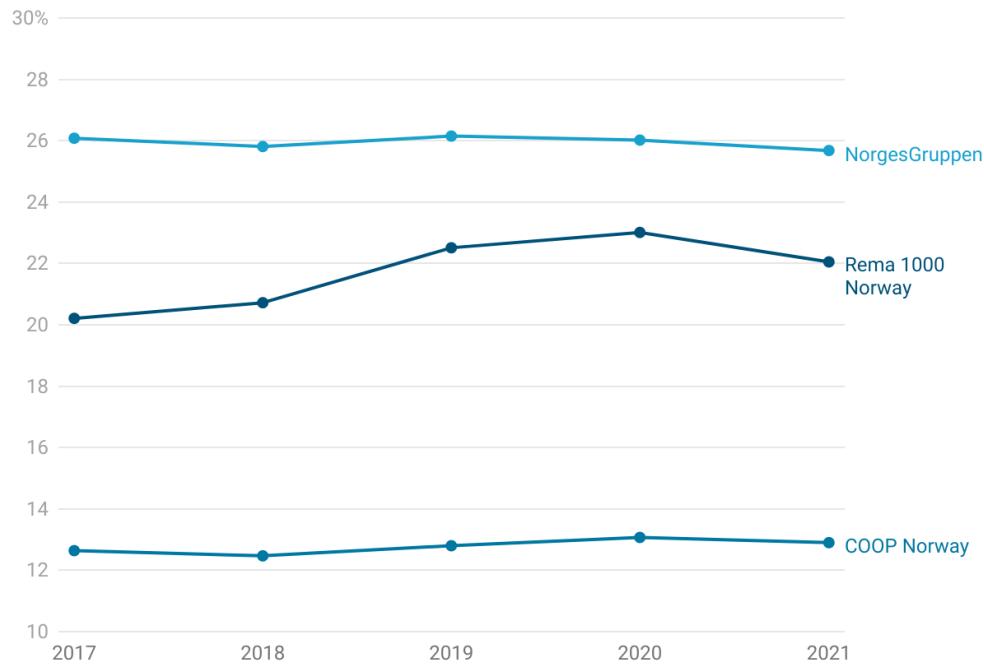


Figure 5.4: Gross Margin Ratio for NorgesGruppen, Rema 1000 Norway and Coop Norway. 2017-2021.

Grocery chains must have the ability to transfer gross margin into operating profit. While gross margin shows the margin between retailers' cost of goods and income of sales, operating profit provides insight into the ability to retain profit after structural costs and wages. When analyzing the profit margin in the Norwegian market, NorgesGruppen and Rema 1000 compete to have the highest percentage ratio. The data suggest an upwards trend since 2017 where both firms have increased their profit. Starting at around 3,5% of revenue and ending slightly above 5%. In the presented graph, a strikingly high was achieved 2020. The record profit is constant for all three market participants, inferring favorable market conditions. This high is normalized in 2021 when a slight decline occurs. The five-year analysis period shows that NorgesGruppen is not able to convert its gross margin advantages into higher operating profit margins. All while Rema 1000 succeed to retain more of the gross margin. NorgesGruppen might suffer from higher structural costs, higher wages, or more focus on marketing. The findings show Coop falling far behind its competitors in the market. In the last five years, Coop presents an operating profit figure around the one percent mark. The presented figure makes sense when considering the low operating profit. Since Coop retains such a small percentage of the revenue, generating a high-profit margin after paying the structural cost is unfeasible.

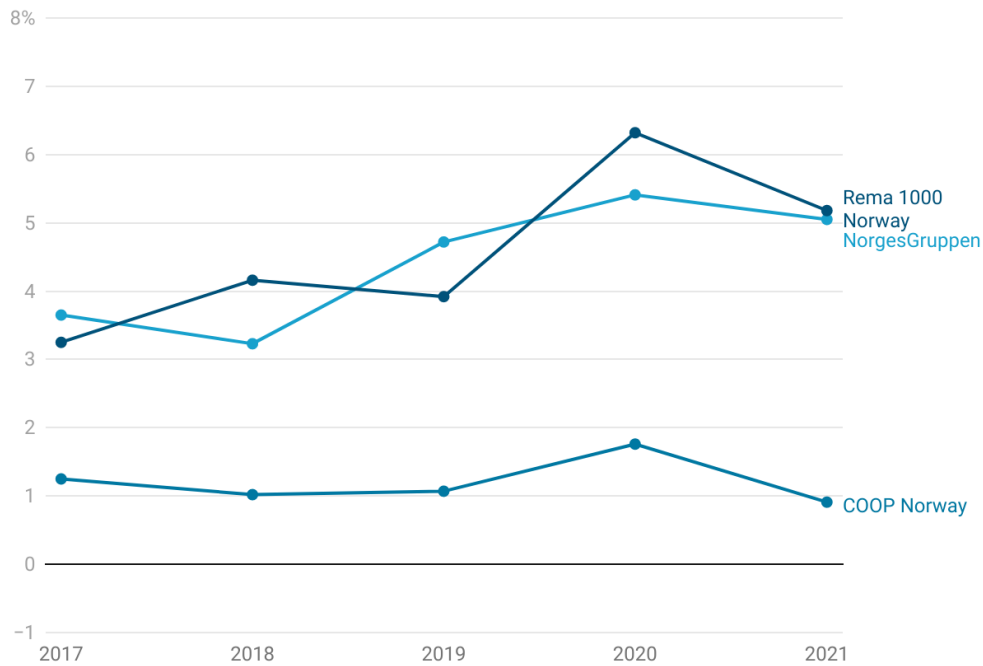


Figure 5.5: Operating Profit Margin Ratio for NorgesGruppen, Rema 1000 Norway, and Coop Norway. 2017-2021.

5.2.2 Profitability Ratios Denmark

Further, the profitability ratios of the Danish grocery chains will be analyzed and discussed. From 2017 to 2021, Salling Group reported the highest gross margin in the Danish market. Their margin started at 27% in 2017 and has increased slightly to 28% in 2021. Just like NorgesGruppen in the Norwegian market, the result shows an obvious advantage of being the largest actor in the market. While Salling Group seems to have a small advantage, Coop Denmark is following behind the market leader. After a large and irregular increase from a gross margin of 14% to 24% between 2017 and 2018, Coop appears to have settled at a constant gross margin continuing around 24%. Rema 1000 Denmark presents the lowest figures at around 12% during the five years. Rema 1000 is the smallest firm of the three analyzed having a market share of only 14,8%. The small market share and the reality of Rema 1000 primarily being a Norwegian franchise enterprise might affect their ability to produce a higher result. Opposite of Salling Group and Coop Denmark, Rema 1000 focus solely on the low-cost segment. The segment that aims to allure customers at low prices is often doomed to lower margins since they are forced to offer lower prices compared to well-established competitors.

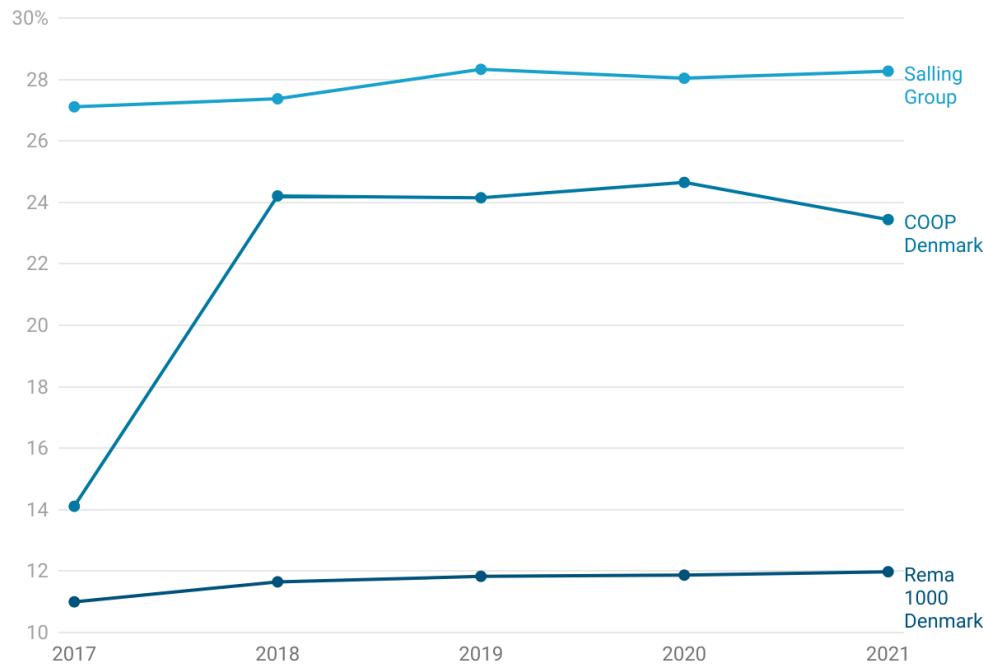


Figure 5.6: Gross Margin Ratio for Salling Group, Rema 1000 Denmark, and Coop Denmark. 2017-2021.

After concluding the difference in gross margin between the three actors, the focus is shifted to the operating profit margin. By the figures from the Norwegian market, operating profit margins seem to congregate much more than gross margins. Salling Group presents the highest operating profit margin over the five years with a margin in the interval of 3% to 4,5%. The year 2020 offered a slight peak approaching the 5% mark but settling in 2021 at around 4,5%. Opposite to low gross margins, Rema 1000 produces the second-highest operating profit results in Denmark. During the five years, Rema 1000 retains an operating profit margin slightly below 3%. The only exception to the result is the record year of 2020, which has shown to be systematic and market-wide. Mirroring the result from the previous group, Coop Denmark presents the lowest operating profit margin in the sub-group. In the last five years, the cooperative has reported profits of around 1%, raising slightly above the average in 2020. In the final year of the time-period Coop only retained 0,5% in operating profit margin. Building upon the gross margin, a steep decline was made from Coop while Rema 1000 profit figures raised way above expectations.

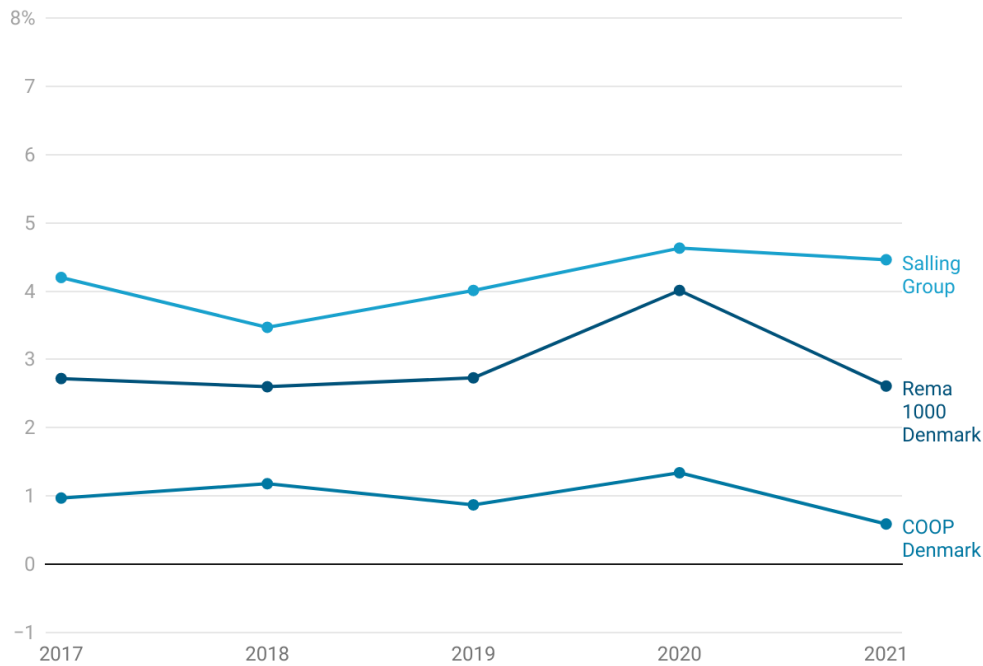


Figure 5.7: Operating Profit Margin Ratio for Salling Group, Rema 1000 Denmark and Coop Denmark. 2017-2021.

5.2.3 Profitability Ratios Sweden

The final and largest market is the Swedish market. Mirroring the structure of previous presentations, a brief comparison between the three different actors will be conducted. From 2017-2021, ICA Sweden reported gross margins in the interval from the lowest of 22% in 2018 to the peak of 24% in 2021. Like previous findings from the other Scandinavian countries, the most dominant actor enjoys higher gross margins than competitors in the same market. Below ICA, the two remaining firms AxFood and Coop Sweden share similar margins as of today. In the first three years of the investigation period, Coop managed to produce a higher margin than AxFood. Since 2019 an incremental decline can be seen from Coop, while AxFood has experienced an incremental incline. Opposite of previous findings from its neighbors, the Swedish market has no firm that falls far behind its competitors in gross margins. This trend of a severely lagging firm could be seen with Rema 1000 in Denmark and Coop in Norway.

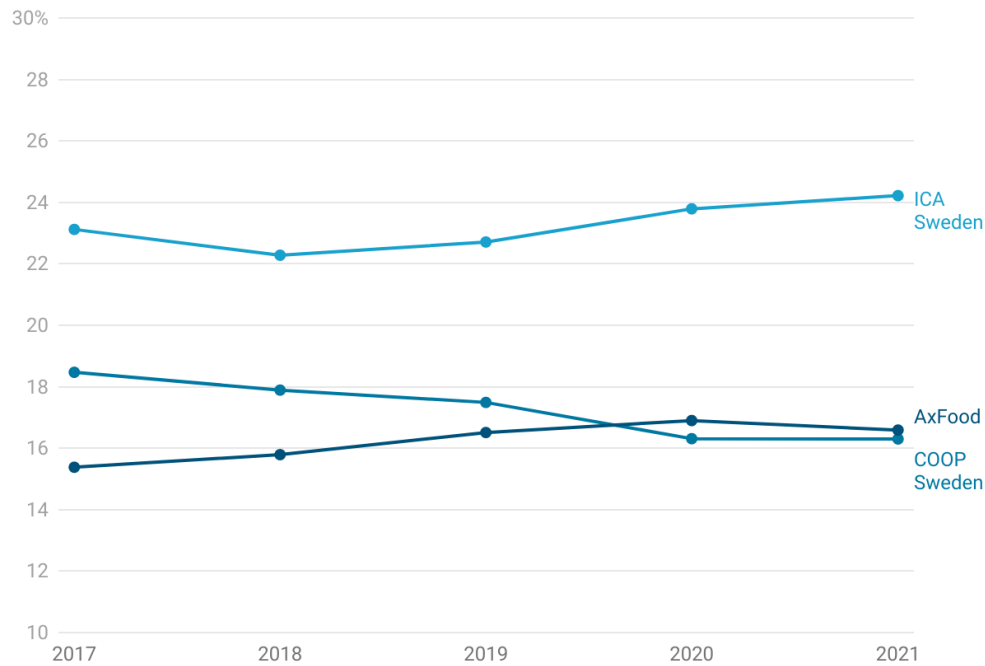


Figure 5.8: Gross Margin Ratio for ICA Sweden, AxFood and Coop Sweden. 2017-2021.

The operating profit margins in Sweden share many similarities with previous findings. ICA Sweden has for most of the period produced the highest operating profit margin in the country. Starting in 2017 with an operating profit margin slightly above 5%. However, this figure has decreased slightly, and as of 2021 ICA and AxFood have a fairly similar operating profit margin of approximately 4,6%. AxFood has produced a constantly inclining profit starting at 4% in 2017 and increasing slightly every year. The profit retained from AxFood is made from a much lower gross margin than ICA, which shows AxFood's efficiency and financial strength. Constant in the Scandinavian grocery market is Coop's inability to produce a competitive financial result. Sweden is Coops' weakest market, in both 2019 and 2020 the presented result was negative. However, the trend seems to have changed in 2021, as Coop presented an operating profit margin of 0,6%.

One discrepancy between the Swedish market and the rest of Scandinavia is the presented profit figures for 2020. Both Denmark and Norway produced abnormally high operating profits during the first year of the pandemic while profits in the Swedish remained constant, or more accurately followed the previous year's trend lines.

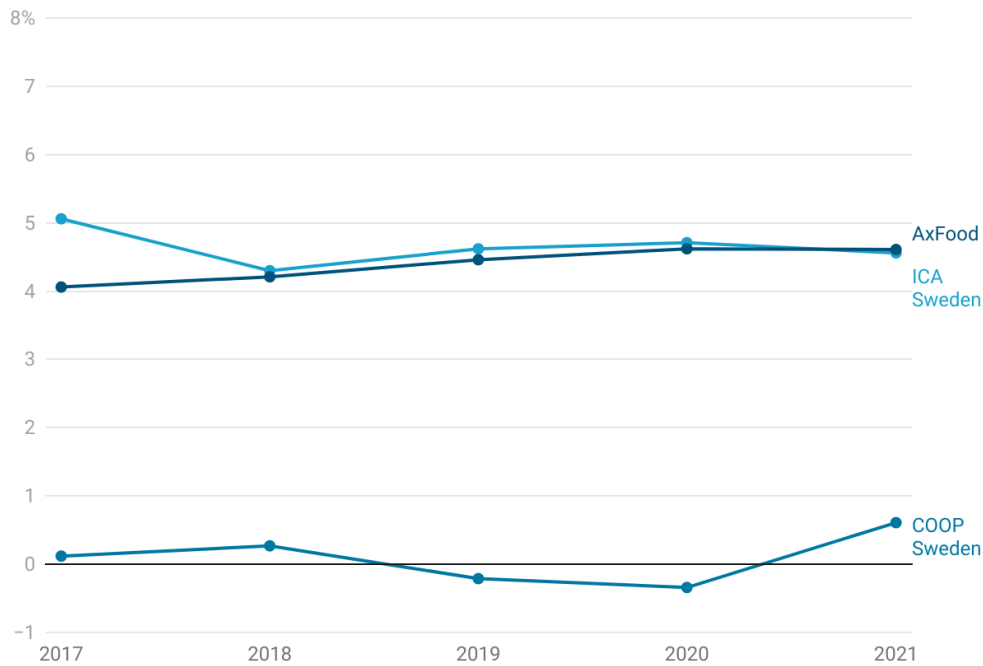


Figure 5.9: Operating Profit Margin Ratio for ICA Sweden, AxFood and Coop Sweden. 2017-2021.

5.2.4 Profitability Ratios Scandinavia

In this section, a joint comparison between countries will be conducted. Building upon and extrapolating key findings in the various market to get a complete picture of the Scandinavian market.

The first key ratio presented in the analysis was the gross margins of each grocery chain. This ratio saw a major discrepancy from business to business. The largest grocery conglomerate in each region reported significantly higher gross margins than its competitors. The noted discrepancy can be explained by the fact that the size of the purchasing power advantage contributes to lower purchasing prices. In negotiations with sellers of goods, larger actors receive significant discounts on their orders, relative to their counterparts. There could also be explanatory factors relating to the segment in which each firm operates. Since some of the Scandinavian actors have grocery stores operating in a more luxurious segment space, higher grocery gross margins follow unsurprisingly.

In both the Danish and Norwegian markets, one of the analyzed firms underperformed notably. This pattern could not be found in Sweden, which had a more even distribution. Most noticeably, there are no significant gross margin advantages found in the Norwegian market. Denmark, however, has both the best-performing chain and the worst-performing chain in

terms of gross margin. Finally, Sweden has the most nuanced and balanced market with the lowest high and the highest low.

The second ratio presented in the previous section was the operating profit margin of each firm. Diverging from the previous ratio, the operating profit margin remained more constant over the sample period. In the analysis of the gross margins, the actors with the highest market share and revenue outperformed their competitors. However, it does not seem like the market leaders were able to convert high gross margins into high operating profits. In both the Norwegian and Swedish markets, NorgesGruppen and ICA showed a large gross margin advantage. This advantage was however lost, regardless of higher margins remaining after sales. Denmark is the only market in which the dominant market participant ended 2021 with the highest operating profit compared to its national peers.

If we summarize the operating result figures for Scandinavia, there are many similarities between the neighboring countries. There are certain upper bounds of operating margin that all market participants appear to be unable to cross. One big challenge appears to be the ability to retain an operating margin of over 5% of revenue. This threshold seems surprisingly uncorrelated with the reported gross margin of the firm. All firms, regardless of country, report an almost constant gross margin ratio during the analysis period. There are no incremental increases in margins from sales of goods. There are more yearly fluctuations in operating profit, yet they follow an interval of only a few percentages up and down.

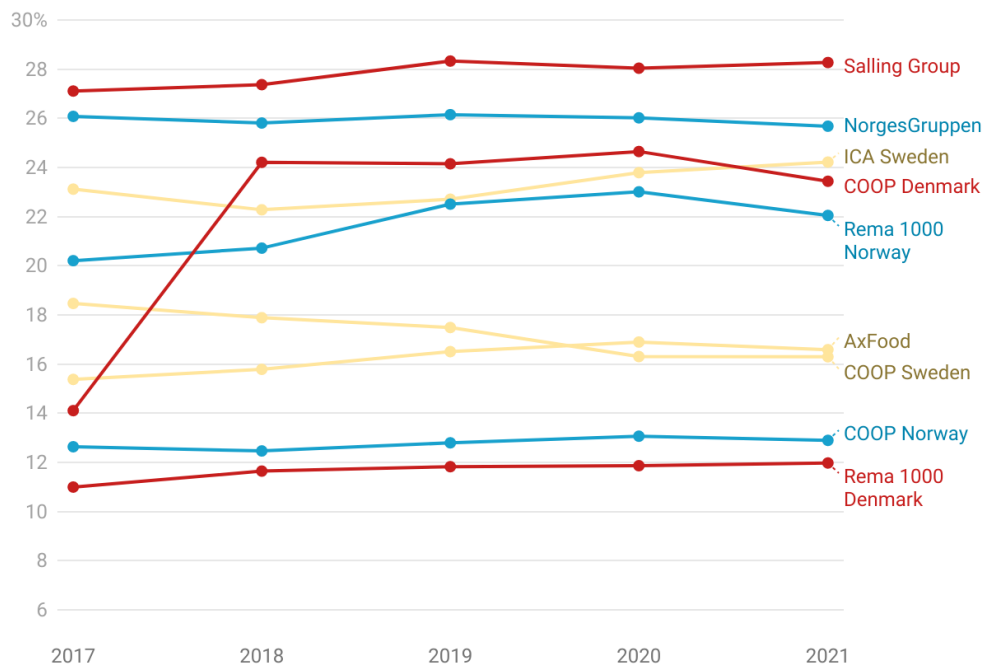


Figure 5.10: Gross Margin Ratio for Scandinavian Grocery Chains. 2017-2021.

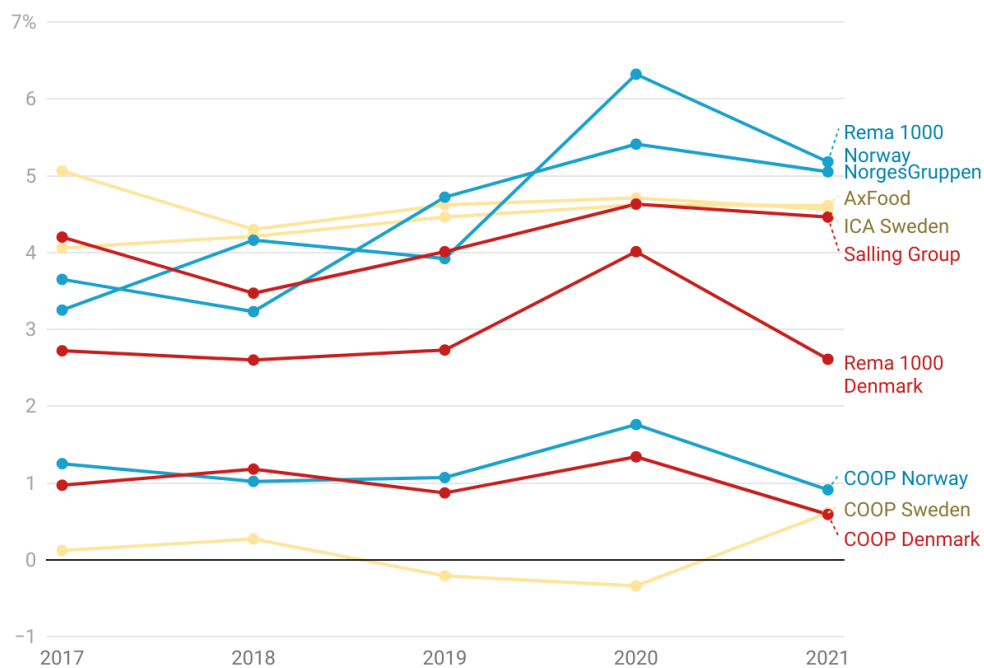


Figure 5.11: Operating Profit Margin Ratio for Scandinavian Grocery Chains. 2017-2021.

5.3 Activity Ratios Analysis

While profitability ratios portray a company's profit generation, activity ratios measure how well the company utilizes its resources to generate those profits. In this chapter, the goal is to measure how quickly the Scandinavian grocery chains can convert their inventory into revenues. This will leave us with an indication of how efficiently the companies use their assets. Later in the thesis, this ratio will be assessed against productivity measures in the Scandinavian grocery industry to see if there is a correlation. As mentioned in chapter 4.2.1, Rema 1000 Norway will be excluded from the calculation of inventory turnover ratios due to a lack of correct inventory figures. Firstly, the inventory turnover ratio and the inventory turnover in days will be analyzed for each country separately. Secondly, we will merge all countries to study how efficiency differs across borders.

5.3.1 Inventory Turnover Norway

As mentioned above, only NorgesGruppen and Coop will be analyzed in Norway. Economic newspapers and politicians often focus on the fact that NorgesGruppen, among others, has better purchasing conditions than its competitors.

In the following, we will see whether they are able to utilize economies of scale to reduce costs and improve efficiency. From 2017-2021, NorgesGruppen and Coop have an average COGS of 69 325 444' NOK and 44 280 800' NOK respectively. While their average inventory in the same period was equal to 6 646 421' NOK and 2 014 800' NOK. The development of the inventory turnover ratio is illustrated below:

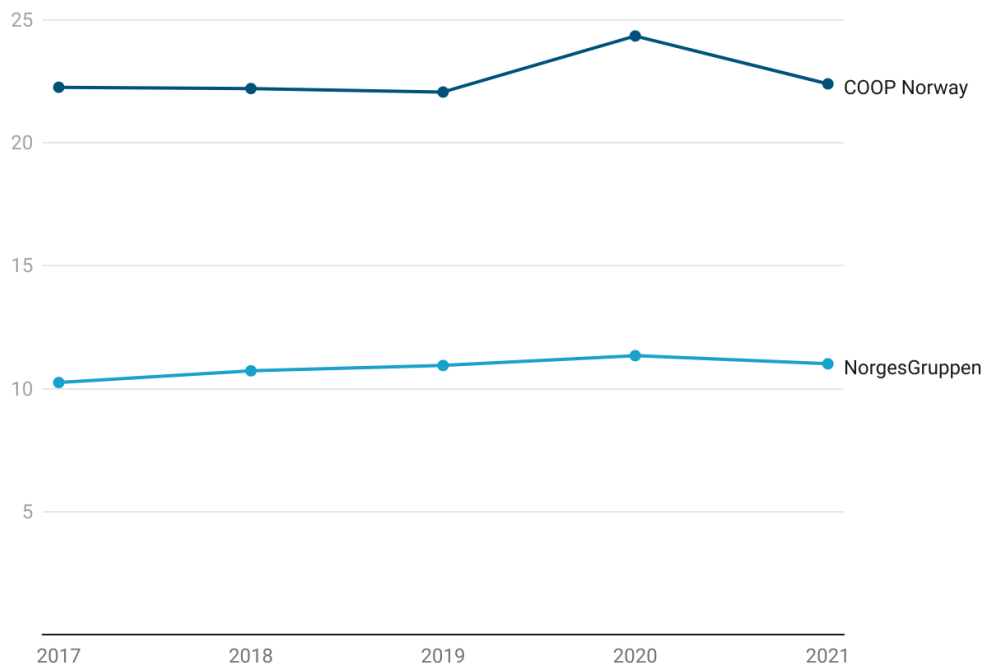


Figure 5.12: Inventory Turnover Ratio for Coop Norway and NorgesGruppen. 2017-2021.

The average inventory turnover ratio of Coop is equal to 22,66 in the period. By the end of 2021, their ratio is equal to 22,40. This means that they sell and replace their stock of goods approximately 22 times a year (Corporate Finance Institute, 2022). This is significantly higher than the one of NorgesGruppen, which has an average ratio of 10,86 and ends up at 11,01 in 2021. The high inventory turnover ratio of Coop indicates solid sales. Alternatively, it might be that their inventory is not sufficient such that their stores experience a lack of goods. This will not be further analyzed or speculated upon. The low inventory turnover ratio of NorgesGruppen might be a sign of excessive inventory, also known as overstocking.

Further, one can study the number of days it takes for NorgesGruppen and Coop to sell their inventory, on average.

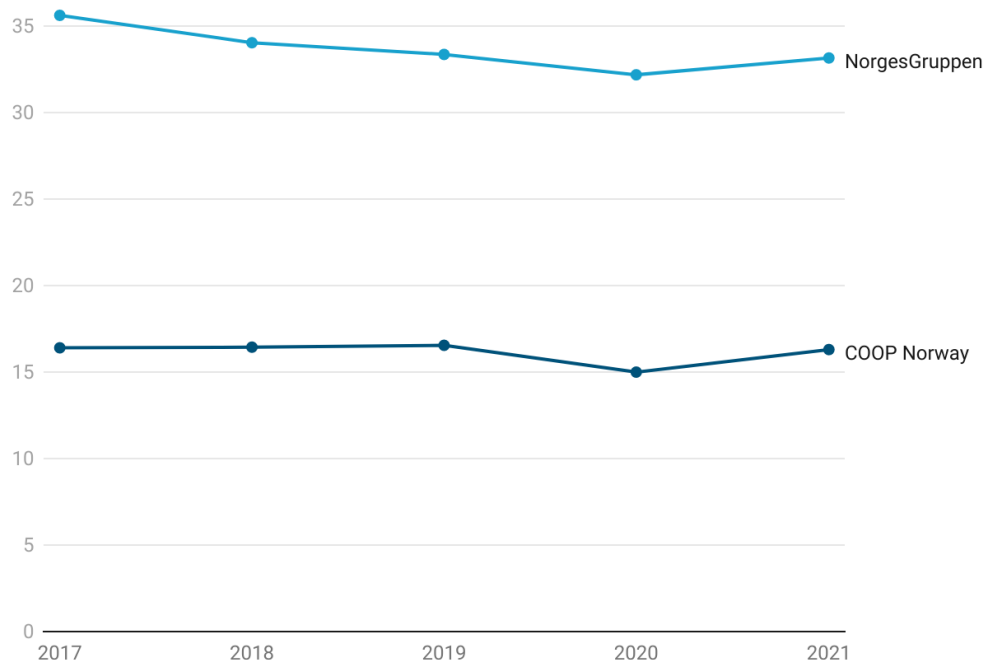


Figure 5.13: Inventory Turnover in Days for Coop Norway and NorgesGruppen. 2017-2021

NorgesGruppen has an average inventory turnover of 34 days between 2017-2021. This is more than double of Coop, which has an average inventory turnover of 16 days in the period. At first glance, it does not appear that NorgesGruppen uses the funds they save through discounts from suppliers to achieve higher efficiency.

5.3.2 Inventory Turnover Denmark

The average COGS in 2017-2021, for Salling, Rema 1000, and COOP were equal to 43 583 400' DKK, 17 709 184' DKK, and 29 723 200' DKK respectively. The average inventory value for the three chains was equal to 4 992 000' DKK, 1 690 838' DKK, and 2 662 600' DKK respectively.

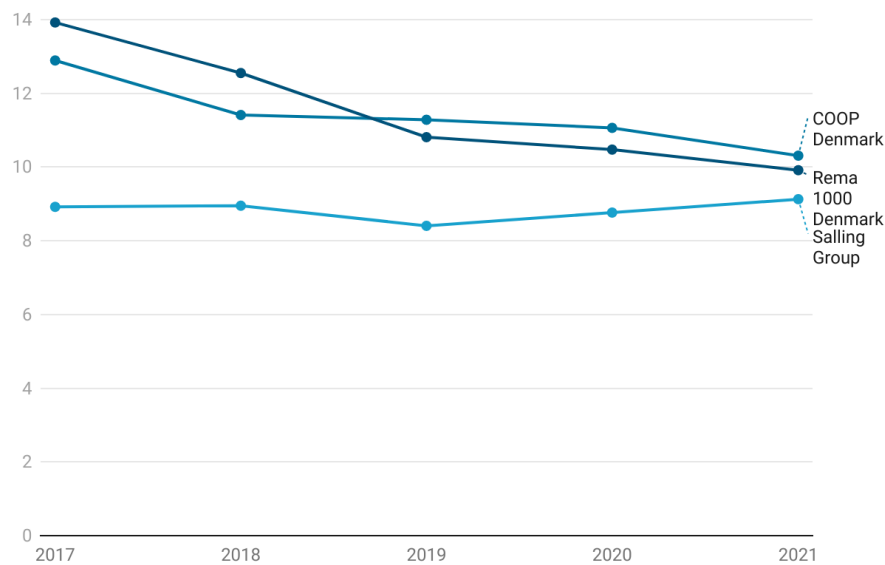


Figure 5.14: Inventory Turnover Ratio for Salling Group, Rema 1000 Denmark and Coop Denmark. 2017-2021.

Salling slightly increase their inventory turnover ratio throughout the period, while both Rema 1000 and Coop have a decreasing development. The average inventory turnover ratio of Salling was 8,83 and ends up with a ratio of 9,13 in 2021. Rema 1000 had an average inventory turnover ratio of 11,53 throughout the period and ended up with a ratio of 9,91 in 2021. Coop followed Rema 1000 closely and had an average inventory turnover ratio of 11,38 and ended with a ratio of 10,31 in 2021.

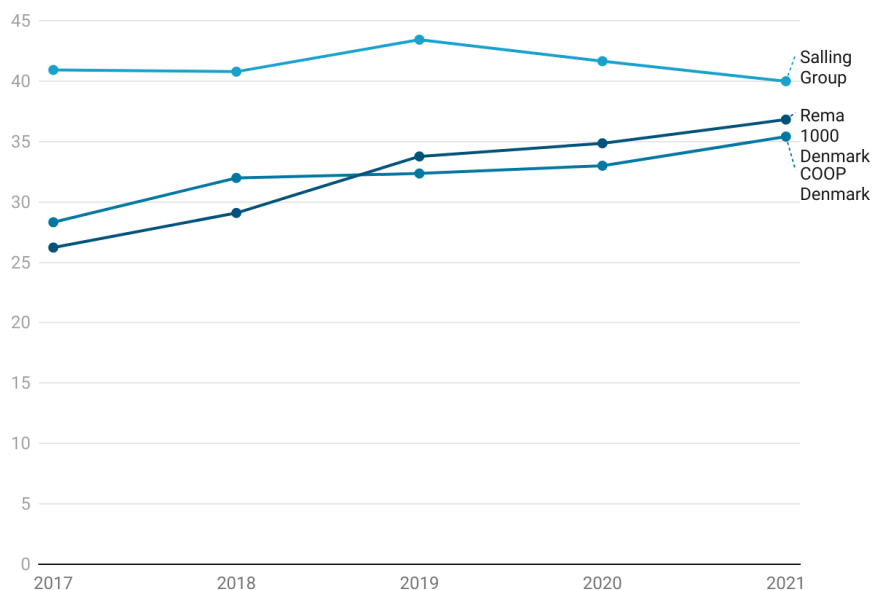


Figure 5.15: Inventory Turnover in Days for Salling Group, Rema 1000 Denmark and Coop Denmark. 2017-2021

The average number of days it takes for Salling, Rema 1000, and Coop to sell their inventory, in 2017-2021, is equal to 41, 32, and 32 days respectively. In 2021, their inventory turnover in days was 40, 37, and 35 days respectively.

5.3.3 Inventory Turnover Sweden

The Swedish grocery chains were the ones with the highest inventory turnover ratio on average in Scandinavia. ICA, Coop, and AxFood had an average COGS of 68 214 701' SEK, 40 562 422' SEK, and 43 420 000' SEK respectively, from 2017-2021. Their average inventory values were equal to 1 800 695' SEK, 1 653 600' SEK, and 2 564 600' SEK respectively. ICA has a lean inventory relative to its COGS, which indicates that they sell its goods frequently. Retailers that more efficiently turn their inventory into sales tend to outperform competitors. The COGS of Coop and AxFood are more similar throughout the period, while their inventory values are significantly different. The development in inventory turnover ratios for the Swedish grocery chains from 2017-2021 is illustrated in the figure below.

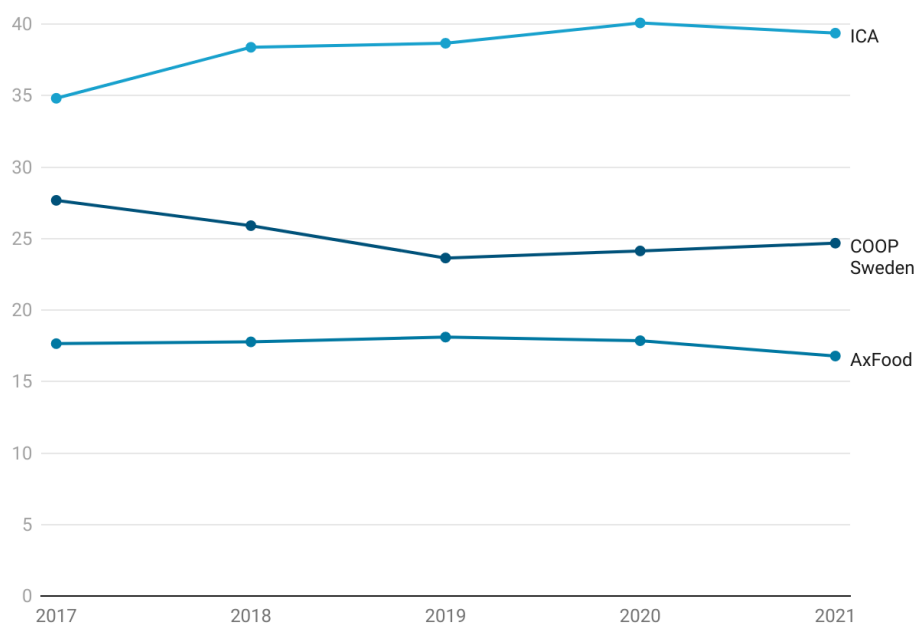


Figure 5.16: Inventory Turnover Ratio for ICA, Coop Sweden and AxFood. 2017-2021.

The average inventory turnover ratio of ICA throughout the period is 38,26. In 2021, they were able to sell the replace its stocks approximately 39 times. The average inventory turnover ratio of Coop and AxFood is equal to 25,20 and 17,63 respectively. In 2021, they end up with

an inventory turnover ratio of 24,68 and 16,78 respectively. We can further study inventory turnover in days.

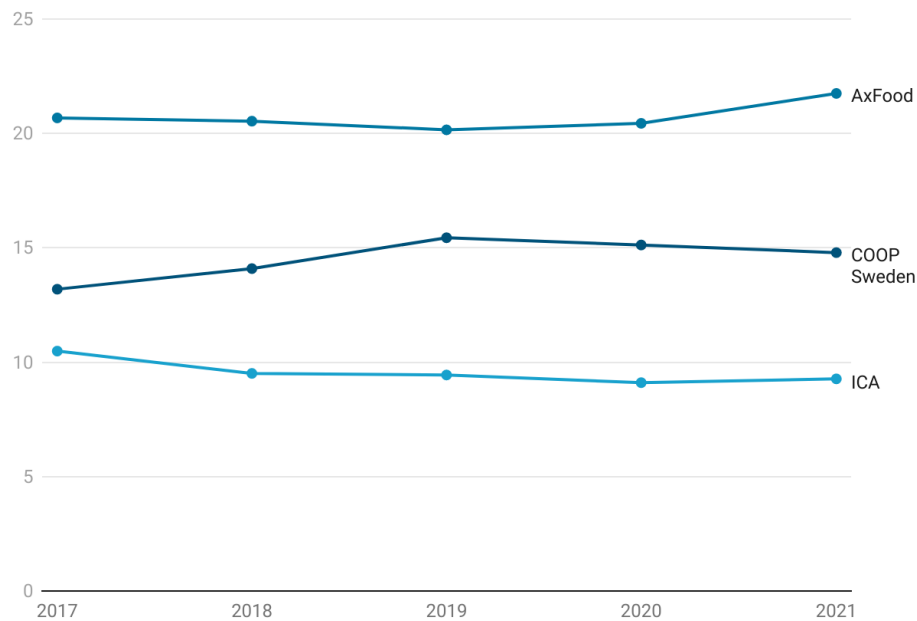


Figure 5.17: Inventory Turnover in Days for ICA, Coop Sweden and AxFood. 2017-2021

Measuring the inventory turnover in days, we find that ICA turned over their inventory every 10 days on average, compared with 15 and 21 days on average for Coop and AxFood. It seems like ICA is able to take advantage of economies of scale to reduce costs and streamline operations.

5.3.4 Inventory Turnover Scandinavia

Industries such as the grocery industry which stocks relatively inexpensive products tend to have higher inventory turnover than the ones that stock more expensive products. Also, one would expect that a high-volume, low-margin industry such as the grocery industry, tends to have a frequent flow of goods. Inventory is one of the biggest assets on the balance sheet of grocery retailers. Therefore, inventory management is highly important to prevent lost sales, additional holding costs, and obsolescence. Comparing inventory turnover development among the largest Scandinavian grocery chains, one finds that the best-performing chains are located in Sweden. This is further illustrated in the figure below.

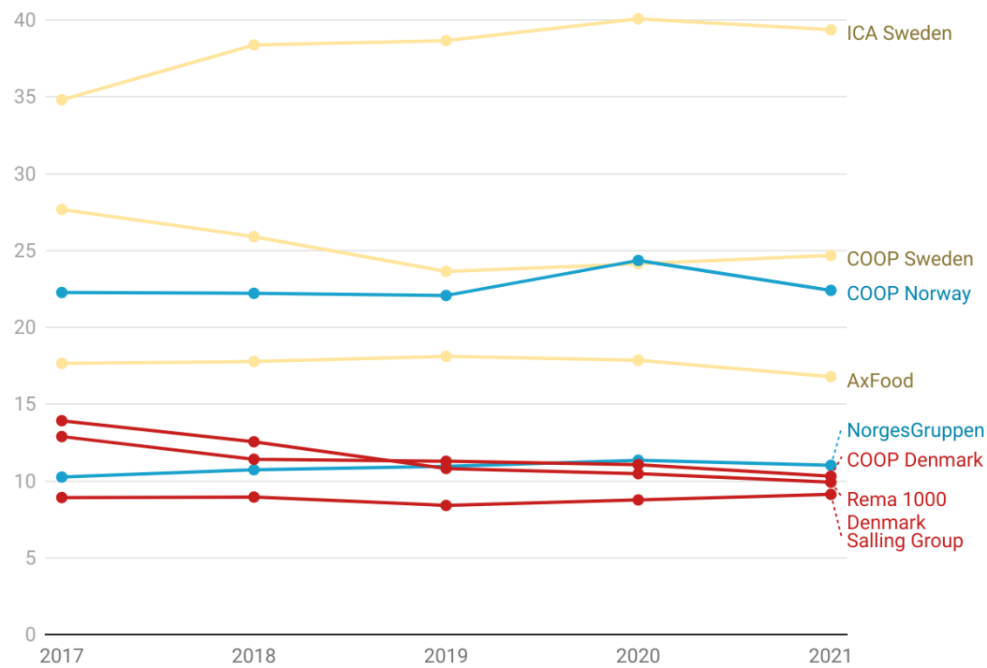


Figure 5.18: Inventory Turnover Ratio for Scandinavian Grocery Chains. 2017-2021

NorgesGruppen, Coop Denmark, Rema 1000 Denmark, and Salling Group were able to replace their inventory close to 10 times in 2021, while ICA were able to replace their inventory close to 40 times. Comparing the biggest chains in Norway and Sweden, NorgesGruppen and ICA, it seems to be a considerably larger focus on inventory management in ICA. There are some uncertainties related to our analysis, which might lead to misleading results. This will be further elaborated in chapter 7.3.

6. Labor Productivity Analysis

The Scandinavian grocery industry is characterized by strong competition and tight margins, but the turnover is still in billions of NOK/SEK/DKK. Small percentage changes in turnover or costs can have an enormous impact on profitability, and it is therefore important to streamline the internal processes. It has therefore become more important for the various actors in the market to examine their productivity. Changing power relations in the food supply chain over recent years have led to questions about the extent to which the large grocery chains in Norway are unnecessarily increasing the cost of the journey between farmer and consumer. Is the distribution of food products in Norway unnecessarily expensive because productivity is not satisfying? The purpose of this chapter is to examine the labor productivity development in the Norwegian grocery industry, relative to Sweden and Denmark.

6.1 Descriptive Analysis

6.1.1 Labor Productivity Growth in Scandinavian Grocery

As mentioned in chapter 1.1, lack of competition and few competitors in an industry are often associated with high profitability and low productivity growth. One could easily do a quick comparison of the productivity in the grocery industry with the productivity in other industries using public statistics. In the following paragraphs, labor productivity growth in the Scandinavian food industry will be reviewed. First, we will look at the labor productivity growth in Scandinavian wholesale and retail, using official statistics. It will be interesting to study whether the productivity development in the wholesale and retail industry corresponds to the productivity development in the largest Scandinavian grocery chains. Further, we will study the labor productivity growth in previously mentioned grocery chains in Scandinavia. Lastly, a comparison of labor productivity in several Norwegian industries will be carried out using official statistics.

The figure below illustrates the labor productivity growth in wholesale and retail trade in the Scandinavian countries.

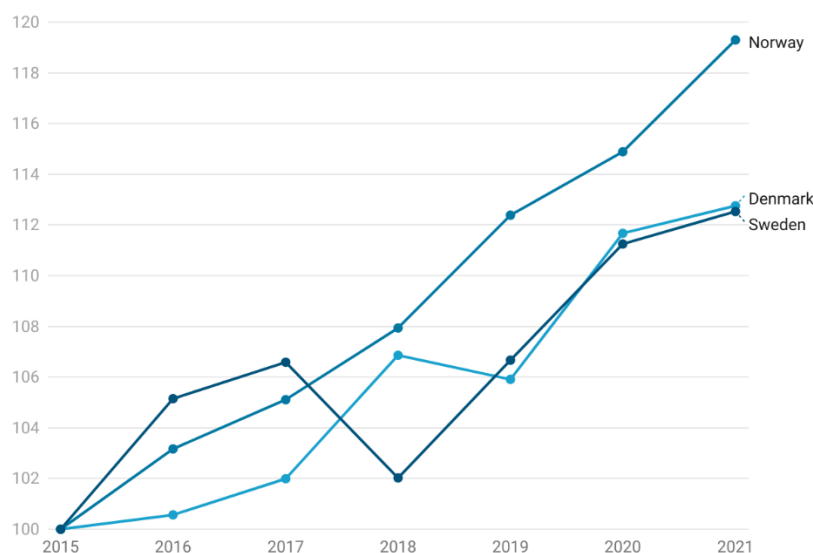


Figure 6.1: Real labor productivity wholesale and retail trade, per person employed. 2015-2021. Index 2015=100. Source: Eurostat.

As one could see from Figure 6.1, the average labor productivity growth in wholesale and retail trade in Norway is higher than in Denmark and Sweden. Reasons for higher productivity growth could for instance be new technologies such as self-service checkouts. The figure is expressed in PPS, i.e., a common currency that eliminates the differences in price levels between countries. Note that “labor” does not distinguish between part-time and full-time employment. Measuring labor productivity per hour worked eliminates differences in the part-time/full-time composition of the workforce, and therefore paints a better picture of productivity development.

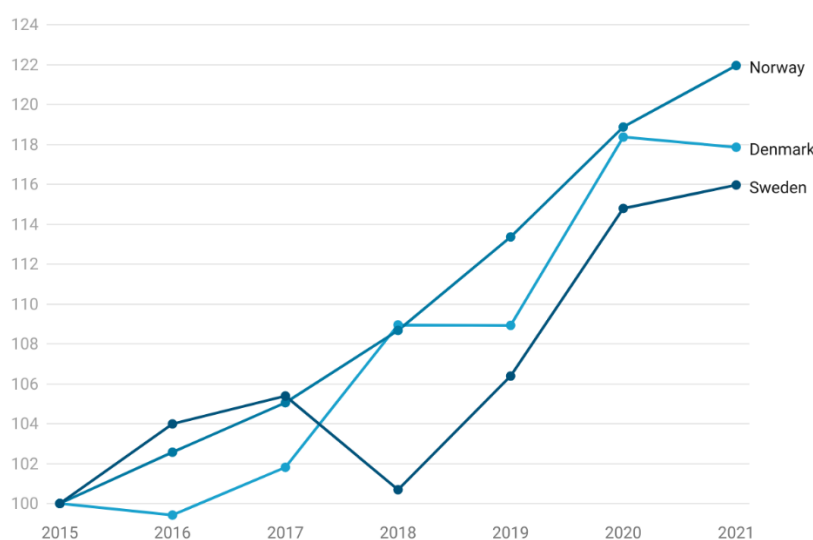


Figure 6.2: Real labor productivity wholesale and retail trade per hours worked. 2015-2021. Index 2015=100. Source: Eurostat.

Using hours worked instead of numbers of employees, leaves us with fairly similar results as the ones above. Norway has a growth in real labor productivity of approximately 22% in the wholesale and retail trade industry in the given period, while Denmark and Sweden have a growth of approximately 18% and 16% respectively.

Further, we can study the labor productivity growth in fixed prices among the biggest chains in the Scandinavian grocery industry. In the upcoming chapters, we will study each country separately, furthermore, we sum it up and compare all the chains across borders. The base-year is set to 2011 and equals an arbitrary level of 100.

6.1.2 Labor Productivity Growth in Norway

Labor productivity growth is growth in output value adjusted for price changes and divided by growth in labor input, i.e., produced quantity per man-year. We will follow the same procedure as Steen & Pettersen (2020) when adjusting each element of the output value using different price indexes. Cleansing productivity growth of pure price effects, such as price changes that are not due to changed product, quality, or service, is a demanding task. The price adjustment will therefore create uncertainty in the calculation of the output value.

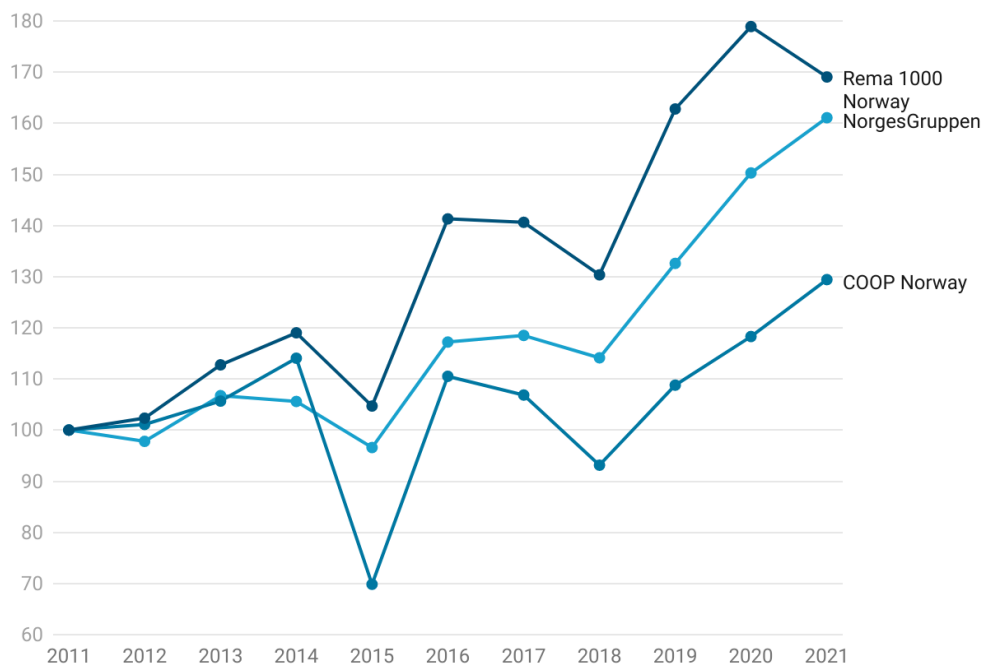


Figure 6.3: Labor productivity growth in fixed prices in Norway, 2011-2021. Index 2011=100.

Labor Productivity	Min	Max	Average	Std.dev
NorgesGruppen	-8,53 %	21,35 %	5,28 %	9,69 %
Rema 1000	-12,03 %	34,95 %	6,25 %	14,60 %
COOP Norway	-38,76 %	58,24 %	5,18 %	24,34 %

Table 6.1: Labor Productivity Measures for NorgesGruppen, Rema 1000, and Coop Norway. 2011-2021.

From Figure 6.3, we find that Rema 1000 has the greatest growth in labor productivity on average in Norway. One can notice that all three chains have a dip in labor productivity in 2015 and 2018. The large drop in oil prices in 2014, is probably one of the main reasons why labor productivity fell drastically in 2015. Following the drop in oil prices, the local unemployment rates increased substantially in certain areas of Norway. Steen et al. (2021) studied how consumers' shopping behavior was affected by local economic downturns following the drop in oil prices in 2014. They found that consumers react by reallocating expenditure toward cheaper products and stores, and that the stores adapted to the customer's needs by reducing prices. From 2015 to 2016, Coop Norway had a growth in labor productivity of 58,24%, as they were able to reduce the number of employees and at the same time increase revenues more than costs. NorgesGruppen and Rema 1000 grew by 21,35% and 34,95% respectively, in the same period. From Table 6.1, we find that Rema 1000 has the highest average growth rate per year, equal to 6,25%.

6.1.3 Labor Productivity Growth in Denmark

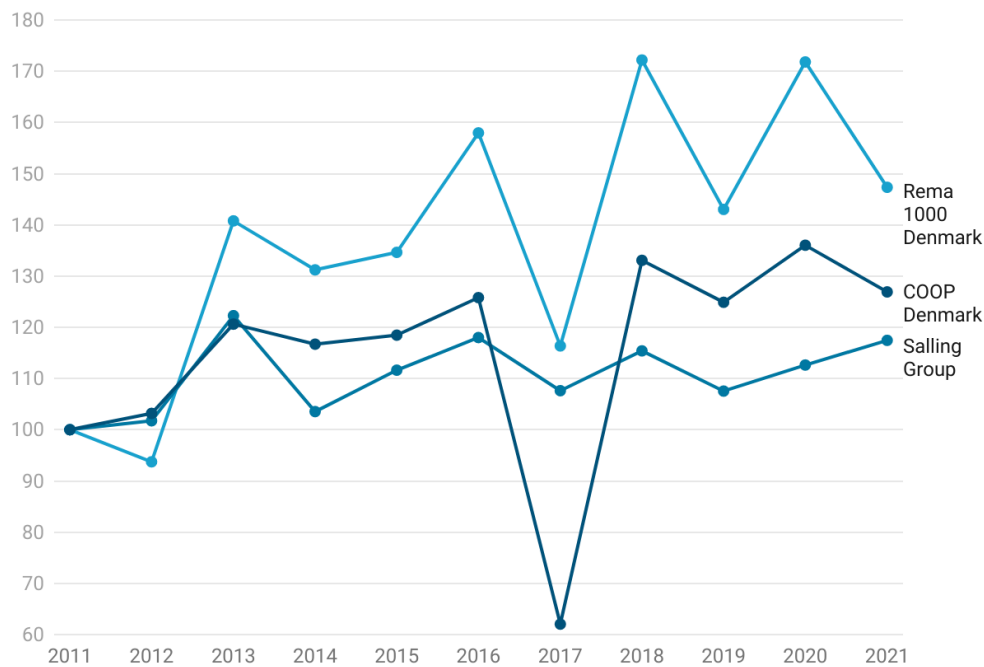


Figure 6.4: Labor productivity growth in fixed prices in Denmark. 2011-2021. Index 2011=100.

Labor Productivity	Min	Max	Average	Std.dev
Rema 1000 Denmark	-26,34 %	50,18 %	6,76 %	26,55 %
COOP Denmark	-50,68 %	114,49 %	8,44 %	41,46 %
Salling Group	-15,32 %	20,17 %	2,07 %	10,07 %

Table 6.2: Labor Productivity Measures for Rema Denmark, Coop Denmark, and Salling Group. 2011-2021

Rema 1000 proves to be the most productive grocery chain in Denmark in terms of labor productivity, according to our calculations. Both Coop Denmark and Rema 1000 Denmark experienced a steep decline in labor productivity in 2017, following a significant increase in the cost of goods sold for both chains. Coop Denmark has the highest average growth rate per year, following a drastic increase in labor productivity between 2017 and 2018. However, they also have the highest standard deviation, meaning they struggle to contain consistent growth.

6.1.4 Labor Productivity Growth in Sweden

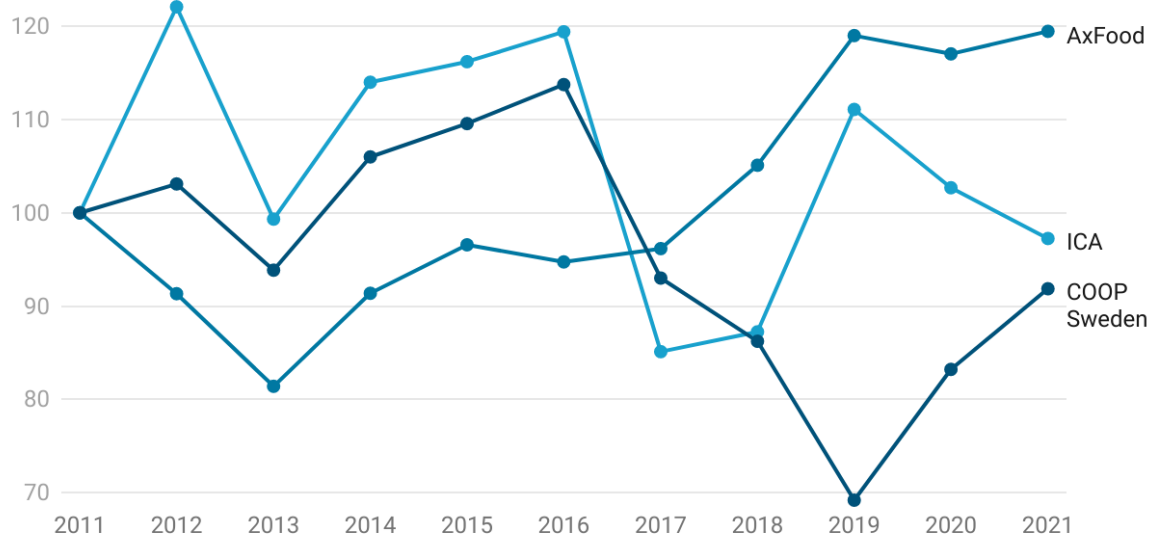


Figure 6.5: Labor productivity growth in fixed prices in Sweden. 2011-2021. Index 2011=100.

Labor Productivity	Min	Max	Average	Std.dev
ICA	-28,72 %	27,33 %	1,12 %	17,37 %
COOP Sweden	-19,76 %	20,26 %	-0,04 %	13,24 %
AxFood	-10,87 %	13,22 %	2,09 %	8,21 %

Table 6.3: Labor Productivity Measures for ICA, Coop Sweden, and AxFood. 2011-2021

ICA, which is the largest chain in terms of market cap, is outperformed by AxFood. ICA is the best-performing chain in the first half of the analysis period but ends up with a negative growth rate at the end of the period.

6.1.5 Labor Productivity Summarized

Considering the rapid development in technology and equipment in the last decade, it is not surprising that the grocery chains in Scandinavia have been able to increase their labor productivity in the same period. Menon Economics analyzed the wholesale and distribution business in Norwegian grocery (2020) and found that streamlining the flow of goods through close integration between wholesalers, distributors, and retailers have provided significant productivity gains which have benefitted society.

Although it leaves us with a fairly cluttered chart, we can merge all graphs into one chart to get an overview of the labor productivity growth in the Scandinavian grocery chains.

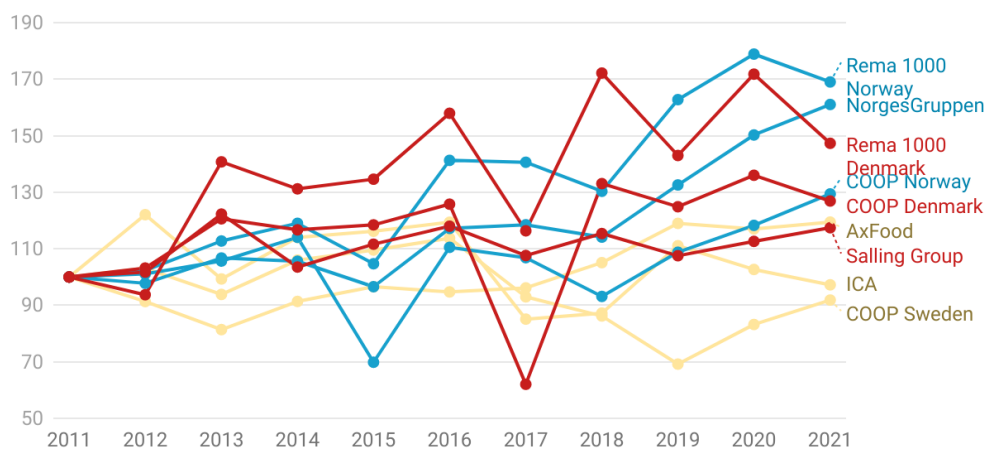


Figure 6.6: Labor productivity growth in fixed prices in Scandinavia. 2011-2021. Index 2011=100.

According to our calculations, Rema 1000 and NorgesGruppen have significantly higher labor productivity growth than the other comparable firms in the analysis period. This corresponds to what one would expect from reading the financial statement analysis, where both Rema 1000 and NorgesGruppen has relatively high gross margins. Coop Norway has on average the fewest number of employees in the period (3 337), followed by ICA Sweden (5 516) – where one must keep in mind that ICA Sweden is separated from the ICA Group. From Figure 6.6, we see that the productivity development in Norway has been relatively strong, which indicates that there is strong competition in the grocery industry. This is contrary to the perception of the current minister of trade and industry in Norway, among others. However, as mentioned in chapter 3.2.1, there are working week differences in the three Scandinavian countries. Sweden has the longest working weeks and will probably have greater productivity per man-year. In Figure 6.7 below, we adjust for working week differences.

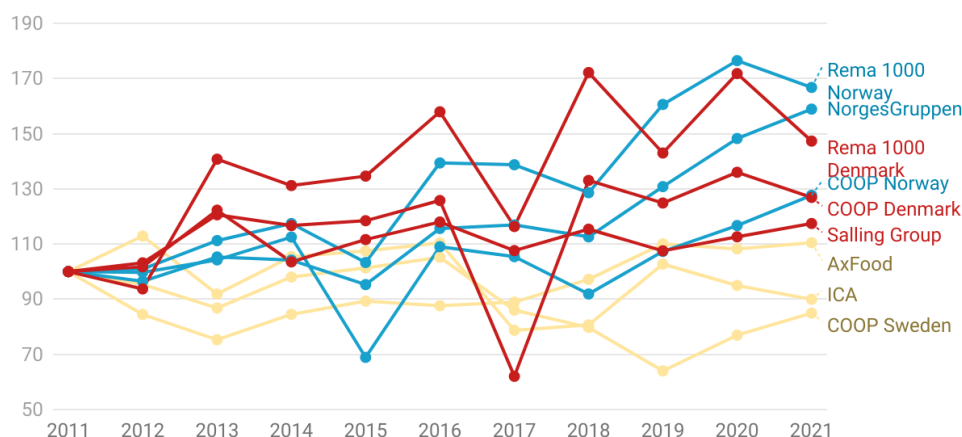


Figure 6.7: Labor productivity growth in fixed prices in Scandinavia Adjusted for Working Week Differences. 2011-2021. Index 2011=100.

Adjusting for working week differences leaves us with fairly similar results. However, Salling Group in Denmark climbs above AxFood in Sweden.

The productivity development in the Norwegian grocery industry compared with the development in other industries, both nationally and internationally, gives an indication of the development in the food industry's ability to face international competition – in competition with imported goods, and nationally – in competition for Norwegian labor and investment. The figure below illustrates the development in labor productivity in several industries in Norway.

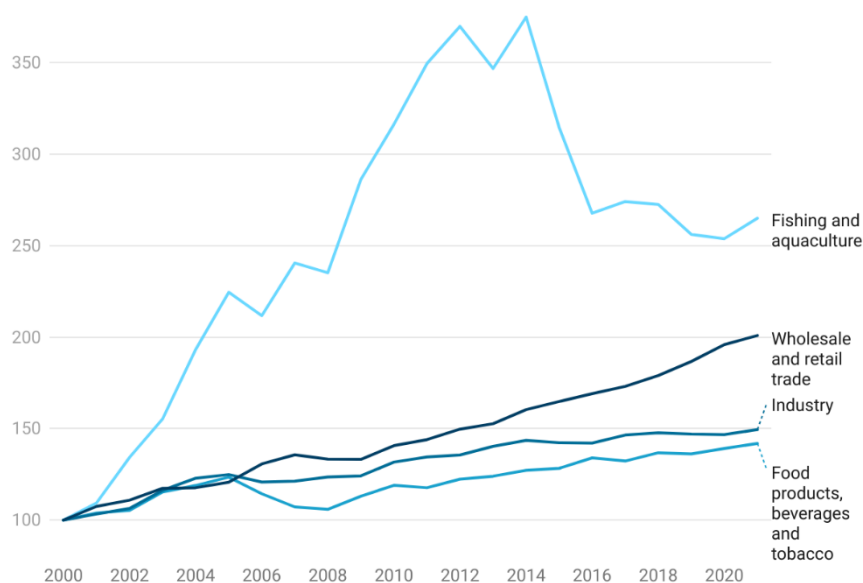


Figure 6.8: Real labor productivity in several industries in Norway per hours worked. 2000-2021. Index 2000=100. Source: SSB.

From Figure 6.8, one can see that “fishing and aquaculture” have had a growth in real labor productivity of approximately 165% from 2000-2021. “Wholesale and retail trade” follows somewhat further behind, with approximately 100% growth in the same period. “industry” has a growth of 49,5%, while “food products, beverages, and tobacco” turned out to be the industry with the lowest growth in this comparison, with a growth in real labor productivity of 42%. Gabrielsen et al. (2013) did a similar analysis, where they analyzed the following industries: food, seafood, industry, and merchandise trade from 1972 to 2012. They found that seafood had the highest labor productivity growth throughout the period, while the food industry had the lowest growth. Nevertheless, the food industry doubled its labor productivity throughout the period. This corresponds to the findings in the figure above, although it represents a much shorter analysis period.

7. Discussion

In chapters 5 and 6, we did an objective assessment of the findings in our analysis. The purpose of this chapter is to create a more thorough understanding of underlying factors that can help explain the differences we observe in profitability, efficiency, and productivity. Furthermore, we discuss uncertainty and data weaknesses related to the models used, and analyses performed in this thesis. In the last part of this chapter, we propose and discuss future topics that relate to the research conducted.

7.1 Profitability and Efficiency

To further understand and contextualize the findings the goal is to use the present theory and previous literature to explain the findings.

The first key ratio that the findings presented was the gross margin. Gross margin was distinctively different from firm to firm. A commonality across all three countries was the prevalence of size advantage. In all markets, the actor with the highest market share and largest revenue presented a higher retention of resources after the cost of sold goods was accounted for. The advantage can be speculated to have several sources. Previous literature has confirmed that NorgesGruppen, the market leader in Norway, receives advantageous prices from suppliers. The same kind of advantage can be speculated to gain ICA and Salling Group in their respective markets. In negotiations with suppliers, one could infer that the volume of orders and the importance of the relationship affect suppliers' price targets. Another explanation model could attribute gross margin partly to the grocery segment. Certain chains in our sample operate solely in a low-price segment, presenting the promise of the lowest prices available to customers. Grocery stores that rather focus on large quantities of different products and quality have more pricing power and therefore can capture a higher margin.

In the comparison between Scandinavian countries, there are more similarities than differences. A common trait is how constant the gross margin has remained for all nine actors over the five years. There is no evidence of grocery firms trying to increase margins by passing a higher cost on to the customers. The fluctuations in grocery prices seem to be attributed to the supplying cost, with grocery chains passing the price on to consumers with a fixed margin. The notion of constant marginal prices seems counterintuitive to a lot of public perceptions and statements from governmental entities. The grocery market in Norway can be concluded

as dominated by a few actors, more known as an oligopoly. The Swedish and Danish markets can be described as less imperfect, having three actors prominent in the market while a few large international chains fight for market shares. However, the gross margin in the Norwegian market does not reflect any large distinctions that one could imply from the imperfect market condition. Most literature assumes that the oligopoly would lead to higher margins, with a lack of new competition and the appearance of price cartels between existing competition. The Norwegian market is undoubtedly locked, lacking the entrance of international chains such as Lidl and Aldi. Yet, there appears to be fierce competition between existing competitors.

The next financial metric assembled across industry and region was operating profit. Operating profit proved to be the great equalizer between firms. The separation between chains operating profit is much lower than the gross margin. As mentioned in chapter 5, the market leaders struggled to convert higher gross margins to higher operating profits. In both Norway and Sweden, the two market-share leaders NorgesGruppen and ICA outperform the competition in gross margin. However, they are not able to deliver operating profits at the same level as Rema 1000 Norway and AxFood. The financial posts between the gross margin and operating profit mainly consist of wages and fixed structural costs. In an evaluation of this discrepancy and the underlying reason for the inability to translate high margins to higher operating profit, one could argue that larger firms suffer from higher fixed costs. This cost could be associated with higher wages, more employees, or more capital invested in the business. The opposite view is that the higher cost is related to corporate inefficiency and exhibits a lack of incentive to produce the highest profitability possible. NorgesGruppen operates in a semi-franchise structure, with its largest revenue source KIWI having central ownership. Opposite KIWI, Rema 1000 is a completely franchised enterprise in which managers have complete ownership over the store. Applying the theory of principal-agent theory, the framework would suppose that franchising aligns with the incentives of both owners of stores and owners of Rema 1000. Central ownership can cause managers of stores to act in ways that are non-optimal regarding profit but fits the agent's agenda.

The most notable and eye-capturing pattern in the Scandinavian market was Coop's inability to produce an operating profit margin close to its peers. This trend was constant throughout Scandinavia. In the observation period, there are no instances of any Coop stores retaining over 1% of revenue as operating profit. Operating as a Cooperative, Coop's structural underperformance in Scandinavia could be a testament to the power of agent-principal theory and how incentives affect businesses. The main goal of managers without aligned incentives

is to keep the business going but not necessarily thriving, following the path of least resistance. As mentioned in previous chapters, the corporate structure of Coop offered challenges in ensuring precise accounting figures. There could be several key factors that affect the presented result. Therefore, one should interpret the analysis of Coop's profitability with care. This will be expanded upon in the section on *uncertainties and data weaknesses*.

Previous research has concluded that profitability in grocery stores is partly dependent on market conditions, but most importantly partly dependent on managers and strategy. The findings alluded to similar forces being present. Most noticeably, the results decoupled gross margin and operating profit. The observed decoupling enforces the idea of agency in profitability.

Chapter 5.3 presented data on each firm's inventory turnover during the last five years. The presented metric can be expressed as a ratio or in days. In the analysis of gross margin, an observational trend concluded a significant size advantage for the largest actors in each country. The inventory efficiency findings presented a mixed trend for inventory turnover, indicating that Norway and Denmark have a negative correlation between the cost of goods sold and inventory turnover. This trend is not present in Sweden, where ICA has a significantly higher turnover than its competitors

Evaluating inventory turnover offers several difficulties. There are of course disadvantages to binding an excessive amount of working capital in inventory, but it is difficult to outline the perfect turnover. A high turnover can be the result of stores buying lower than optimal quantities, which might lead to higher shipping costs or that desired products being out of stock. There are also costs associated with having a low turnover of the inventory. This cost can be taken out from storage costs or most detrimentally expired goods.

The number of stores per capita is a highly relevant variable when comparing the three countries' inventory turnover. Steen & Pettersen (2020) presented findings that Norway has more stores than its neighbors. The number of stores per capita is closely correlated with turnover per store. Comparing Norway to Sweden and Denmark, and the corresponding turnover per store, a negative disparity in inventory turnover is expected to be observed. This is because having many stores leads to more capital needed to retain significant inventory in all stores. Inventory optimization is much more predictable with larger and higher turnover stores. However, our results show that Norwegian chains had an unexpected alignment with

other Scandinavian chains. The two Norwegian firms Coop Norway and NorgesGruppen presented turnover ratios in line with competitors that operate fewer stores in a denser geographical area.

To summarize the presented efficiency ratios, it is challenging to deduce too much about the performance of each firm. NorgesGruppen in Norway and Salling Group in Denmark have lower inventory turnover than smaller-size competitors. Whether this lower ratio provides insight into efficiency problems in these two grocery chains is hard to conclude. However, in the observation period, NorgesGruppen and Salling Group produced the highest gross margins of the nine included firms. Taking that information into consideration, it seems difficult to argue that they experience high costs associated with an inefficient inventory turnover. Furthermore, Norway performs reasonably well when taking the number of stores per capita and revenue per store into account. The performance in inventory efficiency from NorgesGruppen and Coop Norway is on par with most of their Scandinavian counterparts. The main outlier regarding inventory turnover is ICA, which outperforms the other grocery chains.

7.2 Labor Productivity

In this thesis, labor productivity is a function of output-value and the number of man-years. From the descriptive analysis, it appears that Rema 1000 had a higher labor productivity than the other actors in Norway and Denmark, while in Sweden it appears that AxFood has significantly higher labor productivity than the other actors. In the following paragraphs, we will discuss why Rema 1000 outperforms their competitors. At the end of this chapter, we will discuss the performance of the Norwegian chains, and conclude whether our findings support the opinion of weak competition in the Norwegian grocery industry.

As mentioned in chapter 2, Rema 1000 is only operating in the low-cost segment. While their competitors in both Norway and Denmark operate in all grocery segments. One conclusion could therefore be that Rema 1000 must compensate for low margins by being extra aware of the relationship between salaries and revenues. Another important factor affecting labor productivity growth is the corporate structure. As mentioned in previous chapters, Rema 1000 operates with franchise-owned stores, which means that merchants are responsible for the result of the entire operation. This gives them a great incentive to work efficiently and minimize costs. NorgesGruppen operates with 44% own stores and 56% franchise stores and

follows Rema 1000 closely in terms of labor productivity. Something worth noting is that 66% of NorgesGruppen's employees work in their central-owned stores, which means that as few as 34% of their employees work in 56% of their stores. This indicates that incentive theory is valid in the case of both Rema 1000 and NorgesGruppen, as the merchants want to limit the number of employees to keep wage costs down.

The Norwegian chains are performing well in terms of labor productivity growth. All three chains are among the top five most productive chains in 2021. This indicates that the competition in Norwegian grocery is not as weak as many claims. In their master thesis for the FOOD-project, Torsetnes and Vilhelmsen (2017) concluded that the low-cost operators had the highest labor productivity in Norway. In Norway, a large and constantly growing proportion of the stores are low-cost stores, and in 2021 these accounted for 68,5% of the market. In 2021, Kiwi accounted for 50,9% of NorgesGruppen's turnover while Coop Extra accounted for 55,1% of Coop Norway's turnover. The large proportion of low-cost stores is undoubtedly of relevance when explaining the strong labor productivity growth in Norwegian grocery in the last decade.

7.3 Uncertainty and Data Weaknesses

Throughout the thesis, several assumptions have been made related to both the financial analysis and the productivity analysis. In the following paragraph, we discuss uncertainties related to our analyses.

7.3.1 Accounting Figures

As mentioned in chapter 4.2.1, we try to exclude accounting data that is not linked to the food business in the chains. This entails a risk of important data being excluded or misleading data not being excluded. This further entails a risk that the chains are compared on a different basis, both in the profitability, activity, and productivity analysis.

The data used in the thesis are solely based on five years' worth of publicly available annual reports. The values and financial posts provided by the firms have been taken at face value. Classifications of costs associated with goods, inventory valuation, and similar accounting nuances are not further investigated.

There will always be differences related to how the companies report their accounting figures. We have tried to compare apples to apples, but it is difficult to be completely precise. The Scandinavian grocery chains operate with different structures, and most of the companies have operations outside of groceries. However, the main point of our task is to see whether the Norwegian chains stand out clearly in relation to the other Scandinavian actors, in terms of pricing, profitability and productivity. Such that we can conclude whether there is a lack of competition in the Norwegian market, and whether the largest chains take advantage of their positions to charge higher prices, which leaves them with higher margins.

There is also the possibility of changes in the regulations around accounting. Regulatory oversight in accounting standards might have a minor effect on the trend charts. However, regulatory changes won't change the conclusion or have too much of an impact on the results.

A specific point of uncertainty is the reporting of Coop. As a consumer-owned organization, Coop differs from its competitors. In chapter 5.2, we saw that the Coop stores in all the Scandinavian countries were in a cluster clearly at the bottom of the chart. This means there are difficulties in comparing the presented profitability numbers of Coop to its peers. The low operating performance alludes to the fact that the chain intent to go marginally positive in the main corporate entity while profit flows to other entities (Samvirkelag). To what extent this factor affects the result in each country is difficult to quantify.

Regardless of whether the official accounting figures for Coop reflect how well the store operations are doing, our conclusion will be the same: there are no signs that the Norwegian chains stand out clearly in terms of high margins compared to the other Scandinavian players

7.3.2 Price Indexes

The price indexes are decisive when calculating labor productivity. The relative labor productivity growth is largely explained by relative development in turnover and purchase prices for traded goods. Minor weaknesses and inaccuracies in the price indexes have a major impact on the calculated output value in fixed prices.

7.3.3 Labor

In the labor productivity calculations, there are weaknesses related to labor. For labor, we have figures that can hide variations between types of labor and hire. Pettersen and Romsaas (2019)

showed that the use of hired labor is strongly increasing in parts of the food industry. We have assumed that all the chains use hired labor and that this does not affect our findings to a significant extent. However, we cannot guarantee that our assumptions for productivity calculations are 100% correct.

7.4 Recommendations for Future Research

In the course of our thesis, we encountered several topics that had been exciting to study more thoroughly.

It would be interesting to carry out a study of margins in the grocery chain, where one can form an image of the margins the various actors in the value chain are left with. Such a study would contribute to a more enlightened debate about whether some actors in the grocery chain use times when there is war, shortage of raw materials, high electricity prices, or covid, to charge higher prices than necessary.

Further, it would be interesting to study whether there is a statistically significant correlation between the productivity of a grocery chain and its margins. An intuitive assumption would be that more productive chains generate more profits and gain an advantage over competitors. Since we analyzed several grocery chains, we had limited access to data. If we could gain access to more than 5 to 10 years of accounting data from the various chains, we would be able to do a thorough statistical analysis of the productivity and margins.

8. Conclusion

In the media, an ‘established truth’ about weak competition in the Norwegian grocery industry has evolved. Reference is made to the fact that there are few actors, high concentration, and that rising prices and poor product selection are proof that competition is not sufficient. Furthermore, it is often implied that grocery chains increase prices more than necessary between supplier and consumer, leaving them with higher margins. Previous research shows that industries with a lack of competition are often associated with high margins and low productivity. Whether prices and margins are high, and productivity low, is rarely investigated or documented. In this thesis, we have looked at precisely these questions in an attempt to investigate the actual situation in the Norwegian grocery market.

In the case of weak competition, we would expect to see signs of this through increased prices and high margins. We have therefore studied the price levels of food and non-alcoholic beverages in Scandinavia relative to the EU average. From 2011-2021, Norway had the steepest decline in prices of food and non-alcoholic beverage in Scandinavia. Studying the year-over-year prices of food and non-alcoholic beverages from August 2021 to August 2022, we found that the price growth in Denmark and Sweden were significantly higher than in Norway. The historically high agricultural settlement of NOK 10,9 billion in 2022, is contributing to more stable food prices in Norway. Hence, the price development of food and non-alcoholic beverages does not indicate that the competitive situation in the Norwegian grocery industry has worsened in the last ten years.

From the profitability analysis, we found that the largest actors in the Scandinavian countries have the highest margins. This finding alludes to the size advantages of larger firms. Size in purchasing quantity leads to more power in procurement negotiation and can create logistics benefits. There are no numerical signs that the Norwegian actors’ gross margins stand out relative to other Scandinavian actors. Continuing with the profitability analysis, there was less variance in operating profit than in gross margin. It appears to be a convergence to an operating profit of around four to six percent. The convergence appears to be independent of gross margins. This trend can be observed by looking at the larger firms’ inability to translate advantageous margins into higher profits. Reasons for this can be plenty including, but not limited to, misaligned incentives (principal-agent theory) and corporate inefficiencies. The Norwegian actors NorgesGruppen and Rema 1000 reported the best operating profits which

might indicate that Norway is a favorable market for profitability. However, the observed advantage is limited to a single percentage point in relation to actors in the rest of Scandinavia.

In addition to profitability, the financial statement analysis observed inventory efficiency. Some firms report low inventory turnover in comparison to competitors, yet some of these firms outperform the same competitors in both revenue and gross margin. Norwegian grocery chains operate in a market with more stores per capita and lower turnover per store yet perform on par with most foreign actors. Inventory turnover is a more nuanced metric than profitability ratios, thus no definite conclusion can be made from the result. However, there is an indication that higher turnover does not necessarily imply advantageous profitability metrics.

For the period 2011-2021, we see strong labor productivity growth for the Norwegian grocery chains. NorgesGruppen and Rema 1000 Norway were the best performing chains in terms of labor productivity in the period, while Coop Norway was outperformed by Rema 1000 Denmark in addition to the NorgesGruppen and Rema 1000 Norway. This indicates strong competition in the grocery industry, which is contrary to the perception of some of the most outspoken politicians on the subject.

We find no reason to claim that margins or inefficiency in the grocery industry contribute to high Norwegian food prices. This does not mean that we exonerate the grocery industry, but claims made in the debate must be supported by facts.

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Appendix

Profitability Ratios (Tables)

	2021	2020	2019	2018	2017
Gross Margin	25,68%	26,02%	26,15%	25,81%	26,08%
Operating Profit Margin	5,05%	5,41%	4,72%	3,23%	3,65%

Table A.1: Profitability Ratios NorgesGruppen

	2021	2020	2019	2018	2017
Gross Margin	22,05%	23,01%	22,51%	20,72%	20,21%
Operating Profit Margin	5,18%	6,32%	3,92%	4,16%	3,25%

Table A.2: Profitability Ratios Rema 1000 Norway

	2021	2020	2019	2018	2017
Gross Margin	12,90%	13,07%	12,80%	12,47%	12,64%
Operating Profit Margin	0,91%	1,76%	1,07%	1,02%	1,25%

Table A.3: Profitability Ratios Coop Norway

	2021	2020	2019	2018	2017
Gross Margin	28,27%	28,04%	28,33%	27,37%	27,11%
Operating Profit Margin	4,46%	4,63%	4,01%	3,47%	4,20%

Table A.4: Profitability Ratios Salling Group

	2021	2020	2019	2018	2017
Gross Margin	11,98%	11,87%	11,83%	11,65%	11,00%
Operating Profit Margin	2,61%	4,01%	2,73%	2,60%	2,72%

Table A.5: Profitability Ratios Rema 1000 Denmark

	2021	2020	2019	2018	2017
Gross Margin	23,44%	24,65%	24,15%	24,21%	14,11%
Operating Profit Margin	0,59%	1,34%	0,87%	1,18%	0,97%

Table A.6: Profitability Ratios Coop Denmark

	2021	2020	2019	2018	2017
Gross Margin	24,22%	23,79%	22,71%	22,28%	23,12%
Operating Profit Margin	4,56%	4,71%	4,62%	4,30%	5,06%

Table A.7: Profitability Ratios ICA-Gruppen

	2021	2020	2019	2018	2017
Gross Margin	16,59%	16,90%	16,51%	15,79%	15,38%
Operating Profit Margin	4,61%	4,62%	4,46%	4,21%	4,06%

Table A.8: Profitability Ratios AxFood

	2021	2020	2019	2018	2017
Gross Margin	16,30%	16,31%	17,49%	17,89%	18,47%
Operating Profit Margin	0,61%	-0,34%	-0,21%	0,27%	0,12%

Table A.9: Profitability Ratios Coop Sweden

Gross Margin Ratio					
	2021	2020	2019	2018	2017
NorgesGruppen	25,68%	26,02%	26,15%	25,81%	26,08%
Rema 1000 Norway	22,05%	23,01%	22,51%	20,72%	20,21%
COOP Norway	12,90%	13,07%	12,80%	12,47%	12,64%
Salling Group	28,27%	28,04%	28,33%	27,37%	27,11%
Rema 1000 Denmark	11,98%	11,87%	11,83%	11,65%	11,00%
COOP Denmark	23,44%	24,65%	24,15%	24,21%	14,11%
ICA Sweden	24,22%	23,79%	22,71%	22,28%	23,12%
AxFood	16,59%	16,90%	16,51%	15,79%	15,38%
COOP Sweden	16,30%	16,31%	17,49%	17,89%	18,47%

Table A.10: Gross Margin Ratio for Scandinavian Grocery Chains. 2017-2021.

Operating Profit Margin					
	2021	2020	2019	2018	2017
NorgesGruppen	5,05%	5,41%	4,72%	3,23%	3,65%
Rema 1000 Norway	5,18%	6,32%	3,92%	4,16%	3,25%
COOP Norway	0,91%	1,76%	1,07%	1,02%	1,25%
Salling Group	4,46%	4,63%	4,01%	3,47%	4,20%
Rema 1000 Denmark	2,61%	4,01%	2,73%	2,60%	2,72%
COOP Denmark	0,59%	1,34%	0,87%	1,18%	0,97%
ICA Sweden	4,56%	4,71%	4,62%	4,30%	5,06%
AxFood	4,61%	4,62%	4,46%	4,21%	4,06%
COOP Sweden	0,61%	-0,34%	-0,21%	0,27%	0,12%

Table A.11: Operating Profit Margin Ratio for Scandinavian Grocery Chains. 2017-2021.

Efficiency Ratios (Tables)

	2021	2020	2019	2018	2017
Inventory Turnover	11,014	11,347	10,946	10,729	10,252
Inventory Turnover (Days)	33,141	32,168	33,345	34,021	35,602

Table A.12: Inventory Turnover for NorgesGruppen. 2017-2021.

	2021	2020	2019	2018	2017
Inventory Turnover	22,402	24,350	22,069	22,212	22,264
Inventory Turnover (Days)	16,293	14,990	16,539	16,432	16,394

Table A.13: Inventory Turnover for Coop Norway. 2017-2021

	2021	2020	2019	2018	2017
Inventory Turnover	9,127	0,260	0,261	0,258	0,261
Inventory Turnover (Days)	39,993	0,054	0,047	0,032	0,036

Table A.14: Inventory Turnover for Salling Group. 2017-2021

	2021	2020	2019	2018	2017
Inventory Turnover	9,913	10,472	10,809	12,548	13,920
Inventory Turnover (Days)	36,820	34,855	33,769	29,087	26,222

Table A.15: Inventory Turnover for Rema 1000 Denmark. 2017-2021

	2021	2020	2019	2018	2017
Inventory Turnover	10,307	11,061	11,281	11,410	12,889
Inventory Turnover (Days)	35,412	32,999	32,356	31,989	28,319

Table A.16: Inventory Turnover for Coop Denmark. 2017-2021

	2021	2020	2019	2018	2017
Inventory Turnover	39,364	40,080	38,657	38,375	34,809
Inventory Turnover (Days)	9,272	9,107	9,442	9,511	10,486

Table A.17: Inventory Turnover for ICA. 2017-2021

	2021	2020	2019	2018	2017
Inventory Turnover	24,677	24,133	23,638	25,901	27,670
Inventory Turnover (Days)	14,791	15,125	15,441	14,092	13,191

Table A.18: Inventory Turnover for AxFood. 2017-2021

	2021	2020	2019	2018	2017
Inventory Turnover	16,782	17,856	18,107	17,773	17,650
Inventory Turnover (Days)	21,749	20,442	20,157	20,537	20,680

Table A.19: Inventory Turnover for Coop Sweden. 2017-2021