KONKURRANSE·
TILSYNET
Norwegian Competition Authority

THE NORWEGIAN COMPETITION AUTHORITY'S MARGIN STUDY **2024**

Part 1. Survey of profitability at the enterprise level

Table of contents

Summary

On behalf of the Ministry of Trade, Industry and Fisheries, the Norwegian Competition Authority has mapped the profitability of a selection of companies at the supplier, wholesaler and retail level in the value chain for groceries. For the survey, the Norwegian Competition Authority has obtained revised annual income statements and balance sheets for the companies' grocery sales. The data cover the period 2017 to 2022. Based on this data, the Norwegian Competition Authority has calculated three measures of profitability: gross margins, operating margins and return on net operating assets.

Gross margins provide information regarding the price markup in per cent that is taken above the cost of goods at each level of the value chain, while operating margins also consider other costs in operations. The two measures of margin provide information on how revenues and costs have developed for different levels of the value chain and can thus provide indications of how profitability in the industry has developed over time. These measures of margin will, on the other hand, to a lesser extent inform the absolute levels of profitability in the production and sale of groceries. The Norwegian Competition Authority has therefore calculated a return on net operating assets. The return on net operating assets indicates the profit generated in the grocery-related business, in relation to how much capital the company had to employ to generate this profit.

The Norwegian Competition Authority finds that operating margins and the return on net operating assets increased during the corona pandemic, both at the supplier, wholesale and retail levels. However, prices to consumers were largely unchanged through the pandemic. Increased sales volumes because of increased demand are assumed to be an important reason for higher profitability in these years.

In 2022, grocery prices increased significantly, but operating margins and return on net operating assets dropped back to pre-pandemic values. In other words, the Norwegian Competition Authority finds no support for an allegation that the grocery chains or suppliers in general took advantage of the extraordinary price increases in 2022 to increase their profitability. Furthermore, the Norwegian Competition Authority finds that the average gross margins were stable throughout the period, which indicates that price increases in 2022 in general cannot be traced back to a single level in the value chain.

The Norwegian Competition Authority finds that the grocery chains' wholesale companies have a return on net operating assets that is not significantly higher than the normal return. The results do not provide arguments for claims that the grocery chains take out huge profit at the wholesale level, or that the grocery chains set the transfer price between the wholesale and retail levels artificially low to subsidize the retail level.

On the other hand, the Norwegian Competition Authority's survey shows that it is generally profitable to produce and sell groceries in Norway. For most of the companies included in the survey, the return on net operation assets is significantly higher than one would expect to find in a market with few barriers to entry and fierce competition. In other words, the results are consistent with weak competition and significant barriers to entry in parts of the Norwegian grocery market.

1 Introduction

The grocery market is a large market that is important for most Norwegian consumers. The market is characterised by high concentration and high barriers to entry at both the retail, wholesale and supplier levels. The Norwegian Competition Authority therefore supervice the grocery market closely.[1]

In recent years, there has been a great deal of attention on the grocery market, partly because the prices of groceries have increased significantly. From December 2021 to December 2022, grocery prices to consumers rose by 11.5 per cent.[2] Grocery prices increased further by 8.9 per cent from December 2022 to December 2023.[3]

The background for the price increases in recent years for groceries is complicated, and these are assumed to be driven by several different factors. The past couple of years have been characterised by rising inflation and increasing global uncertainty. Among other things, international events such as the corona pandemic and the war in Ukraine have also had an impact on the Norwegian grocery market.

On the basis of the above, the Ministry of Trade, Industry and Fisheries has therefore asked the Norwegian Competition Authority to investigate the rise in prices for food and beverages, including the margins of the various parts of the grocery value chain.[4]

[1] The Norwegian Competition Authority's objective is to strengthen competition in the grocery market; Strategy plan for the Norwegian Competition Authority 2022-2027, page 9. In recent years, the Norwegian Competition Authority has had several publications on the grocery market, including the " Dagligvarerapporten 2022" (The Grocery Report 2022), " Dagligvarerapporten 2023" (The Grocery Report 2023) and a report on the price adjustment windows that was published in December 2023. For the years 2017-2022, the Norwegian Competition Authority has investigated differences in purchase prices between the grocery chains. The Norwegian Competition Authority has also carried out investigations into the causes of differences in purchase prices.

[2] KPI opp 5,9 prosent siste tolv måneder i desember – SSB, accessed 4 April 2024

[3] Desember: KPI opp 4,8 prosent siste tolv måneder – SSB, accessed 4 April 2024

[4] Letter from the Ministry of Trade, Industry and Fisheries on 2 October 2023. The survey is also announced in a press release from the Ministry of Trade, Industry and Fisheries on 13 January 2023: https://www.regjeringen.no/no/aktuelt/regjeringen-skal-undersoke-prisdannelsen-i-dagligvarebransjen/id2959288/, in a supplementary letter of allocation from the Ministry of Trade, Industry and Fisheries to the Norwegian Competition Authority on 1 February 2023, and in the Revised National Budget 2023 Prop. 118 S (2022-2023), page 118.

The Ministry of Trade, Industry and Fisheries' description of the assignment

Mapping profitability at the enterprise level

"In order for the survey of margins and profitability in the grocery industry to provide a good picture of profitability in various parts of the value chain for food and groceries, it is necessary to supplement the above-mentioned margin survey at product level with a survey of profitability at company level. The latter will be based on auditor-approved financial data, and provide figures for profitability at the supplier, wholesaler and retail level.

The profitability survey will assess results, margins and return on capital, as well as developments in these measurements over time. In the value chain for food and groceries there are differences in the risk each company takes and, in the value, -adding changes that are added to the products. This means that employed capital at the various levels in the value chain will be different. Thus, comparisons of participants' profitability calculated using a simple profitability measure may be misleading. The Norwegian Competition Authority will therefore map various profitability measurements.

The margin and return on capital measurements chosen by the Norwegian Competition Authority are intended to complement each other and, as far as possible, facilitate comparisons of profitability between participants at the same and different stages of the value chain. Among other things, the Norwegian Competition Authority shall calculate annual operating margins. This measure is used in many contexts to compare profitability between different industries and different levels in a value chain. Return on capital employed is a recognised method for assessing the profitability of an industry. In addition to calculating various profitability measurements at the enterprise level, the Norwegian Competition Authority shall comment on the implications of empirical findings."

Excerpt: Letter from the Ministry of Trade, Industry and Fisheries to the NCA

Text Box 1 Mission description from the Ministry of Trade, Industry and Fisheries

The Norwegian Competition Authority's margin study will consist of two sub-studies. This report presents the Norwegian Competition Authority's survey of profitability at the enterprise level (see Box 1). The Norwegian Competition Authority will later publish the results of the second part of the study, which deals with margin development for groceries at product level.

The Norwegian Competition Authority has obtained financial data from a selection of companies in the market for the period 2017 to 2022.[5] The data is limited to the parts of the business that are related to the production and sale of groceries. On the basis of this data, the Norwegian Competition Authority has mapped the development in the companies' gross margins and operating margins. These key data provide information on how revenues and costs in operations have developed over time at the various levels of the value chain.

Furthermore, the Norwegian Competition Authority has calculated the return on net operating assets, so-called RNOA[6], as a measure of the companies operating profitability. It is the operating profitability that is affected by competitive conditions and prices in the production and sale of groceries, and which is thus relevant to the survey. Furthermore, RNOA takes into account that some types of financing do

[5] The annual accounts for 2023 will be prepared and published during the first half of 2024. Consequently, financial data for 2023 have not been part of the data in this survey.
[6] Return on Net Operating Assets.

not tie up capital for the companies. This is a crucial consideration when measuring profitability in the production and sale of groceries. The Norwegian Competition Authority's opinion is therefore that RNOA is an appropriate key figure to use in this survey.

In June 2023, the Norwegian Competition Authority participated in an meeting, arranged by the Ministry of Trade, Industry and Fisheries. The meeting dealt with both the margin study, including a survey of profitability at the enterprise level and product margins in the grocery market, as well as the study of the price adjustment window scheme.[7] At the meeting, the Norwegian Competition Authority presented its preliminary plan for the margin study. All participants in the meeting, including the largest grocery chains and a number of suppliers and trade associations, were given the opportunity to provide input to the margin study.

In September 2023, the Norwegian Competition Authority sent a extensive request for information to the three largest grocery chains, as well as a selection of suppliers. The request for information included, among other things, income statements and balance sheets for the grocery business isolated.[8] After the request for information orders were sent out, the Norwegian Competition Authority has carried out meetings and dialogue with all the companies involved in the survey.

In order to carry out the analyses of profability, the Norwegian Competition Authority has collected accounting data from suppliers and grocery chains in a standardised form, where parts of the information obtained are not publicly available. This has made it possible for the Norwegian Competition Authority to conduct detailed analyses of profitability for a number of companies over a period of several years. At the same time, this means that parts of the data used by the Norwegian Competition Authority are not publicly available. The Norwegian Competition Authority will therefore present aggregated results or indices that do not identify the individual company in the following.

The Norwegian Competition Authority has used consultancy services with accounting expertise in the work of analysing profitability at the enterprise level,.

Severalquestions have been asked and several claims have been made in the public debate related to profitability in the grocery market. Examples of such questions are whether grocery retailers took advantage of the extraordinary price increases in 2022 to increase their profitability, whether the coronavirus pandemic made the food industry and grocery trade more profitable, and whether the profitability of grocery retailers is significantly higher than one would expect in a market with fierce competition. The results of the Norwegian Competition Authority's survey may contribute knowledge that will make one better equipped to find answers to such questions. The survey also provides background information for the competition authorities' work to strengthen competition in the grocery market.

In the following, the Norwegian Competition Authority will in chapter 2 briefly describe the Norwegian grocery market, including a description of the value chain and a presentation of price developments in recent years based on publicly available data. In chapter 3 the Norwegian Competition Authority describes the method used in the survey, and in chapter 4 the data used in the survey is described.. Chapter 5 contains the results of the survey. Finally, the Norwegian Competition Authority summarises the report and comments on the relevance of the results to the debate on competition in Norwegian grocery markets.

[7] In December 2023, the Norwegian Competition Authority published a report on the investigation of the price adjustment window scheme, see https://konkurransetilsynet.no/wp-content/uploads/2023/12/Utredning-om-prisjusteringsvinduer-2023.pdf.

[8] For an account of the suppliers that have been selected, see chapter 4.

2 Description of the Norwegian grocery market

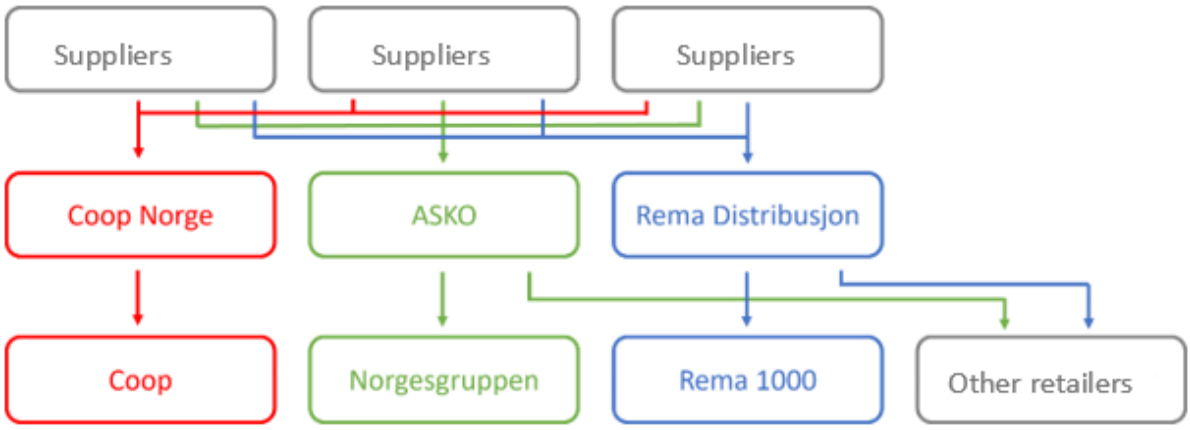
In 2022, grocery purchases accounted for 12 per cent of Norwegian households' total expenditure.[9] The grocery market is therefore of great importance to consumers' finances. Developments in prices and costs in the grocery market in recent years have received a great deal of attention in the media, and a number of proposals have been put forward for actions to strengthen competition and reduce the rise in food prices.

In Norway, groceries are primarily sold in traditional grocery stores, but also in kiosks, petrol stations and other stores, and when ordering online with delivery and/or home delivery.

In the following, the Norwegian Competition Authority will give a brief explanation of the various levels in the value chain for groceries. An overall description is also given of the price development of groceries to consumers in recent years.

2.1 The value chain

Figure 1 below shows a simplified version of the value chain in the Norwegian grocery market.



Figur 1 Schematic picture of the value chain in the grocery market

The suppliers buy, import or produce products that are sold in the stores. In Norway, most groceries are sold through grocery groupings and their profile chains, which are vertically integrated with their own retailers and wholesalers. When groceries are sold through traditional grocery stores, the wholesalers first buy products from the suppliers and resell them to the grocery chains. The wholesalers are also responsible for distributing the goods from the suppliers to the stores. Only a few of the suppliers distribute the products directly to the stores themselves.[10] The grocery chains' retail storesthen sell the goods to consumers.

2.2 The supply level

Suppliers of groceries produce and sell products to the various grocery groups. Most suppliers also deliver to HORECA and other stores (kiosks, petrol stations and other service points).

Suppliers in the grocery market differ, including in terms of size, number of companies and market shares in different product groups, form of ownership, what is produced and location. Furthermore, there are some suppliers that exclusively produce their own brands (referred to as "branded label" or "BL") and those that additionally or exclusively produce the grocery chains' private labels (referred to

[9] Statistics Norway's Consumer Survey 2022: Forbruksundersøkelsen – SSB

[10] See, inter alia: Meld. St. 27 (2019–2020) - regjeringen.no, page 20. Among the major suppliers, this applies to Ringnes and Tine for liquid products.

as "PL"). There is also a varying degree of vertical integration between suppliers and grocery chains, where some suppliers are owned by, or have entered into long-term production agreements with, a grocery chain.[11],[12]

2.3 Wholesale and retail level

In Norway, there are currently four major national grocery chains: Norgesgruppen, Coop, Rema and Bunnpris. Norgesgruppen, Coop and Rema operate both the wholesale and retail level. Bunnpris does not have its own wholesale business, but in recent years has alternated between purchasing cooperation with Rema and Norgesgruppen.[13] In addition, there is Oda (formerly Kolonial), which offers groceries from an online store with delivery and home delivery in Eastern Norway. Oda has a cooperation agreement with Rema Distribusjon for the purchase of grocery products.

The three largest grocery chains – Rema, Coop and Norgesgruppen – have a combined market share of around 95 percent in the retail market.[14]

2.4 Price developments in recent years

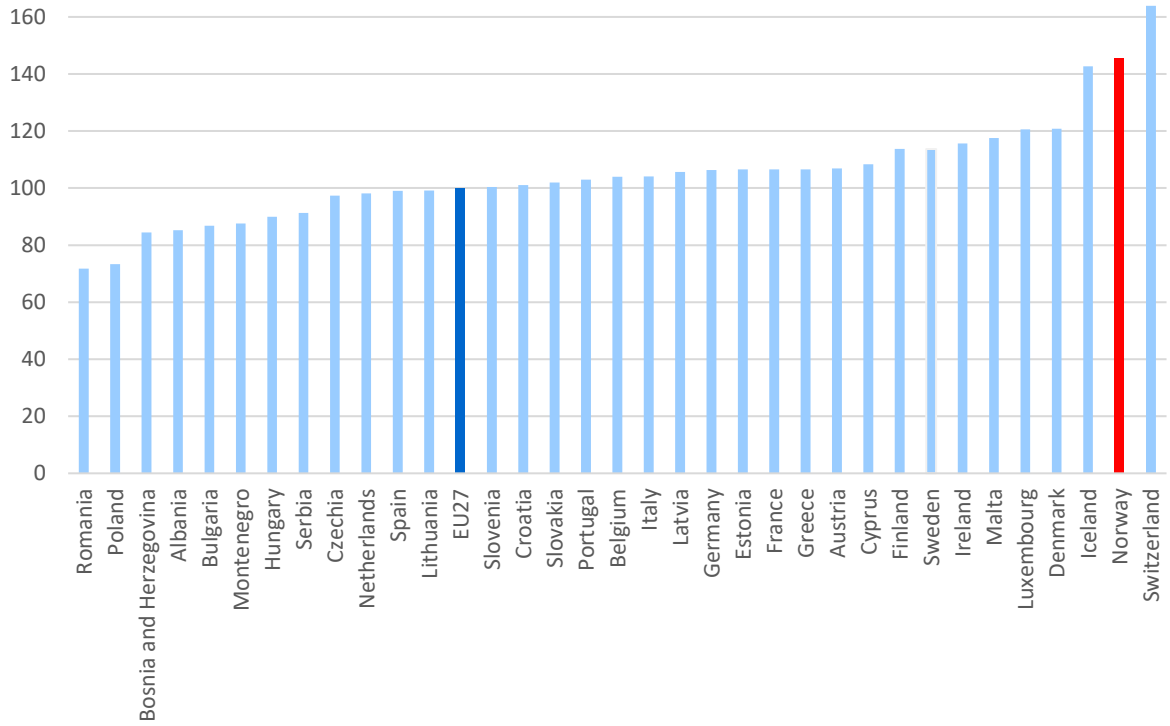
Prices for groceries are generally higher in Norway than in the rest of Europe. Figure 2 shows indexed food price levels in a number of European countries in 2022.

[11] Socio-economic Analysis AS, Rapport (2023), and Meld. St. 27 (2019–2020) - regjeringen.no from the Ministry of Trade, Industry and Fisheries, page 20 et seq.

[12] Konkurransetilsynets dagligvarerapport 2022, page 4 and SIFO's Kartlegging av utviklingen i butikkstruktur, dagligvareutvalg og dagligvarepriser - regjeringen.no from 2019.
page 79.

[13] Until 2011, Bunnpris had a purchasing collaboration with Norgesgruppen. In 2011, they switched to Rema. In 2017, they switched back to Norgesgruppen.

[14] Konkurransetilsynets dagligvarerapport 2022 , page 4.



Figur 2 Price level indices for food as of 2022. (EU27 = 100) Data source: Eurostat (linke)

The price level for each country is here expressed relative to the average price level in the EU, which in the figure has the value 100. Norway's index value of 146 can thus be interpreted as meaning that food prices in Norway were 46 per cent higher than the average for the EU countries in 2022. As can be seen from the figure, Norway was the country with the second highest food prices in Europe as of 2022, after Switzerland.[15]

As mentioned in chapter 1 prices for groceries have increased significantly in recent years. This is not only the case in Norway, but also in Europe in general. Chapter 2.4.1 provides an overall description of developments in grocery prices to consumers in recent years. And in chapter 2.4.2 the development of various costs that are central to the price formation of groceries is reviewed. In chapter 2.4.3 the price developments in recent years are summarized.

2.4.1 Price increases to consumers

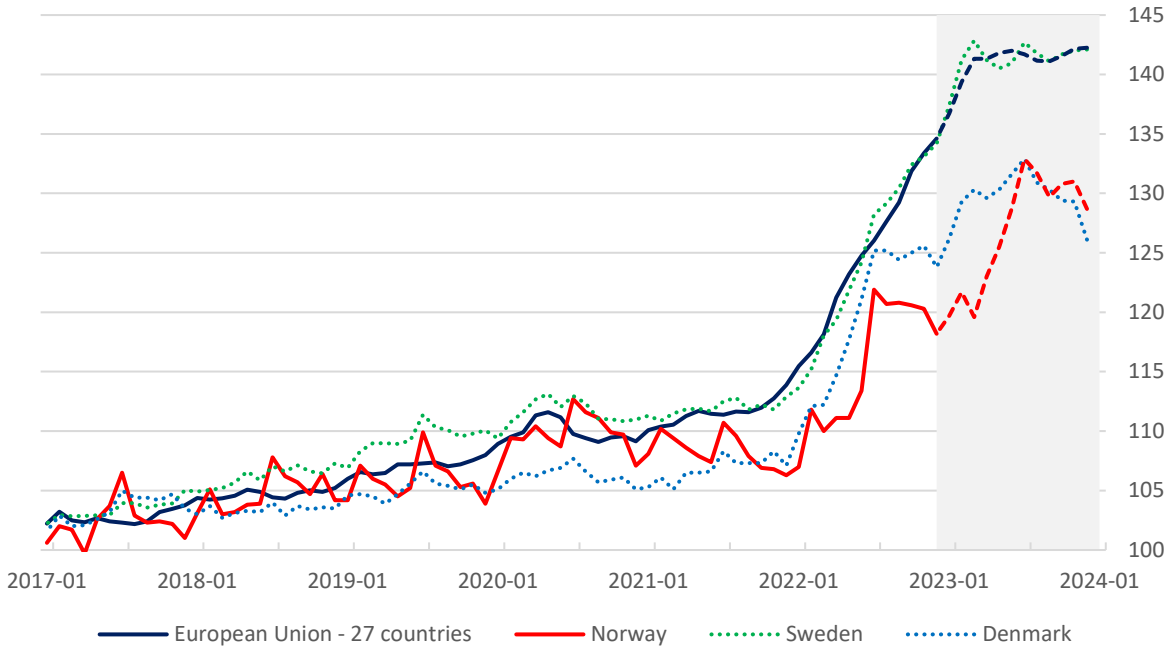
Changes in consumer prices are often measured using consumer price indices, or CPI for short.[16] These indices measure percentage changes in prices of goods and services based on a reference year. Consumer price indices can be calculated for large parts of the economy as a whole, for example in what is referred to as core inflation (CPI-ATE). Consumer price indices can also be calculated for delimited commodity groups or subgroups. Statistics Norway (SSB) publishes consumer price indices both overall and down at commodity group level, including for food. Consumer price indices are also measured for similar commodity groups in other countries, so that it is possible to compare price developments down to commodity group level for different countries in Europe.

Figure 3 presents price developments for food products in Norway, Sweden and Denmark, respectively, and for the EU. The index is set at 100 in 2015 for each of the countries and for the EU.

[15] Comparison of price levels in Europe – SSB

[16] For a more detailed description of the Consumer Price Index, see: Consumer price index – SSB

The lines in the chart should therefore be interpreted as a development in percentage terms from the base year 2015, not as absolute price levels.



Figur 3 Consumer price index for food for Norway, EU27, Sweden and Denmark over the period 2017 to 2022, where 2015 = 100. Further development through 2023 is marked with a dotted line. Data source: Eurostat (linke)

It is evident from Figure 3 that the rise in food prices in Norway was moderate from 2017 to 2021. In this period, prices increased by just over 6 per cent in total. The coronavirus pandemic in 2020 and 2021 does not seem to have had a particularly large impact on grocery prices, which were almost unchanged from March 2020 to March 2022. In 2022, grocery prices in Norway increased by around 11 percent, despite a moderate reduction in prices in the second half of 2022. As shown in the chart, the high rise in prices continued into 2023.

The EU, including Denmark and Sweden, experienced a high rise in grocery prices in 2022, like Norway. Measured as a percentage, inflation was higher in the EU than in Norway.[17] In 2021, consumer food prices in the EU increased by 4 per cent, while in 2022 prices rose by as much as 18 per cent.

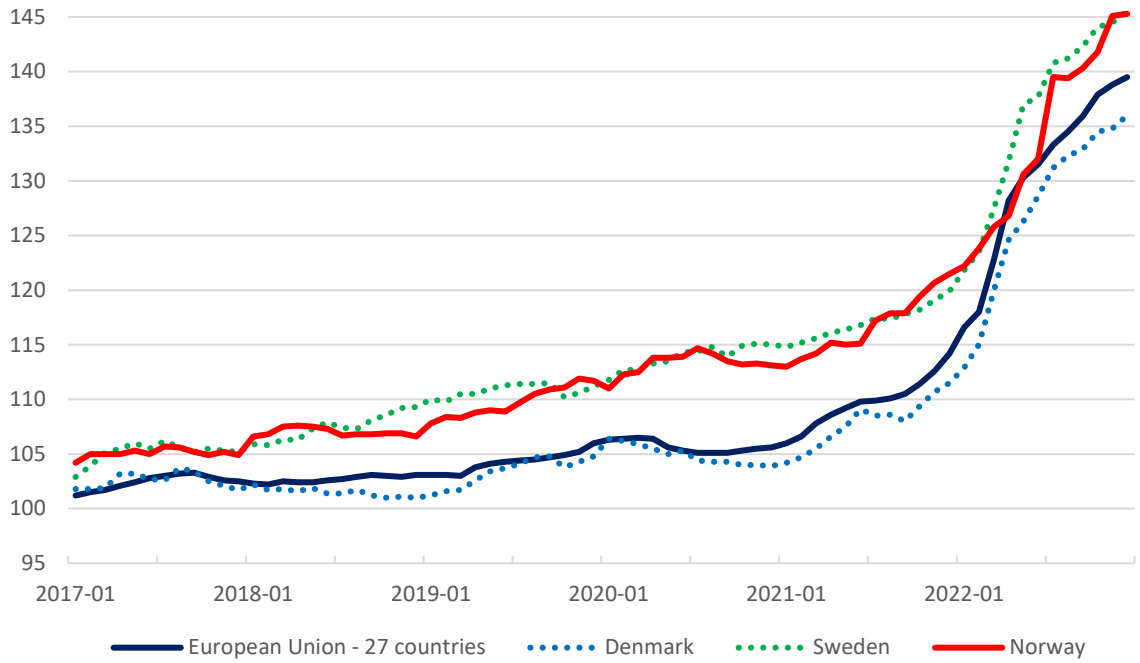
2.4.2 Cost increases

Increased costs may be an important reason for the price increases for consumer goods. In recent years, several factors may have contributed to higher commodity prices and production costs, including higher electricity prices, supply problems due to the coronavirus pandemic, Russia's invasion of Ukraine and a general depreciation of the Norwegian krone.

The most important cost to the wholesale level is the purchase of goods from the supplier. Producer Price Index (PPI)[18] measures the development in producer prices for domestically produced goods for sale both in Norway and abroad. Somewhat simplified, one can say that this index shows the price development for goods from the factory. Figure 4 shows the development in the producer price index for food for Norway, EU27, Denmark and Sweden respectively.

[17] Note that Norway had higher prices than the EU in the base year 2015. A percentage increase in Norwegian prices from the base year will therefore be larger measured in cash value than a corresponding percentage increase from the base year for the EU.

[18] For a more detailed description of the producer price index, see: Producer price index – SSB



Figur 4 Producer price index for food for Norway, EU27, Denmark and Sweden respectively over the period 2017 to 2022. (2015 = 100) Data source: Eurostat (linke)

Figure 4 shows moderate growth in producer prices from 2017 to 2020, before prices increased significantly in 2021 and 2022. In 2021, producer prices in Norway increased by 7.4 per cent, while producer prices in the EU increased by 8.1 per cent. In 2022, producer prices in Norway increased by 19.6 per cent, while producer prices in the EU increased by 22.2 per cent.[19]

Statistics Norway also publishes another similar index, the so-called price index for first-hand domestic sales (PIF).[20] This index measures price developments in the first stage of sales in the Norwegian market. The main difference between the PPI and the PIF is that the producer price index includes prices for exported goods, while the price index for first-hand domestic sales includes prices for imported goods. The development in the PIF has essentially been similar to the development in the PPI through the period 2017 to 2022.

The background for the increases in these two indices in 2022 is complex. Russia's invasion of Ukraine led to increased grain prices on the world market.[21] This directly affects raw material costs in the production of bread and other baked goods, but also has an impact on the production of, for example, meat, dairy products and eggs through price increases for concentrates. The war also led to increased prices for fertilizer, for which Ukraine and Russia are important production countries.[22] This came in continuation of the fact that fertilizer prices had already increased significantly in 2021.[23]

[19] It should be remarked here that the figure only shows differences in development from the base year 2015, measured as a percentage, not differences in absolute levels measured in cash value.

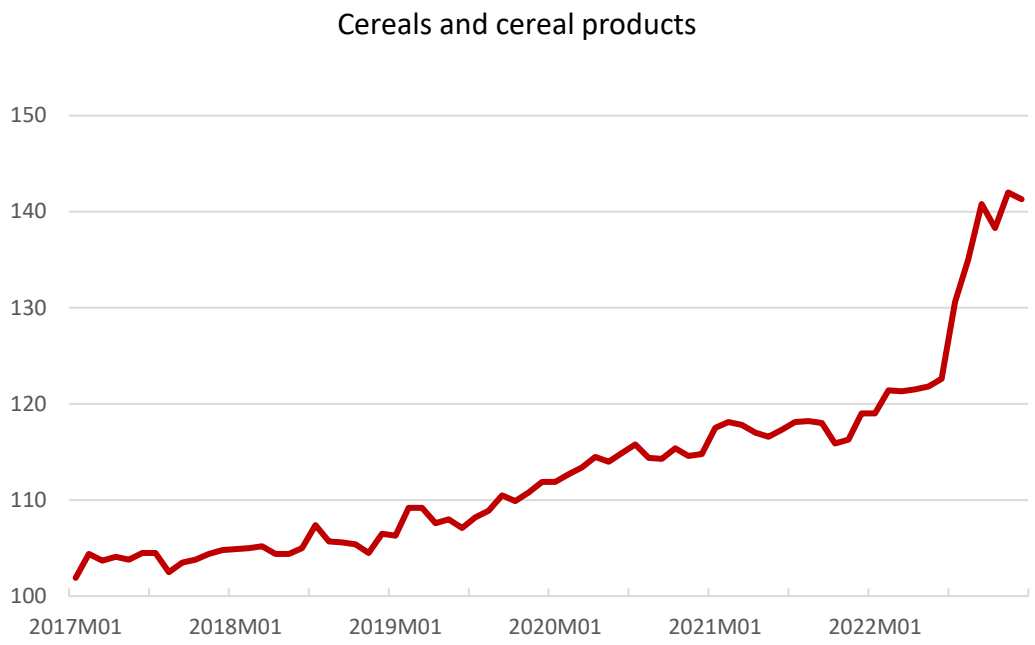
[20] For a more detailed description of the price index for first-hand domestic sales, see: Price index for first-hand domestic sales – SSB

[21] Ukraine war drives international food prices to 'new all-time high' | UN News

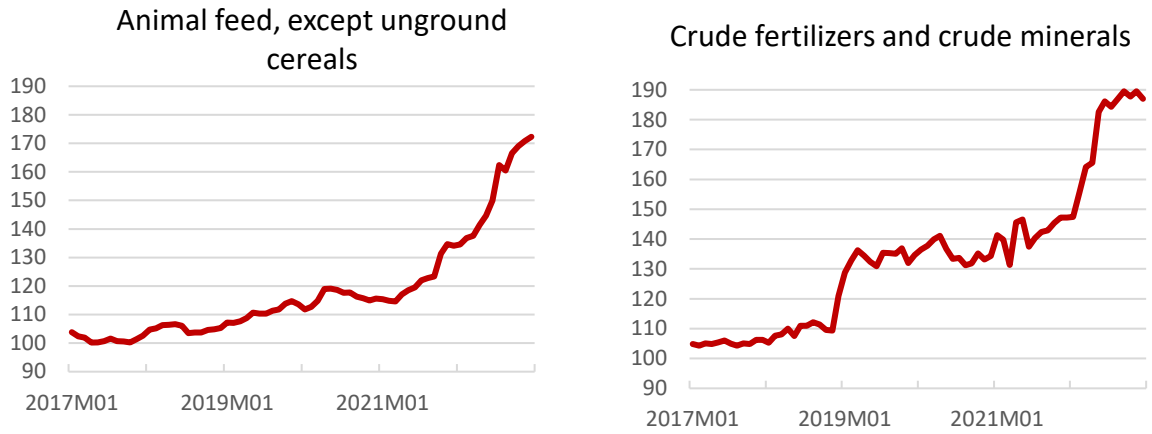
[22] War-induced fertilizer crunch threatens global food security | World Economic Forum (weforum.org)

[23] Fertilizer prices expected to remain higher for longer (worldbank.org)

Figure 5 shows price development for the commodity group cereals and cereal products, while Figure 6 shows price development for animal feed and fertiliser, respectively.



Figur 5 Price index for first-hand sales of cereals and cereal products domestically for the period 2017 to 2022. (2015 = 100) Data source: Statistics Norway, table 03675.

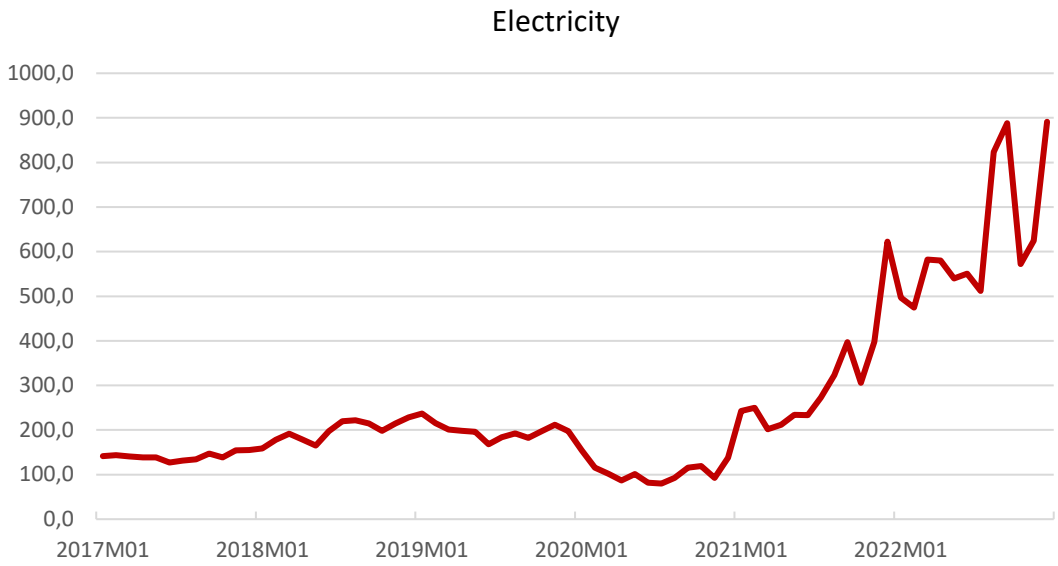


Figur 6 Price indices for first-hand domestic sales for the product groups Animal feed, except unground cereals (SITC08) and Crude fertilizers and crude minerals (SITC27) for the period 2017 to 2022. (2015 = 100) Data source: Statistics Norway table 03675.

It is evident from the Figure 5 that prices of cereals and cereal products increased fairly moderately in the period 2017 to 2021, with a total price increase of about 17 per cent. In 2022, prices increased by 23 percent. The sharp increase occurred shortly after the outbreak of the war in Ukraine. Of Figure 6

it appears that a similar development also occurred for fertilizers and raw minerals, where prices increased sharply after the outbreak of war.

Furthermore, the war in Ukraine exacerbated an already ongoing energy crisis in Europe.[24] Higher electricity prices led to higher costs in agriculture and manufacturing, both directly in the form of more expensive electricity in operations, and indirectly through price increases in the production of other input factors, such as fertiliser. Figure 7 shows price development for electricity in the first stage of sales in the Norwegian market.



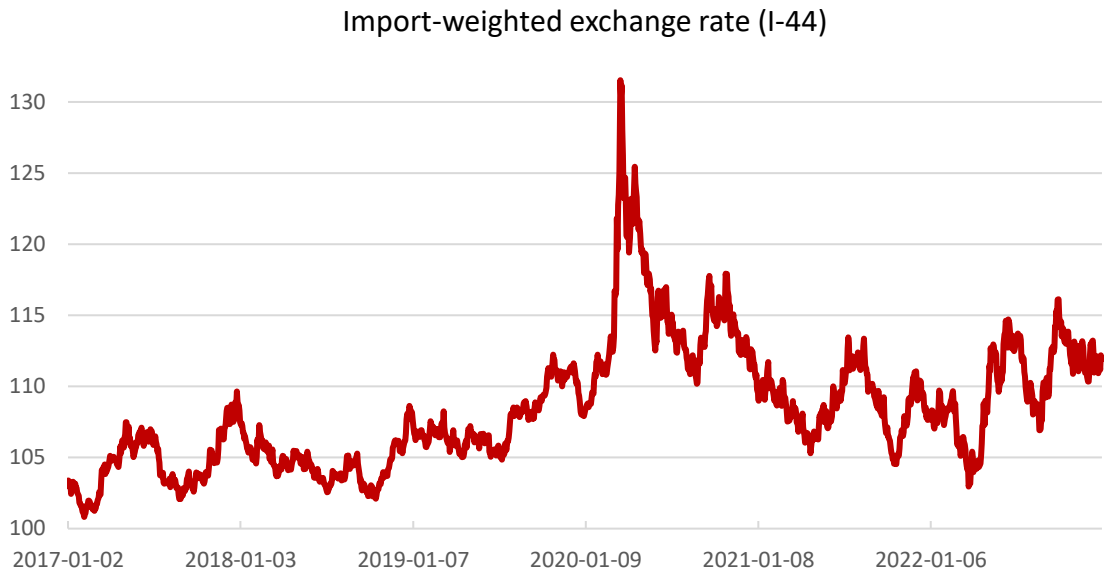
Figur 7 Price index for first-hand sales of domestic electricity for the period 2017 to 2022. (2015 = 100) The price index does not take into account electricity subsidies. Data source: Statistics Norway table 03675.

It is evident from the Figure 7 that the monthly average price for electricity was generally five times higher, and in some months up to nine times higher, in 2022 than in 2015. Higher electricity prices led to increased costs at several levels in the value chain for groceries. Note that the figure shows price developments in the first stage of sales, and that the figures do not take into account electricity support.

Exchange rate fluctuations are another factor that has contributed to increased costs for both the food industry and grocery chains. Figure 8 shows exchange rate developments for the Norwegian krone relative to a number of foreign currencies, measured by the import-weighted krone exchange rate target I-44 for the period 2017 to 2022.[25] A higher index value means a weaker krone exchange rate.

[24] The impact of the war in Ukraine on euro area energy markets (europa.eu)

[25] Definition from Norges Bank: *The I-44 index is a nominal effective exchange rate index based on NOK exchange rates as measured against the currencies of Norway's most important trading partners. The index is set at 1995 = 100. A rising index indicates a depreciating krone. The I-44 is calculated as a geometric weighted average of the exchange rates of 44 countries. The weights (xlsx) are updated on an annual basis and are calculated using Statistics Norway's statistics for imports to Norway from the 44 largest countries in terms of import value. The country composition varies. The weights are calculated on the basis of one year's imports and are applied as from the second weekday in September in the following year. The index is calculated using the same methodology as for the TWI.*
." (I-44, Import-weighted krone exchange rate))



Figur 8 Development in the import-weighted exchange rate index I-44 for the period 2 January 2017 to 30 December 2022. Data source: Norges Bank (link)

When a company imports goods or other input factors, the agreed import price will often be stated in a foreign currency. When the Norwegian krone depreciates against foreign currency, it therefore leads to higher import costs, measured in Norwegian kroner. As can be seen from Figure 8 , the Norwegian krone has depreciated in 2022, but also generally throughout the period. The depreciation of the Norwegian krone continued into 2023.

Overall, the review shows a sharp increase in several costs that are central to the production of food products. After a period of generally moderate cost growth in the years 2017 to 2020, several costs increased in 2021. Cost growth accelerated further in 2022.

2.4.3 Summary price development

Prices for groceries increased moderately in the period 2017 to 2020. This applies to both prices to consumers and prices further up the value chain. In 2021, producer prices increased significantly, while consumer prices remained stable. In 2022, both producer prices and consumer prices increased sharply. The increase in grocery prices to consumers continued into 2023.

Higher prices for goods by manufacturer are synonymous with increased prices for goods to wholesalers. Consequently, the price indices provide some general information about income and cost developments at the various levels in the value chain. However, the information that emerges from official statistics is not detailed enough to assess whether the price increases at each level can be explained solely by increased costs.

The survey that follows provides further information about the background for the price increases for groceries in 2022. In the next chapter, the Norwegian Competition Authority will describe the method used in this survey, which makes it possible to assess whether the price increases are driven by increased profitability for the companies, in addition to the increased costs described above.

3 Method

The purpose of the Norwegian Competition Authority's method is to map the profitability of the production and sale of groceries to consumers in Norway.

Through the survey, the Norwegian Competition Authority will show the development in profitability for a selection of major food suppliers and for the three large grocery chains in the period 2017 to

2022. The analyses can, among other things, provide an indication of how the coronavirus pandemic and the war in Ukraine have affected profitability at these levels in the value chain.

In chapter 3.1 there will be explained how the Norwegian Competition Authority has delimited the profitability analyses, including which levels in the value chain are included, and what delimitations the Norwegian Competition Authority has made for each of these levels in order to be able to analyse profitability isolated to groceries.

Chapter 3.2 describes the profitability measurements used by the Norwegian Competition Authority to analyse profitability within the isolated activity.

3.1 Delimitation of the analyses

The Norwegian Competition Authority's survey covers the supplier, wholesaler and retail levels in the value chain for groceries. These three levels individually and collectively account for a varying, but consistently high proportion of the value creation that takes place in different markets in the value chain.

The delimitation means that production levels further up the value chain are not covered by the survey. This applies firstly to the production of agricultural goods and various input markets for agricultural production. Second, markets for first-hand sales of agricultural products and in some cases primary processing of agricultural products will also not be covered by the survey.[26]

The Norwegian Competition Authority has also limited the survey of profitability at the wholesale and retail level to include the three large grocery chains. Smaller companies such as Bunnpris and Oda, and companies that are not considered traditional groceries, but who sell groceries, are not included in the survey.[27] The same applies to deliveries to, and sales in, HORECA and kiosks and petrol stations.

The three large grocery chains account for about 95 per cent of the total turnover in the traditional grocery stores. A survey that includes the three large grocery chains will therefore include the majority of consumers' purchases of groceries.

For the supplier level, the Norwegian Competition Authority's survey consists of a selection of suppliers. The suppliers have been selected based on, among other things, the size of turnover, as well as which suppliers the Norwegian Competition Authority has previously obtained data from for the survey of differences in purchase prices.[28]

3.2 Profitability measurements

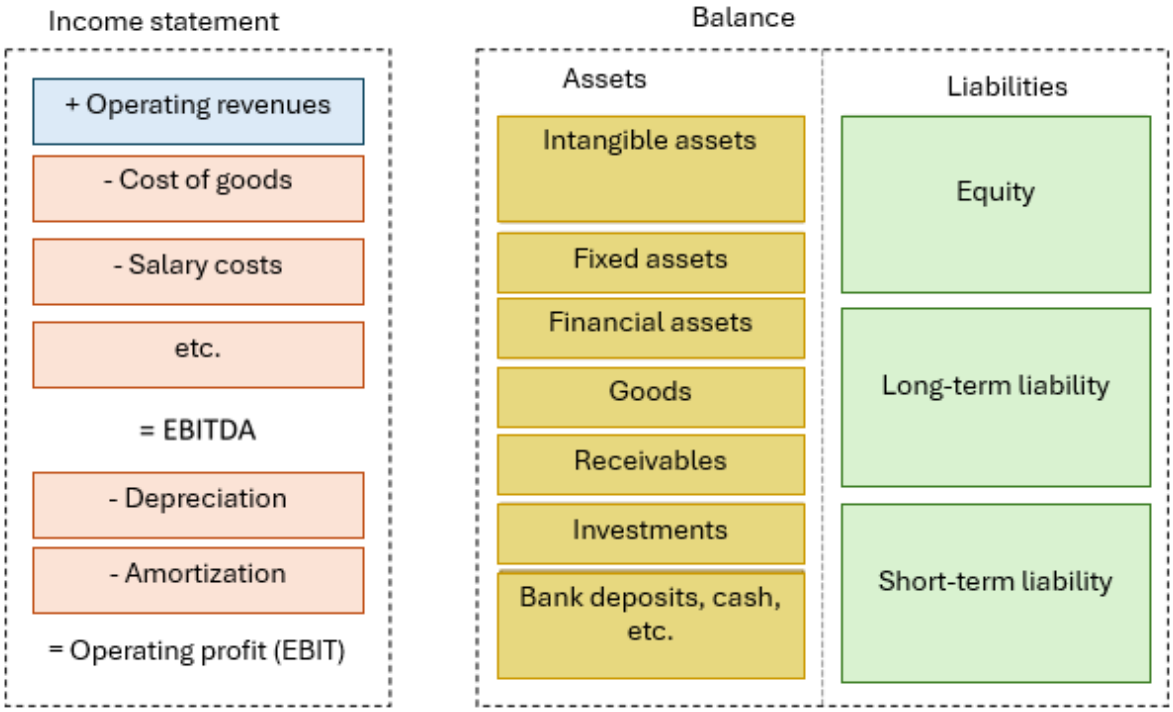
Analyses of profitability are usually based on the companies' public accounts, also called the financial accounts. The financial statement consists of three parts: the income statement, the balance sheet and the cash flow statement.

[26] There are significant challenges associated with calculating profitability for some of these levels in the value chain, as there will be strong links between two levels in the value chain for some companies. The activities at these value levels are also highly regulated or influenced by agricultural policy. This applies in particular to the part for the production of agricultural products and the part for the reception of agricultural products, where key parts of the market balancing in the agricultural regulations are laid. Agricultural policy will have a major impact on the development of profitability in various primary industries, while sectoral regulations may have direct consequences for the profitability that can be achieved.

[27] Europris and Normal have a significant element of groceries in their range. Nevertheless, the range of products offered by these companies differ significantly from grocery stores in that they offer almost no large product categories such as fruit and vegetables, fresh baked goods, dairy products and fresh meat. For such companies, a profitability survey will therefore be based on sales of a product range that is significantly different from traditional grocery stores. For this reason and for reasons of resources, the Norwegian Competition Authority has excluded the above-mentioned companies from the survey.

[28] Mindre forskjeller i dagligvarekjedenes innkjøpspriser - Konkurransetilsynet

In connection with the survey, the Norwegian Competition Authority has collected data from a number of companies in a similar form as the income statement and balance sheet from the financial accounts. The following is a brief review of how the income statement and balance sheet are structured, and which parts of the business these accounting parts describe.



Figur 9 Illustration of the income statement and balance sheet, including the assets and liabilities side of the balance sheet.

The income statement describes the company's income and costs throughout the year. At the top of the income statement, you will find operating revenues, often classified as sales revenues and other operating revenues. This is followed by a number of costs from operations, such as cost of goods solds, salary costs, rent, electricity, and so on. When these costs are deducted from operating revenues, one is left with a result that is referred to as operating profit before depreciation and amortization (EBITDA).[29]

This is followed by costs related to losses in value of assets that have been used in operations throughout the year, so-called depreciation and amortisation. Depreciation follows from a depreciation plan, where the Accounting Act assumes that the value of assets falls linearly down to zero over their estimated economic life. Amortizations are made if there is reason to believe that an asset has fallen in value in excess of the estimated loss of value resulting from the depreciation plan. When the year's costs related to impairment of assets have been deducted, one is left with operating profit (EBIT),[30] which is the result from actual operations before tax.

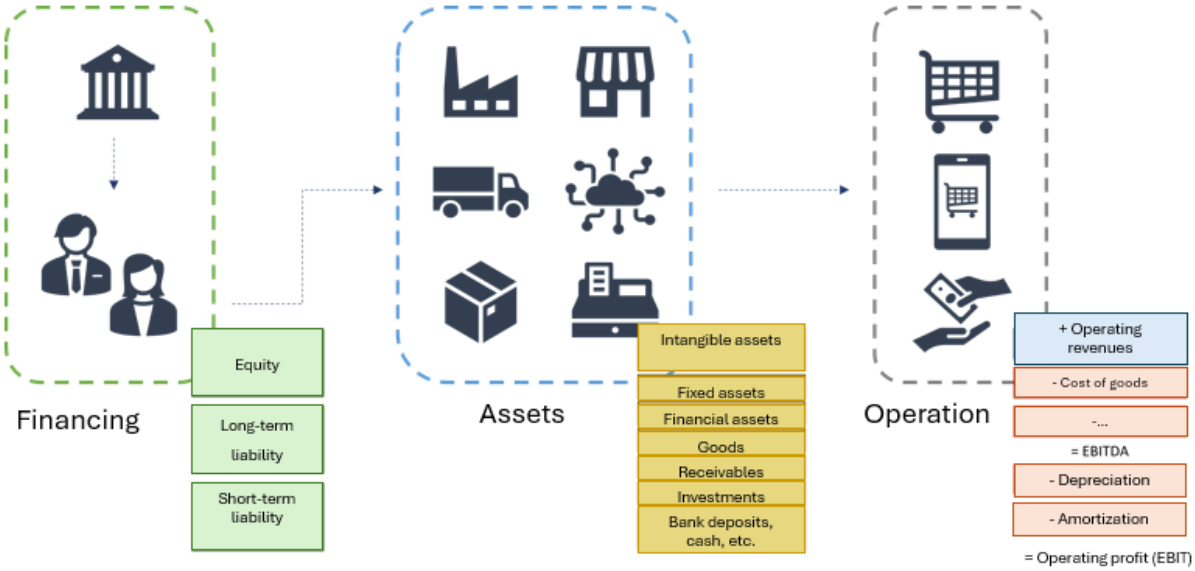
The operating profit in the income statement is followed by financial (non-operational) income and costs. When these are deducted, one is left with the company's annual profit, which is a total result for both operational and financial activities. It is mainly the operation-related activities that will affect how groceries are priced to consumers. Consequently, the entries after operating profit in the income

[29] Earnings Before Interest, Taxes, Depreciation and Amortisation.
[30] Earnings Before Interest and Taxes.

statement are not included in the Norwegian Competition Authority's analyses,[31] and are therefore not discussed further.

The balance sheet shows the company's assets and how these are financed. The balance sheet is divided into an asset side, which describes the assets in the company, and a liabilities side, which describes how the assets are financed. The total financing must at all times be equal to the total value of the assets, which means that the two sides of the balance sheet must always add up to the same value.

The assets on the asset side can be financed with equity or debt. Debt financing often has a defined nominal value, while equity is in practice defined by the difference between the book asset values on the asset side and the total book value of the liabilities on the liability side. Most of the uncertainty associated with valuation on the asset side is thus reflected in equity entries on the liability side. Consequently, these entries are not used in the Norwegian Competition Authority's calculations. For simplicity's sake, the asset side is therefore referred to as the asset side and the liabilities side as the liabilities side of the balance sheet.



Figur 10 Illustration: Contextualization of the income statement and balance sheet.

On the basis of data from the income statement and the balance sheet, different types of profitability measures can be calculated. Broadly speaking, one can say that the two most important main categories of profitability measures are *margin measurements* and *return measurements*.[32]

Margin measures are measures of how much of the company's revenue remains as profit after relevant costs have been deducted. Margins are calculated on the basis of the income statement, by looking at different profit measures in connection with sales or sales revenues.

Return measures, or profitability measures, are measures of how profitable it is to have capital employed in operations. Return mearurements are calculated by viewing a defined profit or loss from

[31] Tax costs come after operating profit and are relevant to the consumer price. However, the observed tax cost after financial income and costs cannot be used directly in an analysis of operating profitability. The Norwegian Competition Authority therefore adjusts the operating profit in line with the nominal tax rate in cases where it is appropriate to present results after tax.

[32] See, for example, the report " Kjøpermakt i dagligvaresektoren " (2013) by Gabrielsen, T.S., Steen, F. Sørgard, L. and Vagstad, S. on behalf of the Ministry of Government Administration, Reform and Church Affairs, pages 72-73.https://www.regjeringen.no/globalassets/upload/fad/vedlegg/konkurransepolitikk/kjopermakt.pdf

the income statement in the context of how much capital is employed in the activities that generate this result. The profit is taken from the income statement, while the capital employedis estimated on the basis of the balance sheet.

The Norwegian Competition Authority uses two margin measures – gross margin and operating margin – and one return measure – return on net operating assets (RNOA) – to analyse profitability in the Norwegian grocery market. These three profitability measures focus on the profitability of operations in isolation. It is this operation-related profitability that will mainly be relevant to grocery prices and that can help to shed light on the degree of competition in the market.

3.2.1 Margins

The following is a more detailed description of the two margin measures used by the Norwegian Competition Authority in the survey, including how these are calculated and what information they provide.

3.2.1.1 Gross margin

The gross margin is defined by the difference between the purchase price and the selling price. When total costs of goods are deducted from total sales revenues, one is left with a gross profit. The gross profit shall cover other operating costs, for example related to salaries, manufacturing, distribution, administration, etc., as well as costs related to the financing of the operating assets, including profits to the owners.

The gross margin is defined as the gross profit's share of sales revenue, and is stated as a percentage.

$$\text{Gross profit} = \text{Sale revenues} - \text{Cost of goods} \tag{1}$$

$$\text{Gross margin} = \frac{\text{Gross profit}}{\text{Sales revenues}} \times 100\% \tag{2}$$

The Norwegian Competition Authority calculates gross margins to analyse how revenues from sales to consumers are distributed between different levels in the value chain. When gross margins are analysed over time, they can provide indications of where in the value chain price increases have occurred. If one observes that prices to consumers have increased, but that the gross margin at one level in the value chain has decreased, this suggests that the main reason for the price increases lies in this level.

As stated in chapter 2.4, the period 2020 to 2022 was characterised by the coronavirus pandemic, increased electricity prices, the war in Ukraine, general inflation and price increases for groceries. Developments in gross margins for this period may provide indications of where in the value chain price increases originate, and when and how price increases affect different levels of the value chain. However, it is emphasised that observed changes in gross margins should not be interpreted causally without further analysis, as there will be several factors that may affect the size of the gross margins at any given time. Among other things, the companies' gross margins may be affected by a number of factors at their own level in the value chain, and by factors at other levels in the value chain, including changes in costs, regulations, market power, etc.

When calculating gross margins at the enterprise level, all of the company's products are treated together. Consequently, there may be differences across product categories in the company's assortment that are not reflected in the calculations. In parallel with the survey of profitability at the enterprise level, the Norwegian Competition Authority is therefore conducting a survey of margins at product level. This mapping will provide more detailed information about the relationship between

price and cost increases for different products and product groups, as well as how cost increases are affected across the value chain over time.

3.2.1.2 Operating margin

The operating margin is defined by the difference between operating revenues and operating costs. When total operating costs are deducted from total operating revenues, one is left with an operating profit. Over time, the operating profit must be large enough to cover costs related to financing the operating assets, i.e. interest on debt, as well as the opportunity cost related to equity. If the operating profit over time is significantly higher than what is necessary to cover these costs, it is an indication that the operating profit are super-profits. Substantial super-profits can be interpreted as an indication of weakened competition.[33]

The operating margin is defined as the operating profit's share of operating revenues, and is stated as a percentage.

$$\text{Operating profit} = \text{Total operating revenues} - \text{Total operating costs} \tag{3}$$

$$\text{Operating margin} = \frac{\text{Operating profit}}{\text{Operating revenues}} \times 100\% \tag{4}$$

While developments in gross margins provide information about where in the value chain price increases have occurred, developments in operating margins will provide indications of whether it is increased costs or increased profitability that are driving price increases at each individual level in the value chain. If the operating margin increases, it means that the total operating revenues have increased relative to the total operating costs, i.e. costs of goods, salaries, rent, marketing, etc. If the operating margin falls, the opposite has been the case.

As for gross margins, it is emphasised that observed changes in operating margins should not be interpreted causally without further analysis, as there will be several factors that may affect the size of the operating margins at any given time. Among other things, operating margins may be affected by fluctuations in demand, cost changes, strategic adjustments in operations,[34] changes in market power, etc.

The Norwegian Competition Authority has made a number of adjustments to the calculation of operating profit in order to arrive at a socio-economically relevant result for ordinary operations:

- Any non-immaterial, unusual income or costs[35] are excluded from operating revenues and operating costs when calculating operating profit. This is because these entries are not considered to be representative of the underlying operations of the companies.

[33] Note that super-profit can only be estimated through the calculation of return measurements, where a relevant return measurement is seen in the context of a relevant required rate of return. Margin measures cannot normally be used to measure super-profits.

[34] For example, a company may make strategic adjustments that change the ratio of labour to capital as input factors in operations, which in turn can lead to fluctuations in operating margins.

[35] In this context, "non-insignificant" refers to entries that account for more than 0.5% of the year's turnover. In this context, "unusual" means non-recurring entries that are not or to a small extent related to the operation of the company, such as gains/losses on the sale of property, subsidiaries, etc.

- Any profit from associated activities is not included in the adjusted operating profit, because in this context it is not considered to be part of the relevant operations.[36]
- Depreciation and amortization related to goodwill in the balance sheet are defined here as non-operating costs and are therefore not included in adjusted operating profit. Goodwill, a balance sheet entry, arises as a result of acquisitions, presumably valued at future earnings value. Since the purpose of the analysis is to measure the return on net operating assets itself, regardless of the company's acquisition history, depreciation and amortization on surplus value from acquisitions are excluded.
- Depreciation and amortization related to trademarks in the balance sheet are also defined as non-operating costs, with the same justification as depreciation and amortization related to goodwill. Consequently, these costs are not included in the adjusted operating profit.[37]
- The Norwegian Competition Authority has also asked the companies that keep accounts in accordance with the international accounting standard IFRS to reverse changes in the accounting of leases as a result of the introduction of IFRS16 as of 2019.[38] This adjustment is necessary, among other things, in order to be able to compare the years before 2019 with the years after 2019. The adjustment is also important because right-of-use assets under IFRS16 do not represent actual restricted capital for the companies.
- Depreciation related to land, buildings and other real property in the balance sheet is adjusted upwards according to Statistics Norway's construction cost index. Depreciation related to other fixed assets is adjusted upwards according to core inflation. This has been done so that depreciation costs reflect the value of the tangible fixed assets given the current value rather than historical cost. In this way, one avoids measuring profitability, which in reality is inflation or increases in the value of commercial property, etc. The adjustments are described in more detail in Chapter 3.2.2.3.1 and in Appendix B.

The reason for these adjustments is that the Norwegian Competition Authority wants to measure the underlying profitability of operations, regardless of unusual events during the period (entry 1), regardless of the results of other companies in which the relevant company has holdings (entry 2), regardless of accounting effects related to previous mergers and acquisitions (entries 3 and 4) and based on actual operating lease costs (entry 5). In order to ensure that operating profit does not include profitability related to increases in the value of commercial property, machinery and the like, these unit values, with associated depreciation, are adjusted upwards to better reflect the current asset value (entry 6).

Operating margins provide information on the proportion of revenue that is converted into operating profit through operating activities. Operating margins, on the other hand, do not provide information

[36] This is income from investments in companies other than the company that is analysed. The fact that these revenues are excluded here is consistent with the fact that the associated balance sheet entry is classified as a financial asset when the Norwegian Competition Authority calculates returns.

[37] If the method is applied precisely, depreciation and amortization related to other acquired intangible assets shall also be excluded from the calculations. For companies where the balance sheet entries development and licences, licences, patents and similar rights have a material impact on results, the Norwegian Competition Authority has split up these entries to identify the values associated with other acquired intangible assets. In all cases where this was followed up, the values in question have been of such minor importance that this is not adjusted for in the analyses.

[38] This means that the book value of right-of-use assets and leasing liabilities is removed from the balance sheet, and any difference is recognised against equity. Depreciation and interest on leases are removed from the income statement, and actual rental costs are expensed as operating costs on a separate line.

about how large the operating profit is in relation to the capital employed in operating activities. This is what one often thinks of as profitability, i.e. the return the company gets on the capital it has invested. In the following, a description is given of the Norwegian Competition Authority's method for calculating the return on net operating assets.

3.2.2 Return on net operating assets

A return measure, also called a profitability measure, is a measure of how profitable it is to have capital employed in a company. In many contexts, simple measures of return such as return on total capital and return on equity are used to say something about the profitability of a market. However, these two measures are not very suitable to say anything about profitability and competition in the production and sale of groceries in Norway, for the following reasons, among others:

- When calculating return on total capital and return on equity, no distinction is made between operation-related profitability (relevant for grocery prices) and financial profitability (not relevant for grocery prices).
- Return on total capital and return on equity do not distinguish between assets that are necessary for operations and assets that are surplus value from acquisitions.
- Return on total capital does not consider the fact that operation-related debt, such as purchases of goods on credit, exempts companies from having to tie up capital in parts of their operations.

Following an overall assessment, the Norwegian Competition Authority has concluded that the return on net operating assets (RNOA)[39] is a better and more relevant return measure for assessing whether profitability is significantly higher than one would expect to find in a market with fierce competition.

Simply explained, RNOA is a measure of how much a company earns from operations (operating profit) relative to how much capital is employed in operations (net operating assets). The following factors have contributed to the Norwegian Competition Authority's assessment of RNOA as a suitable measure of profitability in the grocery market:

- RNOA distinguishes profitability related to operation-related activities from profitability related to financial activities.[40] This is a necessary distinction because the companies' financial activities do not have an impact on grocery prices to consumers. Consequently, the return on financial activities is not relevant in this context, which RNOA takes into account.
- RNOA also takes into account that parts of the operation may be financed with operation-related debt, in a way that does not employ capital. For example, goods can be purchased on credit. The proceeds from the sale can then be used to service the credit debt, without the company itself having to tie up capital in the inventory. Several of the participants in the grocery market finance a significant share of their operating assets with various forms of operating current liability. It is therefore important to use a return measure in this market that takes into account that operation-related debt is not to be regarded as capital employed.[41]

[39] Return on Net Operating Assets.

[40] Feltham & Ohlson (1995), *Valuation and Clean Surpluss Accounting for Operating and Financial Activities* (link) and Nissim & Penman (2001), *Ratio Analysis and Equity Valuation: From research to Practice* (link).

[41] See also Nissim & Penman (2001) p. 117: *«An additional driver of RNOA involves operating liabilities. Clearly the netting out of operating liabilities in the calculation of NOA increases RNOA through a denominator effect, and appropriately so: to the extent that a firm has "non-interest" credit from payables (for example) it levers up its RNOA.» (…) «Suppliers who advance the payables reduce the net investment required to run the operations and so lever up the operating profitability, but suppliers presumably charge implicitly for the credit in terms of higher prices.»* (link)

- In the literature, RNOA is considered a better way to calculate the return on operations than other metrics. See, for example, Nissim & Penman (2003).[42]
- RNOA is closely related to the Return on Capital Employed (ROCE) profitability measurement. The UK Competition Authority (CMA)[43] uses ROCE as a measure of profitability in market investigations. The CMA has, among other things, carried out profitability analyses in the UK markets for gas and electricity[44] and in the UK market for funeral services.[45] The definition of the CMA's ROCE and the Norwegian Competition Authority's RNOA coincide in cases where the CMA limits the relevant activity in its analyses to include only operations.[46] Consequently, the principles that form the basis of the CMA's profitability studies will essentially also apply in the Norwegian Competition Authority's methodology.

The next sub-chapters describe the Norwegian Competition Authority's method for measuring the return on operations, provided by RNOA. Chapter 3.2.2.1 gives an overall description of RNOA. Chapter 3.2.2.2 gives a brief description of how the Norwegian Competition Authority has considered the adjusted operating profit that is included in the numerator when calculating RNOA. Chapter 3.2.2.3, with associated appendices, provides a more detailed account of how the Norwegian Competition Authority has proceeded to calculate the tied-up capital in operations, given in the case of net operating assets. In chapter 3.2.2.4, with associated appendices, an account is given of how the Norwegian Competition Authority has proceeded to estimate the required rate of return, which is the size against which the return must be measured when assessing operating profitability.

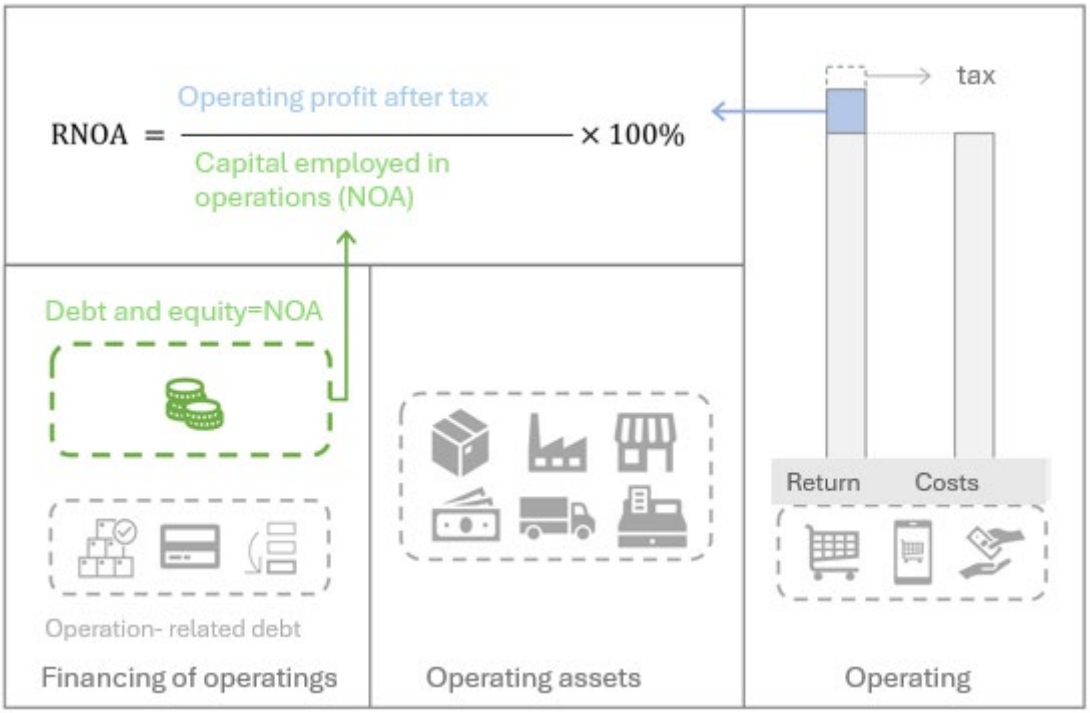
3.2.2.1 RNOA - Definition

RNOA measures the underlying profitability of operations.

$$\text{RNOA} = \frac{\text{Operating profit} \times (1 - \text{effective tax rate})}{\text{Net Operating Assets}} \times 100\% \quad (5)$$

As can be seen from the formula, RNOA is defined as a fraction, with operating profit in numerator and the company's capital employed in operations, in denominator. In this survey, the Norwegian Competition Authority calculates RNOA after tax, so that the return can be compared with an estimated required rate of return after tax, described in more detail in Chapter 3.2.2.4 and Appendix C. Figure 11 illustrates how RNOA is calculated.

[42] See page 534: Nissim, D., & Penman, S. H. (2003). Financial statement analysis of leverage and how it informs about profitability and price-to-book ratios. *Review of accounting studies*, *8*, 531-560.
[43] Competition and Markets Authority.
[44] CMA's market investigation in the gas and electric power markets: Report (link). Methodology note on profitability analyses (link). Application of methods and results (link).
[45] CMA's market investigation in the funeral market: Report (link). Method note on profitability analyses (link). Application of method and results (link).
[46] Reference is made, inter alia, to footnote 22 in Appendix Q to the final report from the CMA's market investigation in the funeral market, which equates capital employed (CE) according to the CMA's delimitation of relevant activities with net operating assets (NOA), and thus also between ROCE and RNOA.



Figur 11 Illustration: RNOA is defined as operating profit after tax over the company's capital employed in operations, given by net operating assets (NOA). The return measured by RNOA is stated as a percentage.

In the next two sub-chapters, a brief description is first given of how the Norwegian Competition Authority has calculated the operating profit after tax (the numerator of the fraction), and then a more comprehensive description of how the Norwegian Competition Authority has proceeded to calculate the employed capital in operations (the denominator of the fraction).

3.2.2.2 RNOA - Numerator: Operating profit after tax

The operating profit included in the numerator in the calculation of RNOA is defined in the same way as in the calculation of the operating margin, and which is explained above. For a more detailed description of the adjustments that have been made to arrive at the relevant operating profit, see sub-chapter 3.2.1.2 above.

In order to be able to compare the return and the required rate of return, the Norwegian Competition Authority adjusts the operating profit from profit before tax to profit after tax. In principle, it is the effective tax rate for operations that is to be used as a basis for the transition from operating profit before tax to operating profit after tax. Since the effective tax rate for operations cannot be observed in isolation, the Norwegian Competition Authority uses the nominal tax rate for businesses as a basis for the transition from pre-tax to post-tax.

Tabell 1 Nominal tax rate for businesses for the years 2017 to 2022.[47]

	2017	**2018**	**2019**	**2020**	**2021**	**2022**
Nominal tax rate for businesses	24%	23%	22%	22%	22%	22%

[47] 2022: Tax rates 2022 - regjeringen.no 2021: Tax rates 2021 - regjeringen.no 2020: Tax rates 2020 - regjeringen.no 2019: Tax rates 2019 - regjeringen.no 2018: Tax rates 2018 - regjeringen.no 2017: Tax rates 2017 - regjeringen.no

3.2.2.3 RNOA - Denominator: Net operating assets

Net operating assets (NOA)[48] is a measure of how much capital a company hasemployed in its operations. NOA is defined as the company's operating assets (OA),[49] i.e. the assets needed to generate the operating profit, minus the company's operating current liabilities (OL).[50] Examples of operation-related assets are farm buildings, machinery, inventories or accounts receivable. Examples of operating current liabilities are accounts payable, taxes and duties owed, or provisions for salaries.

$$\mathrm{NOA} = \mathrm{OA} - \mathrm{OL} \tag{6}$$

$$\mathrm{OA} = \text{operating assets}$$
$$\mathrm{OL} = \text{operating current liabilities}$$

The Norwegian Competition Authority's method for estimating NOA consists of the following three steps:

- **Valuation:** The Norwegian Competition Authority adjusts balance sheet values where necessary, so that asset values included in NOA, as far as possible, reflect the replacement cost of the assets today.[51]
- **Operating assets:** The Norwegian Competition Authority then separates the operating assets (OA) from the financial assets (FA)[52] on the asset side of the balance sheet. Only the operation-related assets are relevant when calculating NOA.
- **Financing of operations:** The operating assets can be financed either with equity and debt capital, or with operating current liability (OL). The latter form of financing is not capital employed for the company and should therefore not be included in NOA.

After these three steps have been completed, the operating current liability is deducted from the operating assets to arrive at an estimate of the part of the operation that the company has had to finance with debt capital or equity. This is the relevant employed capital in operations, provided by NOA.

In the following, a short, general description of each of these steps is given. For a detailed review of the Norwegian Competition Authority's assessments relating to the classification and possible value adjustment of each balance sheet entry, reference is made to Appendix A (classification) and Appendix B (valuation).

3.2.2.3.1 Asset valuation

Assets included in the calculation of NOA shall be valued in a manner that, as far as possible, reflects the value of the asset at the time of measurement, given by the replacement cost of the assets.[53]

The Norwegian Competition Authority has reviewed the assets side of the balance sheet and assessed whether book values could deviate significantly from the replacement cost of the assets. The

[48] Net Operating Assets.
[49] Operating Assets.
[50] Operating Current Liabilities.
[51] In this context, replacement cost refers to the cost of replacing the asset's function in the current market, adjusted for the remaining economic life. For a more detailed description of the Norwegian Competition Authority's approach to valuation, reference is made to Appendix B.
[52] Financial Assets.
[53] For more information on the principles of valuation, see Appendix C.

Norwegian Competition Authority finds that the book values of the tangible fixed assets do not sufficiently reflect the replacement cost of these assets.

Key fixed assets for the actors in this study are:

- Land, buildings and other real property.
- Machines and facilities.
- Movable property, inventory, tools, office machines and the like.

These assets are booked at historical cost minus depreciation and amortisation. In other words, the book value is calculated based on what the company paid for these assets when they were purchased. Due to their long economic life, there is a significant risk that these assets were acquired at a price that was significantly different from the current prices for the same type of assets at the time of measurement. For example, the prices of real estate have increased significantly in recent decades. To assume a book value that is based on acquisition costs from several years ago therefore does not give a good picture of the replacement cost of the tangible fixed assets as of today.

On this basis, the Norwegian Competition Authority has made the following adjustments to the value of the fixed assets.

- Book values related to land, buildings and other real property are adjusted upwards according to Statistics Norway's construction cost index. Depreciation related to these assets is adjusted upwards by a factor corresponding to the balance sheet entry, as described in Chapter 3.2.1.2.
- Book values for other fixed assets are inflation-adjusted according to core inflation (CPI-ATE). For any procurements that go back further than 2002, developments in the CPI-AE inflation target are used up to December 2002, after which core inflation is used. Depreciation related to these assets is adjusted upwards by the corresponding factor as the balance sheet entries, as described in Chapter 3.2.1.2.

In connection with the adjustments, the Norwegian Competition Authority has calculated the average age of land, buildings and other real property and of other tangible fixed assets[54] based on the depreciation information that appears in the notes to the companies' public accounts. In the Norwegian Competition Authority's calculations, the average age is given by the following fraction:

$$\text{Average age} = \frac{\text{Accumulated depreciation}}{\text{Depreciation for the year}} \quad (7)$$

For a more detailed description of the Norwegian Competition Authority's assessments relating to the valuation of the operation-related assets included in NOA, see Appendix B.

3.2.2.3.2 Operating assets

As described above, when estimating NOA, it is necessary to separate operating assets (OA) from financial assets (FA) in the balance sheet.

[54] Excluded facility under construction.

Figur 12 Illustration: Operating assets (OA) are distinguished from financial assets (FAs).

Operating assets are defined as the assets needed to generate the operating profit. Examples of operating related assets in the production and sale of groceries are land, buildings, machinery, inventory, office machinery, IT systems, goods in warehouse and accounts receivable. The participants included in the survey have been asked to specify which assets from the balance sheet are operational.

Non-operating assets are classified as financial assets. These assets can be described as capital investments, and have no role in the actual operation. This is also reflected in the income statement, in that income and costs related to these capital investments are generally recognised according to operating profit. Examples of financial assets can be shares, bonds, or surplus liquidity, either in the form of bank deposits, cash, etc., or in the form of intra-group receivables linked to a possible group account arrangement. In the Norwegian Competition Authority's analyses, certain added values from acquisitions (goodwill and purchased trademarks) and investments in associated companies are also classified as financial assets. Common to the financial assets is that the underlying profitability of operations, represented by the adjusted operating profit, would be largely unaffected if these assets were to be eliminated.

For reasons of solvency, it may be beneficial to have some invested capital in financial assets in a company, on the side of operations. Nevertheless, financial assets must be excluded from the analysis of profitability in the grocery trade. This is because the companies are free to invest these funds outside of operations, and thus obtain a financial return. Consequently, no part of the operating profit is necessary to cover the opportunity cost of the company's currently capital employed in financial assets. Therefore, the financial assets should not be regarded as restricted capital in this context.

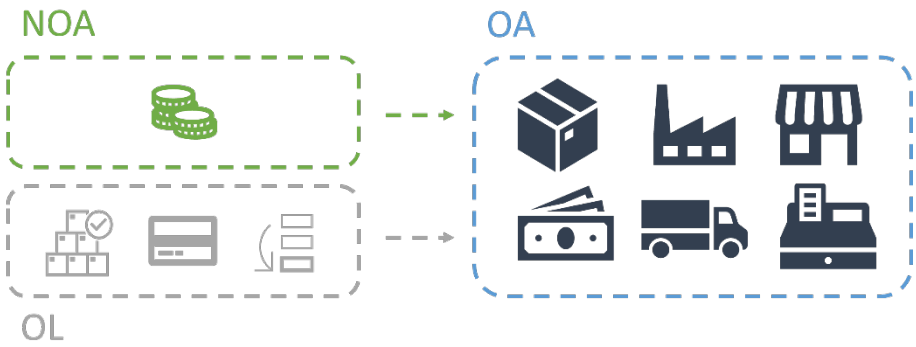
It should be noted that certain balance sheet entries that would have been regarded as operation-related if the companies were to assess the profitability associated with their own acquisition activities are considered financial when the Norwegian Competition Authority measures the profitability of operations in isolation. Without these adjustments, for example, two identical companies, both of which have market power and extract super profits from their operations, could appear with different profitability because one of the company's owners paid a high price when he bought this company.[55]

For a complete review of the Norwegian Competition Authority's assessments of which entries and sub-entries on the asset side of the balance sheet are operation-related, and which balance sheet entries are financial, reference is made to Appendix A.

3.2.2.3.3 Operating liabilities

Once one has isolated the operating assets on the asset side of the balance sheet, and valued these at replacement cost, the next step is to assess how the operations are financed.

[55] If the market power of this company were to disappear as a result of increased competitive pressure, one would expect the owners to treat the parts of the purchase price that were linked to expectations of future super profits as a so-called "sunk cost". The owners will thus have to adapt as best as possible to the actual market conditions, regardless of what they originally paid for the prospect of higher profits.



Figur 13 Illustration: Operating assets (OA) can be financed either with equity and debt capital, or with operating current liability (OL). The latter form of financing shall not be regarded as restricted capital for the company.

Operating assets can be financed either with equity and loan capital, or with operating current liability (OL).

Equity and debt capital are forms of financing that tie up capital for the company. This means that these forms of financing take up funds that the company could invest elsewhere and get a return on. The loss of this alternative return is called the opportunity cost. Because these forms of financing have an opportunity cost, there is also a required rate of return attached to this financing – the operating profit must over time be large enough to cover the total opportunity cost of equity and debt capital.

The operation current liability, on the other hand, is serviced continuously through operations. This means that costs associated with servicing this liability have already been paid when the operating profit is included in the income statement. Thus, no part of the operating profit is necessary to cover costs related to the operating current liability. Consequently, no required rate of return shall be attached to this part of the companies' financing, nor shall it be regarded as restricted capital when calculating the return on operations.

An example of financing with operating current liabilities is accounts payable. Trade payables arise in the balance sheet when companies buy goods on credit, i.e. receive the goods today, but pay for them later. The payment deferral means that the income from the sale can be used to pay for the entry, without the company having to employ capital in the inventory.[56] Purchases of goods are typically repeated consecutively, so that at any given time there is a share of operations that is financed by accounts payable. Trade payables, and other forms of operation-related debt, must be excluded when assessing how much a company's capital employed in its operations.

NOA is defined as the total operating assets, minus the total operating liabilities. NOA thus represents the proportion of working capital that the company has had to finance with either equity or debt capital, i.e. the capital employed in operations.

The assessments that form the basis for the Norwegian Competition Authority's classification of liabilities as operating liabilities are described in more detail in Appendix A.

3.2.2.4 The required rate of return

When interpreting the results of RNOA calculations, it is important to take into account that working capital has an opportunity cost, and that the operating profit over time must be large enough to cover

[56] The disadvantage that the payment deferral entails for the supplier is assumed to be priced into the cost of goods when goods are purchased on credit, so that this is also taken into account in the operating profit. See, for example, Nissim & Penman (2001), p. 117: *«Suppliers who advance the payables reduce the net investment required to run the operations and so lever up the operating profitability, but suppliers presumably charge implicitly for the credit in terms of higher prices.»* (link)

this cost in order for continued operation to be profitable. The opportunity cost is defined as the return an investor could earn on an alternative investment with the same risk.

The opportunity cost gives rise to the required rate of return (WACC),[57] defined on the basis of an intuition that the return on operations over time must be equal to or higher than the return the company could have received if it instead invested the same capital in, for example, an equity portfolio with similar risk. If the operating profit over time is too low to cover the opportunity cost, a profit-maximizing company will not be able to justify continued operations. Profitability beyond the required rate of return is often called super-profit. Tougher competition makes it more difficult for market participants to extract super profits.

The Norwegian Competition Authority has estimated the following values for the required rate of return after tax for the three different levels in the value chain throughout the period. The estimates are rounded to the nearest half percentage point. For a detailed description of the Norwegian Competition Authority's method for estimating the required rate of return after tax, see Appendix C.

Tabell 2 Estimated WACC after tax for the supplier, wholesaler and retail sector for the period 2017 to 2022.[58]

	2017	**2018**	**2019**	**2020**	**2021**	**2022**
Supplier	5.5%	6.0%	5.5%	5.0%	6.0%	7.5%
Wholesaler	5.0%	5.5%	5.0%	5.0%	5.5%	6.5%
Retailer	5.5%	6.0%	5.5%	4.5%	5.0%	6.5%

3.3 Summary of method

The Norwegian Competition Authority delimits its profitability analyses to the supplier, wholesaler and retail levels in the value chain for food in Norway. Furthermore, the Norwegian Competition Authority delimits the analyses as far as possible to only include activities related to the sale of groceries through shops and online.

The Norwegian Competition Authority uses three different profitability measures, including two margin measurements and a return measurement, to analyse profitability at the supplier, wholesale and retail levels in the Norwegian grocery market.

The Norwegian Competition Authority calculates gross margins to analyse how revenues from the sale of groceries to consumers are distributed throughout the value chain. Furthermore, the Norwegian Competition Authority calculates operating margins to analyse how revenues and operating costs have developed in relation to each other during the period.

[57] Weighted Average Cost of Capital.

[58] The Norwegian Competition Authority's estimated required rate of return for the period 2017 to 2022 may seem somewhat low in light of similar performance indicators as of 2024. It is worth recalling that the policy rate in Norway as of March 2024 is 4.5 percent, while the policy rate in the period 2017 to 2021 was between 0 and 1.5 percent. For large parts of the period under analysis, the policy rate was equal to or lower than 0.5 percentage point. Through 2022, the policy rate increased from 0.5 per cent to 2.75 per cent. This macroeconomic development is also reflected in the Norwegian Competition Authority's estimated required rate of return, in that the required rate of return for 2022 is somewhat higher than in the previous year.

The Norwegian Competition Authority calculates the RNOA return measurement to analyse the return on operating assets. Seen in the context of an estimated required rate of return, RNOA is well suited to assess whether profitability in the market has been significantly higher than one would expect to find in a market with fierce competition.

The Norwegian Competition Authority's method for calculating return and required rate of return is based on a number of specific assessments that are described in several appendices. When calculating returns, there will always be some uncertainty associated with the size of the employed capital. Therefore, only significant deviations between the estimated return and the estimated required rate of return are further interpreted as an indication of significant super-profits in operations.

4 Data basis

On 22 September 2023, the Norwegian Competition Authority requested information to 16 suppliers from 11 companies/groups[59], as well as to the grocery chains Norgesgruppen, Coop and Rema. The 16 suppliers were selected based on their size, as well as which suppliers the Norwegian Competition Authority has previously obtained data from for calculations of differences in purchase prices.[60] In the request for information, the companies were asked to submit annual revised income statements and balance sheets for their business related to groceries in Norway for the period 2017 to 2022.

The Norwegian Competition Authority issued the following guidelines for the preparation of income statements and balance sheets to ensure the best possible data basis for the analysis of profitability at the enterprise level:

- Income statements and balance sheets are limited to include only those parts of the company's or group's activities that are aimed at the grocery trade in Norway, here defined as sales of groceries in stores and online. The sales channels kiosk and petrol station (KBS) and institutional households (SHH) are excluded from the analysis as far as possible.[61]
- Income statements and balance sheets for the limited activities are prepared in accordance with the template from the Accounting Act, so that:
    a. Income statements are entered up to and including operating profit in accordance with the presentation plan from the Accounting Act. Unusual income and costs are separated into separate entries, and a request is made to specify certain sub-entries under other operating costs, depreciation and amortisation.
    b. Balance sheets are prepared in accordance with the presentation plan from the Accounting Act. Trademarks are separated out as a separate entry in the balance sheet under intangible assets, and all equity is gathered in one entry.
- Income statements and balance sheet statements that are maintained in accordance with the International Financial Reporting Standard (IFRS)[62] are restated so that changes in the accounting of leases pursuant to IFRS 16 are not made applicable for the years 2019-2022.[63] This is necessary in order to be able to compare the years before 2019 with the years after 2019. The adjustment is also necessary to ensure

[59] Nortura (Gilde and Prior), Tine, Orkla (Orkla Foods Norway, Orkla Confectionery & Snacks Norway, Orkla Health and Orkla Home and Personal Care), Ringnes, Mills, Maarud, Kavli (incl. Q-meieriene), Scandza (Sørlandschips and Synnøve Finden), Lerum, Coca-Cola and Mondelez.

[60] Mindre forskjeller i dagligvarekjedenes innkjøpspriser - Konkurransetilsynet

[61] For some companies, it has not been possible to distinguish sales to the grocery trade from sales to KBS and SHH.

[62] International Financial Reporting Standard.

[63] For further information, see Appendix A.

that the data basis after 2019 provides an accurate picture of how much the companies have capital employed in their operations.

- Leases between operating companies and real estate companies in the same corporate group are handled in the same way as other leases, in that the rental cost is entered directly in the income statement, and that the properties in question are excluded from the balance sheet.
- Any effects of currency hedging on purchases of goods, i.e. gains or losses in relation to the exchange rate on the day of purchase, should preferably be regarded as financial income/costs, and thus not included in the operating profit.[64] This is to ensure that, as far as possible, the cost of goods reflects the actual market prices associated with the goods in question at the time of purchase.

Where deemed necessary, the Norwegian Competition Authority has asked the participants to submit further specifications of what is included in the balance sheet entries*: other current liabilities*, *other receivables, development* and *licences, patents, licences, etc.* For further information on the splitting of these entries, see Appendix A.

Following the order, the Norwegian Competition Authority has also obtained information on the insurance values of the assets included in the balance sheet entries land *, buildings and other real property* and *machinery and facilities* from certain companies. These data are used in sensitivity analyses related to the value of fixed assets.

It has been necessary to make adjustments to individual companies to ensure a good data basis. The Norwegian Competition Authority has received profit statements and balance sheets from 14 of the 16 suppliers who received information orders, and from all three grocery chains. For some of the suppliers in the sample, specific conditions in the business mean that the data do not give a correct picture of the profitability of operations. The Norwegian Competition Authority therefore bases the profitability calculations for the supplier level on data from eight of the suppliers, and the results from these eight suppliers are presented together in the following.

5 Results

This chapter describes the results of the Norwegian Competition Authority's analyses of margins and profitability at the enterprise level in the grocery market in Norway. The Norwegian Competition Authority has applied the method described in Chapter 3 on the data basis described in Chapter 4 to arrive at the results.

The Norwegian Competition Authority has collected various types of non-public data in order to carry out the calculations. The profitability analyses are therefore presented in such a way that trade secrets are not revealed.

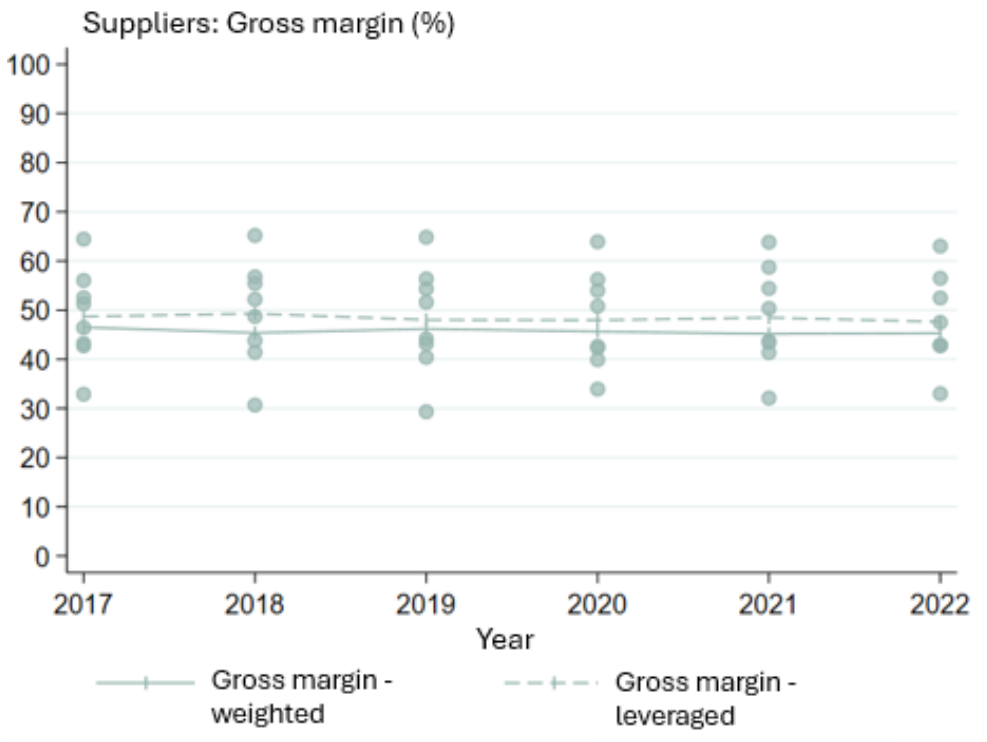
5.1 Suppliers' profitability

5.1.1 Gross margins

Gross margins provide insight into how revenue from sales to consumers is distributed throughout the value chain. By following gross margins over time, one can obtain information about where in the

[64] For some participants, it has not been possible to extract the effect of currency hedging from the total cost of goods.

value chain any price increases have occurred.[65] Figure 14 shows gross margins for eight suppliers in the grocery market for each of the years 2017 to 2022.[66]



Figur 14 Weighted and leveraged average gross margin for eight suppliers through the years 2017 through 2022. Green markers show the gross margins of the individual suppliers included in the sample.

The Norwegian Competition Authority has the following overall assessments related to the analyses of gross margins at the supplier level.

Significant variation in gross margins across suppliers

- The absolute level of gross margins varies significantly across suppliers, between 30 and 65 percent. A gross margin in the order of 50 per cent means that about half of the purchase prices of the grocery chains can be explained by costs and profitability at the supplier level. In other words, suppliers are important for price formation in their product categories.
- Variation between suppliers is to be expected, as gross margins will typically vary both with the degree of processing that takes place at the supplier level, and with the prices of the raw materials used in production. For example, a supplier who purchases semi-finished products will tend to have lower gross margins than a supplier who buys raw materials directly from the primary producer in order to produce a similar product from scratch.
- At the same time, some of the variation observed in gross margins may also be due to differences in market power.

Stable average gross margins throughout the period

- The Norwegian Competition Authority finds that the average gross margins for the sample have been relatively stable throughout the period.

[65] For a more detailed description of gross margins and how these are calculated, see chapter 3.2.1.1.

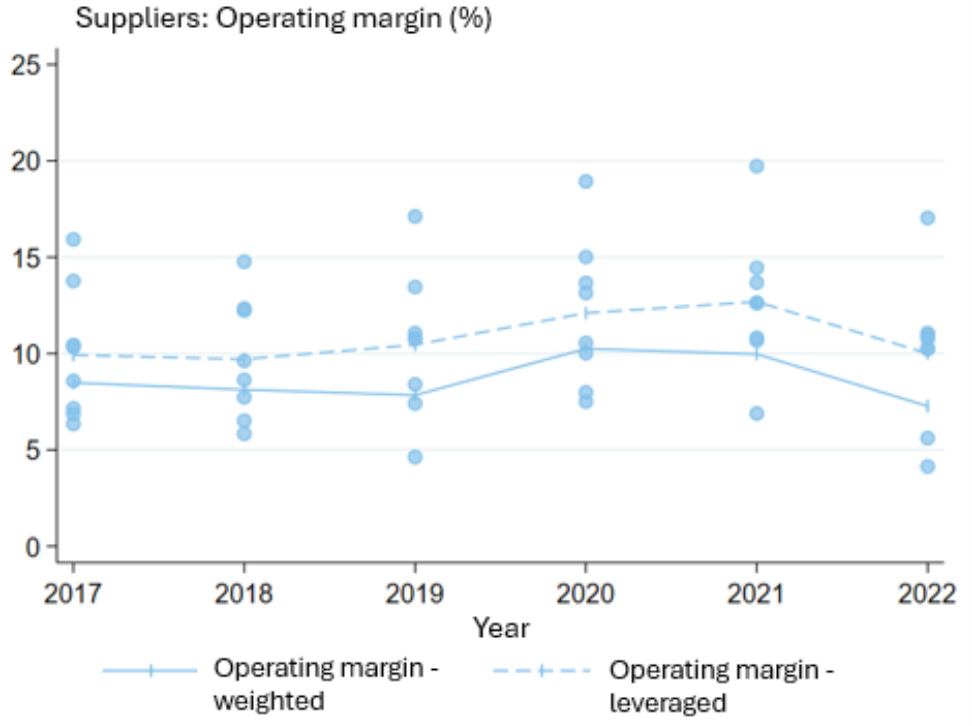
[66] The solid line shows the revenue-weighted average gross margin for the sample, where larger companies have a greater impact on the average than smaller companies. The dotted line shows the leverage average gross margin, with each supplier having an equal impact on the average, regardless of size.

- Clearly falling gross margins across the range could have been an indication that price increases from suppliers were mainly driven by higher raw material prices. Clearly increasing gross margins across the range could have been an indication that price increases could be traced to a greater extent to increased processing costs or increased profitability at the supplier level.
- Stable average gross margins throughout the period, even when producer prices increase significantly in 2022, are an indication that price increases from supplier to wholesaler can be traced both to changes in costs or profitability at the supplier level, and to price changes at earlier stages of the value chain.

5.1.2 Operating margins

Operating margins are defined as the operating profit's share of operating revenues. The operating margins provide information on the share of operating revenues that are used to cover operating costs, and how much remains as operating profit.[67]

In Figure 15 Operating margins are presented for eight suppliers for each of the years 2017 to 2022.[68]



Figur 15 Weighted and leverage operating margin for eight suppliers for the years 2017 to 2022. Blue markers show the operating margins of the individual suppliers included in the sample.

The Norwegian Competition Authority has the following overall assessments related to the analyses of operating margins at the supplier level.

[67] For a more detailed description of operating margins and how these are calculated, see Chapter 3.2.1.2.
[68] The solid line shows the revenue-weighted average operating margin for the sample, where larger companies have a greater impact on the average than smaller companies. The dotted line shows the leverage average operating margin, with each supplier having an equal impact on the average, regardless of size.

Significant variation in operating margins between different suppliers

- It is evident from the Figure 15 that the operating margins vary considerably between the suppliers in the sample, from about 5 to about 20 per cent.
- Higher operating margins do not mean higher profitability, as the operating margin is expected to vary with the capital intensity of production. The more capital employed in operations, the higher the operating profit needed to justify the investment.
- As the suppliers operate in different product markets, it is natural that there is variation in the ratio between employed capital and turnover from company to company. Risk in operations can also vary between the companies. This means that some suppliers need a higher operating margin to cover their capital costs than others.
- At the same time, it cannot be ruled out that some of the variation observed in operating margins is also driven by differences in market power.

Higher operating margins during the pandemic

- Average operating margins for the suppliers in the samlpe, both weighted by turnover and unweighted, were higher during the pandemic than in other years in the surveyed period. Higher operating margins during the pandemic mean that a larger share of the purchase prices to the wholesale level ended up as operating profit for suppliers, i.e. that revenues increased more than costs at this level.
- In 2022, average operating margins fell back to a similar level as before the pandemic.
- Higher operating margins do not necessarily mean that suppliers actively took advantage of the pandemic to increase their profitability. As a consequence of restaurants and canteens having to close down during the pandemic, demand for groceries in stores increased. The pandemic thus led to a positive demand shock in the market for groceries.
- In the short term, it is expected that a positive demand shock will lead to increased profitability for suppliers in the market, by spreading the fixed costs[69] over a larger sales volume, thus reducing unit costs.[70] This can increase profitability for suppliers in the market without increasing consumer prices. A positive demand shock can also lead to increased profitability through a price effect, where prices in the market increase.

Operating margins do not take into account the fact that some companies have a higher opportunity cost associated with working capital than others. In order to distinguish between which parts of the operating profit are necessary to cover the opportunity cost of working capital, and which parts of the operating profit are super-profit, it is necessary to calculate the return on the company's employed capital in operations, given by RNOA.

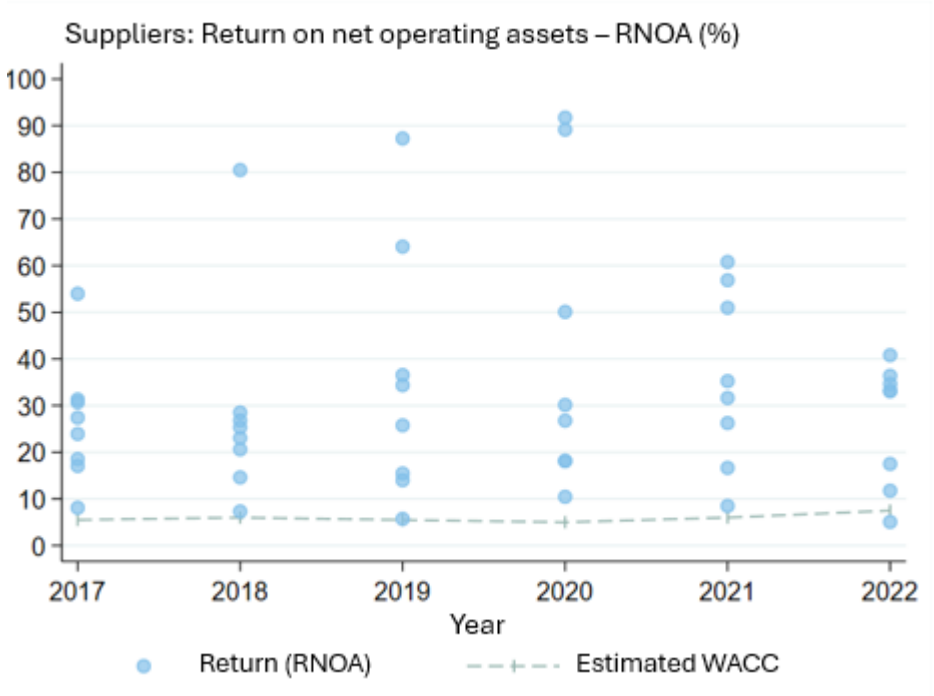
5.1.3 Return on the supplier level

RNOA provides information on how much return a company extracts on the capital employed in its operations. The return must be seen in the context of the required rate of return, as measured by the WACC. Figure 16 shows the estimated RNOA for eight suppliers for each of the years 2017 through 2022, together with the estimated WACC.[71]

[69] A binary distinction is often made between variable and fixed costs, where variable costs vary with the volume produced, while fixed costs are independent of the volume produced. In reality, the classification of a cost entry as fixed or variable will depend on the size of the change in volume. The term fixed costs is used here as a simplification.

[70] In business economic terms, it can be said that increased sales volume means that the total contribution margin increases relative to the total fixed costs.

[71] For a more detailed description of RNOA and WACC, and how these are calculated, see chapter 3.2.2.



Figur 16 Return on net operating assets for eight suppliers for the years 2017 through 2022.

The Norwegian Competition Authority has the following overall assessments related to the analyses of return on operations at the supplier level.

The majority of the surveyed suppliers have high profitability in their operations

- The Norwegian Competition Authority finds that most of the suppliers in the sample have a return on their operations that is significantly higher than the estimated required rate of return. This applies to all years. Significantly higher here means that the operating profit is estimated to be several times greater than what is necessary to cover the working capital's opportunity cost, measured by the WACC required rate of return.[72]
- The Norwegian Competition Authority emphasises that there will always be some uncertainty in calculations related to the value of net operating assets, which indicates that one should be cautious about interpreting minor differences between the rate of return and the required rate of return.[73] Nevertheless, it is the Norwegian Competition Authority's

[72] In a theoretical market with perfect competition, the return on working capital will be expected to be equal to the required rate of return, because no one can increase prices to take out super profits without losing customers to competitors.

[73] It is pointed out also that the estimated RNOA for companies with high operating profitability will be somewhat more sensitive, measured in percentage points, than the estimated RNOA for companies with lower operating profitability. If one keeps the operating profit constant at 1, and expresses RNOA as a function of NOA (RNOA = 1/NOA), one will find that the sensitivity of RNOA decreases as NOA increases. An imaginary source of error in the balance, defined as a given percentage of NOA, will have a stronger impact on RNOA if NOA is small in relation to EBIT after tax (for example, 4:1, which gives RNOA equal to 25 per cent), than if NOA is larger in relation to EBIT after tax (for example, 10:1, which gives RNOA equal to 10 per cent). When individual actors' returns are measured at several times the size of the WACC, One should therefore be aware that for these companies there is somewhat greater uncertainty associated with the specific percentage return estimate. At the same time, such results will be a clear indication of high profitability in operations. In other words, the uncertainty in the estimated return, measured in percentage points, increases the further up the y-axis one gets Figure 16.

assessment that RNOA several times WACC must be seen as a clear indication of high profitability, i.e. that a significant proportion of the operating profit is super profit from operations.

- The results are consistent with weak competition and high barriers to entry in several of the product markets at the supplier level.

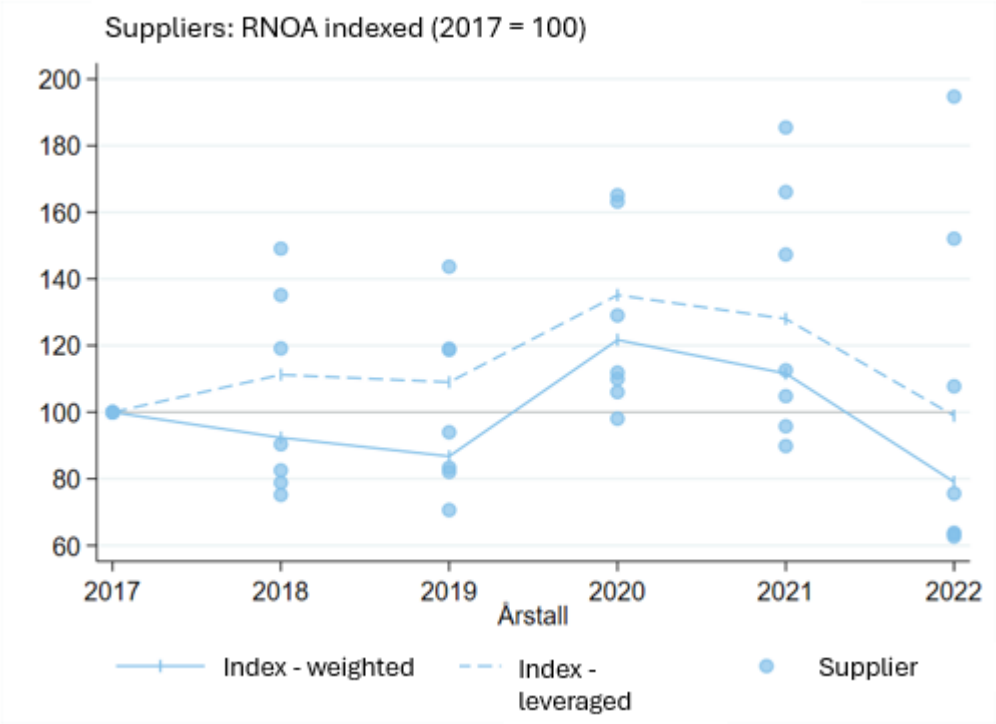
Large differences in measured profitability between suppliers

- The Norwegian Competition Authority finds considerable variation in profitability between suppliers.
- There may be several reasons why two suppliers have different profitability. Among other things, it is important to see the results in light of the fact that the supply chain in reality consists of a number of different product markets.
- Differences in profitability may arise as a result of differences in operational efficiency for players in the same product market. At the same time, differences in profitability can also arise as a result of varying degrees of market power.
- Suppliers in highly competitive product markets are expected to have low profitability. If significant super profits are taken out on a larger share of turnover in a product market over time, this can be seen as an indication of weak competition.

The points above relate to the absolute level of profitability across the sample, i.e. whether profitability is generally high or low. In the following, results related to how the profitability of suppliers has developed during the period are presented.

In Figure 17 the Norwegian Competition Authority has normalised the suppliers' RNOA in an index, so that the index starts at 100 for each company in 2017. The figure thus shows how the return has developed, by stating the return each year as a share of the return measured in 2017.[74]

[74] One of the suppliers included in the previous figures, are excluded from Figure 17. This is due to large, atypical fluctuations in returns throughout the period. This supplier had a disproportionately large effect on the average calculations when RNOA was indexed, so that index figures where this supplier was included gave a non-representative picture of the trends in the sample. Against this background, the Norwegian Competition Authority has chosen to exclude this supplier from the calculation of indexed developments in returns.



Figur 17 Indexed development in return on net operating assets for seven suppliers during the period 2017 to 2022.

The Norwegian Competition Authority has the following overall assessments related to how the return on the supply chain has developed during the surveyed period.

Increased profitability in operations during the pandemic

- The trend across the sample is that profitability increased during the pandemic, i.e. in 2020 and 2021, relative to the three years before the pandemic.
- Only one of the seven suppliers in the figure had a lower RNOA in 2020 than in 2017. Two of the seven suppliers had a lower RNOA in 2021 than in 2017.
- On average, suppliers had 35 and 28 per cent higher returns in 2020 and 2021, measured against 2017. If suppliers are weighted by turnover, the corresponding data are 21 per cent in 2020 and 11 per cent in 2021.
- Increased demand during the pandemic is believed to be an important underlying reason for increased profitability for suppliers. At the same time, it is emphasised that the Norwegian Competition Authority has not analysed causal relationships. It cannot therefore be ruled out that the development in profitability during the period is also influenced by other factors, such as changes in market power in certain product markets, or changes in bargaining power between different levels in the value chain.

Reduced profitability in operations in 2022

- The trend across the sample is that profitability fell from 2021 to 2022. The leveraged average return fell in 2022 to a similar level as in 2017, while the revenue-weighted average return fell to a somewhat lower level in 2022 than in 2017.
- However, this trend should be seen in the context of the results for 2022 in Figure 17, which shows that the majority of the suppliers in the sample also had a return on working capital that was significantly higher than the required rate of return.

Large variation in how profitability has developed across the sample

- The dispersion in developments in returns is greatest in 2022, and for some suppliers, 2022 is the year in which the measured return is highest measured against 2017. When the return of several suppliers is indexed on the basis of a base year, it is to be expected that the spread in index values for different suppliers increases the longer the time that elapses from the base year. Furthermore, for individual participants, there may be unusual events in the base year 2017 that affect the index values for the following year.
- At the same time, it cannot be ruled out that individual companies may have had increased revenues as a result of the price increases in 2022, without having experienced a corresponding increase in operating costs, and thus increased profitability.

5.2 Grocery chains' profitability

While several of the suppliers included in the survey are organised as individual companies, or as fairly simple corporate groups, the grocery chains are partly organised in larger and more complicated corporate group structures. The three major grocery chains in Norway (Norgesgruppen, Coop and Rema) have operations at the wholesale and retail level, and they have their own companies at the supplier level that produce parts of the chains' range within their private labels (PL). Consequently, the chains' activities are distributed over a number of legal entities, where dividing lines may be region, function, profile chain, franchisee versus franchisor, cooperative versus joint organisation, etc. The grocery chains are also partly part of larger corporate groups with activities in several markets, such as fuel, real estate and building materials. The aforementioned conditions create challenges related to calculating margins and returns at the wholesale and retail level.

The fact that the three large grocery chains are vertically integrated across the wholesale and retail levels means that the grocery chains' wholesale companies (ASKO, Coop Norway and Rema Distribution) purchase goods from suppliers and sell the majority of these to self-owned stores or their own franchisees at the retail level at transfer price.[75]

The grocery chains can control where in the value chain they want to extract profitability through the transfer price, as a higher transfer price shifts profitability from the retail level to the wholesale level. The profitability of the two levels must therefore be seen in context. At the same time, the wholesale price is also an important transfer price between companies that make up different legal entities. This applies, for example, between franchisors and franchisees in Rema and for franchise stores in Norgesgruppen and Coop, and between the central level and the various regional member teams in Coop.

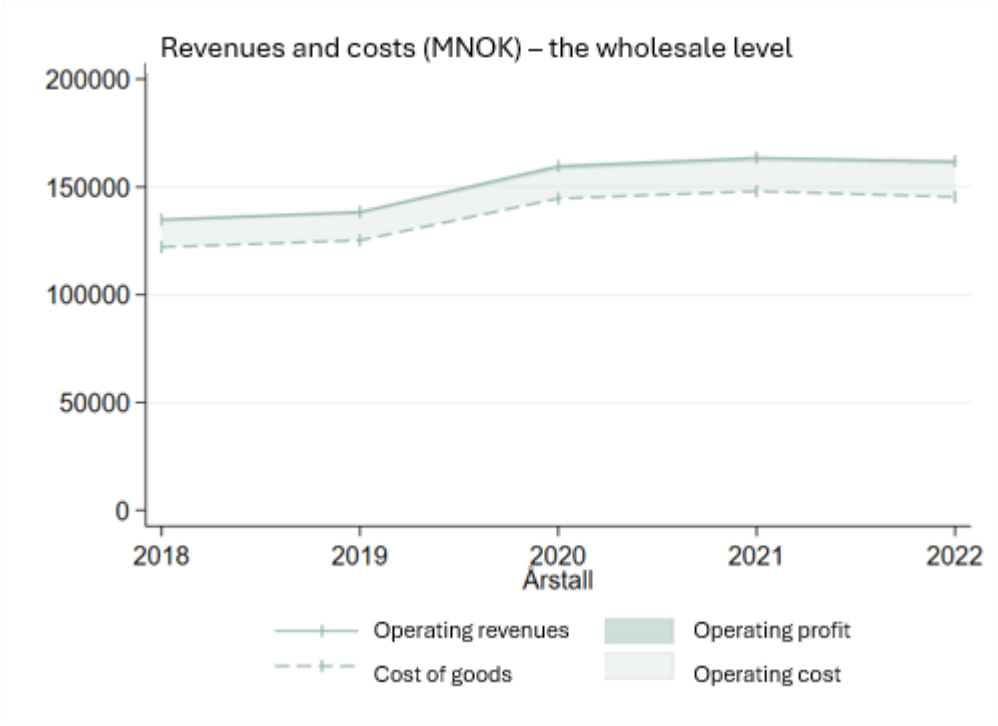
5.3 Wholesale

The following is a general description of the results of the Norwegian Competition Authority's survey of profitability at the wholesale level. On the basis of the fact that there are only three companies at the wholesale level, and that the calculations are based on a number of collected information that is not publicly known, figures with specific key data for each company are not included.

When responding to the Norwegian Competition Authority's request for information, the grocery chains have, as far as possible, separated sales to the grocery trade from other sales channels, but some sales to other sales channels have not been possible to separate out and are thus included in the reported data.

In Figure 18 , the Norwegian Competition Authority has summarized operating revenues, costs of goods, other operating costs and operating profit across the wholesale level in the grocery value chain.

[75] The grocery chains' wholesalers also distribute goods to other companies in the grocery, catering and kiosk and petrol station segments.



Figur 18 Revenues and costs for the wholesale level aggregated (ASKO, Rema Distribusjon and Coop Norway) through the period 2018 to 2022. The figures are not inflation-adjusted.

Significant growth in wholesale sales during the pandemic

- As can be seen from Figure 18, the chains' operating revenues at the wholesale level increased by about 16 per cent from 2019 to 2020. The new level persisted through 2021 and 2022.
- When interpreting these results, it is important to consider that the figures are not inflation-adjusted, and that changes in income and costs may be linked to both changes in prices and changes in traded volume. The fact that revenues remain stable from 2021 to 2022 may be due to two effects that have the opposite effect: Sales volumes are declining as a result of society opening up after the pandemic, while prices (in this case the price per consignment to retailers) are increasing as a result of a number of factors, such as increased costs of goods, higher electricity prices, a weaker krone exchange rate and higher general inflation.

Low gross margins compared to supplier and retail

- The figure shows that there is a relatively small difference between the total costs of goods and the total operating revenues at the wholesale level.
- Transfer pricing systems between wholesalers and retailers can consist of several price elements that are categorised differently, where some price elements are classified as sales revenue, while other price elements can be classified as other operating income.
- When assuming that all operating revenues here are linked to sales, the total price premium relative to the cost of goods is about 10.5 per cent in 2018, and the corresponding amount is about 11.4 per cent in 2022. The real average gross margin for the level will be somewhat lower, and in all cases therefore low relative to the other levels in the value chain in the survey.

5.3.1.1 Wholesale operating margins

Low operating margins at the wholesale level compared to the other levels that have been mapped

- When the wholesale activities of the three grocery chains are aggregated, the Norwegian Competition Authority finds that the operating margin for the wholesale chain collectively is around 1 per cent throughout the period.
- The Norwegian Competition Authority finds that operating margins at the wholesale level are somewhat higher during the pandemic than in other years, but that the increase is limited. Relatively stable operating margins show that the ratio between operating revenues and operating costs, measured as a percentage, has remained fairly unchanged at the wholesale level throughout the survey period.

5.3.1.2 Return on the wholesale level

The Norwegian Competition Authority has calculated the return on operations, given by RNOA, for the grocery chains' wholesalers in accordance with the method described in Chapter 3.2.2. The results from these calculations are suitable to shed light on two questions. Firstly, whether the grocery chains charge super-profits at the wholesale level through the transfer price. If the transfer price is set at a level that means that the return on operations at the wholesale level, measured by RNOA, is significantly higher than the required rate of return on capital, measured by WACC, this may be an indication that the wholesale companies function as profit centres in the grocery chains' groups. Second, whether the transfer price is set artificially low in order to subsidise retail activities, i.e. that the transfer price is set at a level that means that the return is significantly lower than the required rate of return. If this is the case, any estimated super-profit at the retail level must be seen in the context of a possible loss at the wholesale level.

The overall picture from the Norwegian Competition Authority's profitability analyses at the wholesale level is that the return on operations, given by RNOA, is generally not significantly higher than the required rate of return. The results do not indicate that the grocery chains are taking out significant super-profits at the wholesale level. Nor do the results indicate that the wholesale business is run unprofitably in order to subsidise the retail business. Overall, this indicates that transfer prices from wholesaler to retailer are not set significantly higher than what is necessary to cover the costs at the wholesale level, including the opportunity cost of the capital employed in operations.

In light of this, the Norwegian Competition Authority does not find it necessary to comment further on profitability at the wholesale level in the further presentation of profitability at the retail level.

5.4 Retail

The three grocery chains in the survey are organised differently at the retail level. This has implications for what data can be obtained with sufficient quality for each company, and how results from profitability calculations are interpreted. The following is a brief description of the data used in analyses of profitability at the retail level for each of the three grocery chains.

Norgesgruppen

For Norgesgruppen's retail operations, the Norwegian Competition Authority has received income statements and balance sheets for Norgesgruppen's own stores for the period 2017 to 2022.[76] In other words, merchant-owned stores (franchises) are not included in the data.

The Norwegian Competition Authority calculates gross margins, operating margins and RNOA for Norgesgruppen's own stores as a whole in accordance with the method described in Chapter 3.

[76] Including opening balances for 2017, dated 31 December 2016.

Coop

For Coop's retail operations, the Norwegian Competition Authority has received income statements and balance sheets both for the cooperatives as a whole, and for self-owned stores under the company Norsk Butikdrift, which in turn is organised under the joint organisation Coop Norway. The profile chains Obs Bygg, Coop Byggmix, Coop Elektro and other specialist trade profiles are not included in the submitted data. Coop has submitted data for the period 2018 to 2022.

The Norwegian Competition Authority calculates gross margins both for the cooperatives as a whole and for the self-owned stores in Norsk Butikdrift according to the method described in chapter 3. Due to some uncertainty related to adjustments in the balance sheets for the cooperatives, the Norwegian Competition Authority has chosen to calculate operating margins and RNOA only for Norsk Butikdrift according to the method described in chapter 3. The Norwegian Competition Authority has also calculated operating margins and returns for Coop's cooperatives as a whole according to a simplified methodology.

Rema

For Rema's retail operations, the Norwegian Competition Authority has received income statements and balance sheets both for Rema's franchisees as a whole and for Rema 1000 Norway. Rema has submitted data for the period 2017 to 2022.[77]

Rema's retail operations are organized according to a pure franchise model, where Rema 1000 Norway acts as franchisor and provides support services to Rema's franchisees for a franchise fee. Profitability at the retail level for Rema thus accrues to either the franchisor, through the franchise fee, or the franchisees, through the sale of groceries to consumers. Since the franchisees' profitability does not accrue to Rema centrally, it is not indifferent where the profitability is extracted. In connection with this survey, the franchise fee has not been treated as an internal price, but as an agreed price between two parties.

The Norwegian Competition Authority has calculated gross margins for Rema's franchisees as a whole, and operating margins and RNOA for the franchisor business in Rema 1000 Norway, according to the method described in chapter 3. The Norwegian Competition Authority has also made calculations of operating margins and returns for the franchisees collectively according to a simplified methodology.[78]

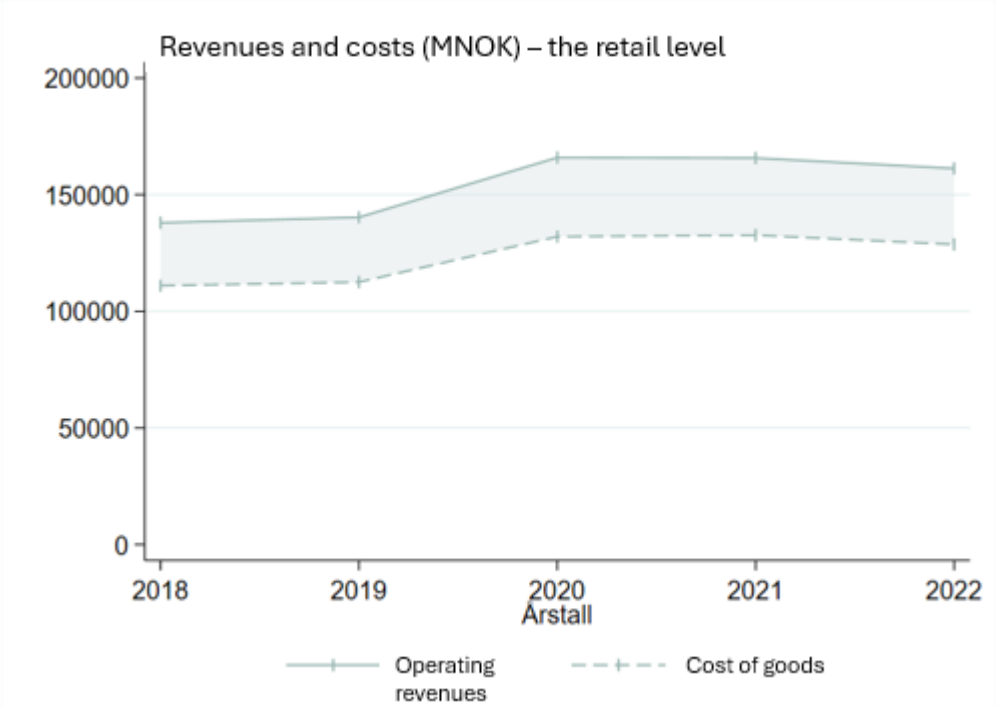
The following is a general description of the results of the Norwegian Competition Authority's analyses of profitability at the retail level. Similar to the wholesale level, results with key figures for the individual company are not included.

5.4.1.1 Gross margins for the retail level

In Figure 19 , the Norwegian Competition Authority has summarized sales revenues and costs of goods across the retail level in the grocery value chain. The Norwegian Competition Authority's data basis at the retail level includes stores with a total turnover of about NOK 165 billion in 2022. This is estimated to account for about 80 per cent of the total turnover of groceries through traditional grocery retail trade.

[77] Including opening balances for 2017, dated 31 December 2016.

[78] The results are considered representative of each of these entities in isolation, as the franchise fee here is considered a market-based price, not a transfer price. At the same time, the estimated return for the franchisees must be interpreted in light of the fact that the franchise model exempts these companies from large parts of the necessary tied-up capital.



Figur 19 Aggregated sales revenues and costs of goods for the Norwegian Competition Authority's retail selection (Norgesgruppen's own stores, Rema's Franchisees, Coop's Cooperative and self-owned stores in Norsk Butikkdrift) through the period 2018 to 2022. The data are not inflation-adjusted. Note that the figure does not distinguish between other operating costs (operating costs other than cost of goods) and operating profit.[79]

Significant retail sales growth during the pandemic

- Operating revenues across the retail sector increased by about 17 per cent from 2019 to 2020. The new income level persisted through 2021 and 2022.
- When interpreting these results, it is important to consider that the data are not inflation-adjusted, and that changes in income and costs may be linked to both changes in prices and changes in traded volume. The fact that revenues remain fairly stable from 2021 to 2022 is assumed to be partly explained by two effects that have the opposite effect: Sales volumes are declining as a result of society opening up after the pandemic, while grocery prices are increasing as a consequence of a number of factors, such as higher costs of goods, higher electricity prices, a weaker krone exchange rate and higher general inflation.

Significant variation in gross margins across the selection

- The Norwegian Competition Authority finds considerable variation in gross margins across the selection.

[79] At the retail level, there is greater heterogeneity in margins and returns across the range than for the wholesale level, partly due to the different operating models of the companies. Nor are the companies weighted in a representative manner in the sample relative to actual market shares. Among other things, Norgesgruppen is only represented here by its own stores. The Norwegian Competition Authority has therefore chosen not to include aggregated operating results across the sample in the figure, as such aggregation may be misleading.

- In the opinion of the Norwegian Competition Authority , an important explanation for the differences in gross margins between the chains is that Rema only has discount stores, while Coop and Norgesgruppen also have a significant element of supermarkets and convenience stores in addition to their discount stores. The different types of stores often target different customer groups, which affects assessments related to which goods are purchased, how much variation there is in the product range, store size, staffing, campaigns, etc. Discount stores generally have lower costs per krone sold than supermarkets and convenience stores.
- The differences in gross margins can also be affected by different operating models with different profitability requirements.
- At the same time, it appears from the Norwegian Competition Authority's ongoing survey of differences in purchase prices that the three grocery chains also had different purchase prices for the same goods from the branded consumer goods during this period.[80] This is also a factor that may explain some of the variation in gross margins across the range.

Stable gross margins throughout the period

- Overall, the Norwegian Competition Authority finds stable gross margins at the retail level throughout the period.
- The Norwegian Competition Authority therefore does not find that the price premium at the retail level has increased significantly more or significantly less than the price mark-up at other levels in the value chain. In other words, the results do not provide a basis for saying that the price increases for groceries are primarily due to higher retail price mark-ups.

5.4.1.2 Retail operating margins

The grocery chains generally have low operating margins at the retail level

- Operating margins are below 5 per cent throughout the period for Norgesgruppen's self-owned stores as a whole, Coop's stores both in Norsk Butikkdrift and in the cooperatives as a whole, and for Rema's franchisees as a whole.[81] If one disregards the pandemic years 2020 and 2021, the operating margins are below 3 per cent for all of these units.
- It is known that operating margins at the retail level in the grocery trade are low compared to operating margins in other types of businesses. Among other things, it has been pointed out that the grocery chains have lower operating margins than companies at the supply level in the grocery value chain.[82]
- Low operating margins are not synonymous with low profitability. If a company has a high turnover but little capital employed in operations, the company may have low operating margins and still achieve a high return on the capital employed in operations. The higher the turnover in relation to employed capital, the lower the operating margin can be set before operations cease to be profitable. It is the

[80] Mindre forskjeller i dagligvarekjedenes innkjøpspriser - Konkurransetilsynet

[81] The franchisor business in Rema 1000 Norway is not included here, as this unit has an operating model that is not comparable to the rest of the range.

[82] Operating margins for different parts of the value chain are discussed, among other things, in the paper " Marginbildet i dagligvarebransjen 2010 – 2021" from January 2023, which the consulting company Menon Economics prepared on behalf of Virke Dagligvare. (Menon Publication No. 13/2023). The memorandum refers to the fact that the three major grocery chains in Norway have low operating margins compared with suppliers and compared with retail in other industries, including the sale of sports equipment, footwear, pharmacy goods, furniture and clothing. (link)

Norwegian Competition Authority 's assessment that retail activities in general, and retail activities in the grocery sector in particular, will often be characterised by high turnover relative to employed capital.[83]

- The Norwegian Competition Authority does not find that the ratio between capital employed, and operating turnover is directly comparable across different levels in the value chain for groceries. Consequently, it is not very informative to compare absolute levels of operating margins across different levels in the value chain in order to say something about competitive intensity and/or profitability.
- In the opinion of the Norwegian Competition Authority , it is also not reasonable to assume that the relationship between capital employed and turnover in the grocery trade is directly transferable to retail activities in other industries. Consequently, the Norwegian Competition Authority considers that it would not be very informative to compare operating margins in the grocery trade and with operating margins in other industries, if one wishes to say something about differences in competition intensity and/or profitability.

Higher retail operating margins during the pandemic

- For all retail units for which the Norwegian Competition Authority has calculated operating margins, the operating margins are at their highest in 2020, and at their second highest in 2021.[84] Across the sample of companies, operating margins increased significantly in 2020, compared to the average for the years before the pandemic. In all cases, the increase is over 50 percent. For some of the units analysed by the Norwegian Competition Authority , the operating margin is markedly higher than before the pandemic in 2021 as well, while other units have an operating margin in 2021 similar to the level before the pandemic. Increased demand is believed to be an important underlying reason for increased operating margins during the pandemic. The Norwegian Competition Authority analyses do not provide a basis for determining whether other factors also contributed to the change in operating margins.
- Overall, the Norwegian Competition Authority finds that operating margins at the retail level fell from 2021 to 2022. It is assumed that important underlying reasons for the decline in the operating margin in 2022 were reduced demand as a result of society reopening after the pandemic, at the same time as the grocery market experienced a number of different cost shocks, as described in Chapter 2.4.2. The Norwegian Competition Authority's analyses do not provide a basis for determining whether other factors also contributed to the change in operating margins.

5.4.1.3 Return on the retail level

Returns measured by RNOA provide a picture of profitability in the parts of the business that have an impact on consumer prices. Consequently, RNOA, seen in the context of the operating margin, is a relevant measure of profitability when assessing whether consumers pay more for groceries than one would expect in a market with fierce competition.

[83] Reference is made to Menon Economics' report " Konkurranse i dagligvaremarkedet" (Menon-publikasjon nr. 33/2018), p. 36: "*Furthermore, the grocery market is characterised by high, stable turnover and a high turnover rate, which means that a low operating margin can still provide a high return on capital employed. Alternative profitability measures such as return on equity and return on total capital capture this type of factor to a greater extent.*" (link)

[84] Norgesgruppen's self-owned stores, Coop's cooperative, Norsk Butikkdrift, Rema 1000 Norway and Rema's franchisees.

The Norwegian Competition Authority has the following overall assessments relating to the return on the retail sector and how this has developed during the period.

High profitability at parts of the retail level throughout the period

- Throughout the period, the Norwegian Competition Authority finds consistently high profitability in the operations of some of the analysed units in the grocery chains' groups. High profitability here means that RNOA is estimated at several times the size of WACC.
- High profitability over time indicates that the retailer being analysed has a position in the market (or an aggregated position across a number of local markets) that allows it to increase prices beyond what is necessary to cover its own operating and capital costs and thus extract super-profits.
- The potential for consumer harm related to any super-profits at the retail level may appear limited, as long as the operating margins at this level are below 3 per cent. However, the total turnover in traditional grocery at the retail level is about NOK 200 billion. Furthermore, significant super-profits can be an indication of weakened competition. Consequently, the results may have implications beyond what can be read from the operating margin. Among other things, weak competition can lead to lower efficiency and less innovation. Super-profits can also be an indication of significant barriers to entry in the market.

Higher profitability at the retail level during the pandemic

- The Norwegian Competition Authority finds that the return on operations is at its highest in 2020, i.e. that this is the most profitable year in the survey period. Furthermore, the Norwegian Competition Authority finds that 2021 is the second most profitable year in the survey period. This is the case for all of the three units for which complete RNOA calculations have been made. The simpler return analyses of Coop's cooperatives and Rema's franchisees paint a similar picture for these units as well. On this basis, the Norwegian Competition Authority concludes that the pandemic was particularly profitable for the retail activities of the grocery chains.
- It is pointed out that some units are markedly more profitable in 2021 than they were before the pandemic, while other units have a profitability in 2021 that is only marginally higher than it was before the pandemic. For all units, operations are markedly more profitable in 2020 than in the years before the pandemic.

Similar profitability in 2022 as before the pandemic

- Furthermore, the Norwegian Competition Authority finds that profitability in operations fell in 2022 for all of the three entities for which complete RNOA calculations have been made. Overall, the Norwegian Competition Authority finds that profitability in 2022 is at a similar level as in the years before the pandemic. The simpler analyses of Coop's cooperatives and Rema's franchisees paint a similar picture for these units.

6 Ending

The Norwegian Competition Authority has mapped the profitability of the grocery trade of a selection of suppliers and retailers in the grocery market in Norway.

For the survey, the Norwegian Competition Authority has calculated gross margins, operating margins and return on net operating assets (RNOA). The return is compared to an estimated required rate of return, in order to assess whether significant super-profits are being taken out in operations.

The survey provides important background information for the Norwegian Competition Authority's work on the grocery market. Furthermore, the results of the survey can help answer questions that have been asked in the public debate about the grocery market, including questions related to the profitability of grocery companies during the coronavirus pandemic in 2020 and 2021, to the price increases for groceries in 2022, and to the competitive situation in the grocery market in general.

The Norwegian Competition Authority's overall assessments related to the results of the survey are summarised below.

Profitability at the supplier level : Several of the surveyed suppliers have consistently high profitability in operations, as measured by RNOA. The results are consistent with weak competition and high profitability in several different product markets. The results must be interpreted in light of the fact that the supply chain consists of several different product markets, and that there will typically be different degrees of competition within different product categories. The overall results of the survey will not necessarily be descriptive of the competitive situation in specific product markets.

Profitability of the grocery chains: The Norwegian Competition Authority finds high profitability in operations, as measured by RNOA, at parts of the retail level throughout the surveyed period. The profitable units account for a significant share of the turnover of groceries in Norway. The results of the Norwegian Competition Authority's survey indicate that the profitability of the grocery chains is mainly taken out at the retail level.

Profitability during the pandemic: The pandemic years of 2020 and 2021 were particularly profitable for both the chains and the suppliers. The Norwegian Competition Authority emphasises that increased market demand is expected to lead to increased profitability in the short term, and that high profitability during the pandemic cannot therefore be interpreted in isolation as a result of market participants taking advantage of the pandemic to increase their profitability. The Norwegian Competition Authority's analyses do not provide a basis for determining whether factors other than increased demand contributed to higher operating margins during the pandemic.

Profitability in 2022: Profitability in operations fell back to pre-pandemic levels in 2022 both for the suppliersas a whole and for the three grocery chains. The Norwegian Competition Authority therefore finds no support for a general claim that the grocery chains or suppliers took advantage of the extraordinary price increases in 2022 to increase their profitability. It is emphasised that overall results related to profitability development are not necessarily representative of individual companies.

Operating margins and profitability: The grocery chains have a high turnover relative to the capital employed in operations. This makes it possible to achieve high profitability, despite lower operating margins than companies in other parts of the value chain or companies in other industries. In other words, operating margins cannot be used directly to assess differences in competitive intensity or differences in profitability across levels in the value chain, or across different industries.

Profitability and competition: In summary, the Norwegian Competition Authority finds that the profitability of operations for several of the companies at the supplier and retail level in the grocery value chain is significantly higher than one would expect to find in a market with fierce competition and few barriers to entry. In other words, the results are consistent with weak competition and significant barriers to entry in parts of the Norwegian grocery market.

Previously, the Norwegian Competition Authority has assessed that competition in the Norwegian grocery market is weak, partly due to high concentration, high barriers to entry and high prices.[85] The results of this survey support that assessment.

[85] See, for example, the Norwegian Competition Authority's grocery report for 2022 (link) and the Norwegian Competition Authority's grocery report for 2023 (link).

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Appendix 9.10: Analysis of retail supply profitability – ROCE

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Appendix 10.1: Approach to profitability and financial analysis

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Appendix Q: Profitability Methodology

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Appendices

Appendix A: Balance sheet delimitation method

This appendix presents the assessments that form the basis for the Norwegian Competition Authority's classification of assets and liabilities as either operation-related or financial. The purpose of this exercise is to estimate the companies' net operating assets[1], which tells how much capital a company has employed in its operations. Net operating assets are the relevant measure of employed capital when calculating the profitability measure RNOA.

Classification of balance sheet entries as either operation-related or financial is based on the balance sheet entry's role in the business. The operation-related balance sheet entries can be linked directly to the company's day-to-day operations and are necessary to generate income and returns from the core business. Typical examples of operating assets are fixed assets, inventories and accounts receivable, while on the liabilities side, accounts payable, public taxes due and provisions/accruals related to ordinary operations will typically be regarded as operating current liability. Financial balance sheet entries are linked to an enterprise's financing and investment activities and are thus not directly linked to operations. Financial balance sheet entries can be, for example, securities, bonds and interest-bearing loans.

In the calculation of RNOA, it is important that there is a clear and consistent link between how a balance sheet entry is classified and how the associated income or cost in the income statement is classified. The income and costs from the operating balance sheet entries must be treated as part of the operating profit, while the return on the financial balance sheet entries must be remunerated outside the operating profit. This is to have a consistent link between numerator and denominator in the formula for RNOA.

The Norwegian Competition Authority has requested the companies included in the survey to submit balance sheets in accordance with the template from Section 6-2 of the Accounting Act. Below is a general explanation of how the Norwegian Competition Authority has dealt with the various balance sheet entries.

A.1 Fixed assets

A higher total value of the operating assets indicates a higher estimated NOA. Consequently, assessments that overestimate the value of the total operating assets will contribute to a conservative approach to measuring profitability. For resource reasons, the Norwegian Competition Authority has chosen a conservative approach to classification in some cases. Assets on the asset side are therefore classified as operational.

A.1.1 Intangible assets

There are large variations among the companies in the survey regarding the extent of intangible assets reported in the balance sheet. The large differences are primarily because some companies have carried out business acquisitions during the period, others have not. There are several intangible assets that only arise in the balance sheet of a company through business purchases. For example, according to the accounting rules,[2] it is not permitted to recognise proprietary goodwill, trademarks, customer relationships and similar proprietary intangible assets. These intangible assets, on the other hand, can be recognised in the balance sheet in connection with business acquisitions and can constitute significant values.

As a result, two companies that are virtually identical can still have very different balance sheets. This is because one company has made business acquisitions and can therefore recognise goodwill and other intangible assets in the balance sheet, while the other company has not made acquisitions and

[1] Net operating assets (NOA).

[2] Both according to NRS and IFRS.

therefore cannot recognise such intangible assets in the balance sheet. If acquisition-related intangible assets are classified as operating assets, this could result in large differences in the profitability measurement RNOA between two virtually identical companies.

In the Norwegian Competition Authority's classification of the balance sheet, intangible assets that have arisen as a result of business acquisitions are classified as financial. This means that they are not included in the calculation of RNOA. To have a consistent treatment of the balance sheet entry and associated profit and loss effects, the associated depreciation and amortization related to these acquisition-related intangible assets have also been adjusted out of operating profit.

There are two main reasons why acquisition-related balance sheet entries are classified as financial entries in this survey. First, these classifications help to increase the comparability of the balance sheets of the companies in the survey. Second, expectations of future profitability/earnings will be included in the valuation of the capitalized intangible assets that arise as a result of business acquisitions. Including expectations of future profitability in NOA is not compatible with measuring profitability in the form of returns on companies' net operating assets.

In addition to acquisition-related intangible assets, the Norwegian Competition Authority's assessment is that the remaining balance sheet for intangible assets primarily consists of deferred tax assets and IT-related systems and licenses. While deferred tax assets are recognised in the balance sheet on a separate line in the balance sheet, IT-related systems and licences may be recognised in the balance sheet on different lines, and the amount is not shown in the balance sheets. In cases where the entries that may contain IT-related systems and licences are of considerable size, the Norwegian Competition Authority has requested the companies to specify the amount that is recognised in the balance sheet related to IT-related systems and licences in each respective year, so that these can be classified as an operation-related intangible asset.

A.1.1.1 Development

Development is a small entry in the submitted balance sheets for most of the companies in the survey. The Norwegian Competition Authority finds that the parts of the entry relating to the development of IT systems should be classified as operation-related assets. The remaining share of the entry is assumed to originate from business acquisitions, and should therefore, in the opinion of the Norwegian Competition Authority, be classified as financial.

As the values in the development entry is generally limited, the Norwegian Competition Authority has chosen, for reasons of resources, not to impose extra work on the companies to specify which parts of the entry relate to the development of IT systems. In these cases, the Norwegian Competition Authority uses a conservative approach and includes the entire entry as operational.

Only in individual cases where this entry is of significant size has the Norwegian Competition Authority requested the companies to specify the values associated with IT-related systems.

A.1.1.2 Licences, patents, licences and similar rights, trademarks, customer relations, etc.

The size of this balance sheet entry varies considerably between the companies in the survey, because it primarily consists of intangible assets that arise in connection with business acquisitions. The Norwegian Competition Authority finds that the parts of the entry relating to IT systems should be classified as operation-related assets. The remaining share of the entry is assumed to originate from business acquisitions, and should therefore, in the opinion of the Norwegian Competition Authority, be classified as financial.

In cases where the entry contains only a limited amount that has little impact on the overall results, the Norwegian Competition Authority has chosen, for reasons of resources, not to impose extra work on the companies to specify which parts of the entry relate to the development of IT systems. The Norwegian Competition Authority then uses a conservative approach and includes the entire entry as operational.

Only in individual cases where this entry is of significant size has the Norwegian Competition Authority requested the companies to specify the values associated with IT-related systems.

A.1.1.3 Deferred tax assets and deferred tax

Deferred tax assets and deferred tax arise because of different depreciation rules in the Taxation Act compared to the Accounting Act. Deferred tax assets/deferred tax positions are considered financial entries.

A.1.1.4 Goodwill

Goodwill is in its entirety an acquisition-related intangible asset. It is therefore classified as a financial asset.

A.1.1.5 Trademarks

In the request for information, the Norwegian Competition Authority has requested the companies to separate the value of trademarks from the balance sheet. As described in A.1.1 Trademarks are only recognised in the balance sheet as a result of business acquisitions. In other words, trademarks are in their entirety an acquisition-related intangible asset and are therefore classified as a financial asset.

A.1.2 Property, plant and equipment

The companies in the survey have a large scope in terms of leasing of fixed assets. It will vary how the companies treat leases in the financial accounts. Some companies recognise the leases in the balance sheet as a right-of-use asset (leasing asset) with an associated lease liability (financial leasing), while other companies have no balance sheet entries related to leases and recognise the lease cost as part of the operating profit on an ongoing basis (operating lease). In connection with the data collection for this survey, the Norwegian Competition Authority laid down guidelines for how the companies should treat lease agreements when submitting income statements and balance sheets. The companies have been requested to adjust right-of-use assets and associated lease liability from the balance sheet and instead include the actual lease costs as part of the operating profit (operating lease). This is done because the size of the right-of-use asset depends on the remaining length of the lease, while the companies are in reality dependent on leasing the fixed asset (or a similar fixed asset) for "perpetual" time in order to maintain the activity. In other words, a calculation of RNOA where right-of-use assets are included in the denominator is not a relevant return measure.

It is specified that fixed assets are subject to value adjustment in the Norwegian Competition Authority's method. For a more detailed description of these adjustments, see Appendix B.

A.1.2.1 Land, buildings and other real property

Land, buildings and other real property are defined here as operating assets. It is operationally necessary to have access to suitable factory premises, administration premises, warehouses, shop premises, etc. to be able to conduct business in the production and sale of groceries.

A.1.2.2 Machinery, facilities and similar balance sheet entries

Machinery and facilities are defined here as operation-related assets. Access to machinery and facilities is necessary to be able to conduct business in the production and sale of groceries.

A.1.2.3 Movable property, fixtures, tools, office machinery and the like

Movable property, inventory, tools, office machines and the like are necessary assets to maintain operations. They are therefore considered operation-related assets here.

A.1.3 Financial fixed assets

A.1.3.1 Investments in associated companies

An investment in an associated company represents an investment where there is significant influence, which normally means that the ownership interest in the company is between 20% and

50%. Associates are not consolidated into the investor's consolidated financial statements but are accounted for in accordance with the equity method in the consolidated financial statements[3]. The Norwegian Competition Authority has treated the balance sheet entry and related profit and loss entries as financial entries.

A.1.3.2 Other entries under financial fixed assets

In addition to investments in associated company, investments in subsidiaries, investments in other enterprises in the same group, loans to enterprises in the same group, loans to associates and jointly controlled enterprises, bonds and other financial assets are included in the category financial fixed assets. The return on these entries is recognised as financial income in the income statement. The assets are thus also classified as financial.

A.2 Current assets

A.2.1 Goods

Inventory is a necessary asset in operations at the supplier, wholesale, and retail levels. Consequently, the inventory here is classified as an operational-related asset.

A.2.2 Receivables

A.2.2.1 Accounts receivable

Trade receivables arise from sales to customers and are considered an operation-related asset.

A.2.2.2 Other receivables

Other receivables are a collective entry that contains several different types of receivables. For most of the companies included in the study, this entry constitutes a significant part of the total balance sheet. Where this is the case, the Norwegian Competition Authority has asked the companies to specify what is included in other receivables according to the template. The template defines the following four sub-entries:

a. Receivables related to the group account scheme
b. Receivables related to group contributions
c. Receivables related to dividends
d. Other other receivables

Receivables related to the group account scheme mean that the company has a deposit in the group account scheme. Since the company is not the owner of the scheme, deposits are booked as a receivable against the company that owns the group account scheme. In reality, this is the same as an ordinary bank deposit and is therefore classified here as financial assets.

Group contributions represent the movement of capital between companies in the same group and are often used for tax optimisation within the group. The company that makes group contributions will have a debt in the balance sheet, while the companies that receive group contributions will have a receivable in the balance sheet. This is a financial entry, which is not related to operations, and is therefore classified as a financial asset.

Dividends represent the distribution of profits to shareholders. Dividends are not operational and are therefore classified as a financial asset.

The Norwegian Competition Authority has assessed whether there is a need for further specification of the receivables that remain under the sub-entry other receivables. The Norwegian Competition Authority finds that the majority of the entry other receivables has been accounted for after receivables related to the group account arrangement, group contributions and dividends have been

[3] Both under IFRS and NRS

specified, and that it is therefore not appropriate to carry out a further splitting of other other receivables. On this basis, the Norwegian Competition Authority takes a conservative approach to the remaining receivables and defines other receivables as operating assets.

A.2.2.3 Entitlement to payment of share capital

Receivables related to claims for payment of share capital are classified as financial assets. This balance sheet entry is used to record that the owners have undertaken to contribute new funds to the company through incorporation or share issue and is therefore not operation-related.

A.2.3 Investments

Investments include shares and units in enterprises in the same group, market-based shares, market-based bonds, other market-based financial instruments and other financial instruments. Any losses and gains from investments are recognised as financial income and costs in the income statement, and the balance sheet entries are thus also classified as financial.

A.2.4 Bank deposits, cash and the like

For the entry *bank deposits, cash and the like,* a distinction is made between what is a sufficient cash position to be able to cover fluctuations in working capital in operations, and what is surplus liquidity, i.e. funds the owners could have withdrawn from the company and invested elsewhere without affecting day-to-day operations. The Norwegian Competition Authority has chosen to make a practical simplification by defining operating liquidity (operation-related asset) as 10 per cent of the sum of inventories and trade receivables, while the excess is considered surplus liquidity (financial asset).[4]

A.3 Debt

Operating current liability reduces NOA. Consequently, assessments that underestimate the size of total operating current liability will contribute to a conservative approach to measuring profitability. In cases where the Norwegian Competition Authority has chosen a conservative approach to classification for reasons of resources, liabilities are therefore classified as financial.

A.3.1 Provision for liabilities

This category includes the balance sheet entries pension liabilities, deferred tax and other long-term provisions.

Pension liabilities are classified exclusively as a financial entry. Deferred tax is also classified as financial, according to the same justification as described in A.1.1.3.

Specific assessments can be made as to whether other long-term provisions are operation-related or financial. Under other long-term provisions, one finds, for example, guarantee provisions, which are considered to be of operating current liability. On the other hand, the Norwegian Competition Authority finds that the entry other long-term provisions are of little significance for the company's measured profitability in this survey. For reasons of resources, the Norwegian Competition Authority has therefore chosen to take a conservative approach to this entry, by defining it as financial in its entirety.

A.3.2 Other long-term liabilities (convertible loans, bond loans, debt to credit institutions)

The Norwegian Competition Authority has assumed that other long-term debt has been interest-bearing throughout the period. This means that these are entries that accrue interest outside the operating profit. On this basis, the Norwegian Competition Authority has classified these balance sheet entries as financial.

[4] With this, the Norwegian Competition Authority is taking a somewhat more conservative approach than the UK Competition Authority (CMA) has previously done, for example in the funeral market. Reference is made, inter alia, to Appendix S from the CMA's market investigation in the funeral market, page S31, paragraph 167.

A.3.3 Liabilities to credit institutions (short-term)

This entry is classified in its entirety as financial, with the same justification as the entries in the A.3.2.

A.3.4 Accounts payable

Trade payables arise as a result of the purchase of goods and services. In the income statement, the offset entry will normally be cost of goods or other operating costs, both of which are included in the operating profit. Trade payables are entirely operation-related liabilities.

A.3.5 Tax payable

Tax payable in the balance sheet represents the amount that the company must pay to the tax authorities based on the taxable income for the accounting period. Since the tax payable is mainly due to positive operating results, this balance sheet entry is classified as an operating liability.

A.3.6 Public duties payable

Public duties payable primarily consist of VAT and salary-related obligations (employer's national insurance contributions, withholding tax, etc.). Value added tax arises as a result of the purchase and sale of goods, while salary-related obligations arise because the companies have employees. These are entirely operation-related entries.

A.3.7 Other short-term liabilities

Other short-term liabilities are a collective entry in the balance sheet, which can include both financial and operating entries. In order to better distinguish between operating and financial liabilities under other short-term liabilities, The Norwegian Competition Authority has requested the companies to specify a selection of sub-entries related to this aggregate entry.

A.3.7.1 Provisions and accruals

This entry contains, among other things, accrual of cost entries, provisions for costs incurred where an invoice has not been received, and guarantee provisions. Such entries have a counterpart under operating profit in the income statement and are therefore part of the core business. They are therefore classified as operational.

A.3.7.2 Trade payables in a group

For some companies, intra-group accounts payable are included under the entry Other current liabilities. This is classified as operating current liability with the same justification as other trade payable, see A.3.4.

A.3.7.3 Other other current liabilities

The companies have specified how much remains of the entry other current liabilities after the above-mentioned entries have been accounted for. There may be some operation-related debt that remains in this residual in the form of, for example, holiday pay, supplier bonuses and the like. The Norwegian Competition Authority has nevertheless, after a specific assessment, concluded that it has not been appropriate to split this residual further for reasons of resources. The Norwegian Competition Authority therefore takes a conservative approach to other entries under other short-term liabilities and classifies these as financial.

Appendix B: Valuation of operating assets

This appendix presents the Norwegian Competition Authority's method for valuation of assets included in the calculation of net operating assets (NOA).

B.1 Principles for valuation of operational assets

The Norwegian Competition Authority follows similar principles for the valuation of operation-related assets in profitability analyses as the CMA.[1] This means that, as far as possible, assets must be valued according to methods that reflect the assets' *value to business* (VTB), also referred to as *deprival value*.

This approach to valuation is intended to ensure that profitability calculations consider:

- The need for existing companies to cover the opportunity cost associated with the capital employed in operating assets, given the value of these assets at the time of measurement.
- A hypothetical newcomer's need to be able to justify the investment related to acquiring the assets necessary to establish oneself in the production or sale of groceries at the time of measurement.

An asset's value measured by VTB is defined as the lower of the following two quantities: the asset's replacement cost and the asset's recoverable *amount*.

Replacement cost is defined here as the cost of replacing the asset's function in today's market, adjusted for the remaining economic life. The CMA's guidelines state that the theoretically relevant measure of replacement cost is the value of a so-called *modern equivalent asset* (MEA).

Recoverable value is defined as the higher of the following two quantities: net *realisable value* and value in use, where value in use is equal to the present value of the future cash flows the asset will generate.

For assets that would be worthwhile to replace, replacement cost, given by MEA, is the relevant measure of the asset's VTB. In cases where it is not profitable to replace an asset in its current state, for example because the asset is broken or outdated, recoverable value will be the relevant measure of the asset's VTB.

It is the Norwegian Competition Authority's assessment that only in exceptional cases will there be assets in the balance sheet that it would not be profitable to replace if they were to lapse. The Norwegian Competition Authority therefore makes a simplification and assumes that all assets in the balance sheet have a use or sale value that is either equal to or higher than the asset's replacement cost, given by the asset's MEA. Such an approach is also in line with the CMA's guidelines for conducting profitability analysis in connection with market research.[2]

Equating VTB with MEA is a methodological simplification that in all cases will be conservative regarding calculating profitability. It follows from the definition of VTB that the measured return under this assumption will always be equal to or lower than the return that would be measured if VTB were assessed specifically for each individual asset in the balance sheet.

In summary, this means that when calculating RNOA, the Norwegian Competition Authority only uses book values directly if these are considered to provide a representative picture of the asset's replacement cost, given by the asset's MEA. Where the Norwegian Competition Authority finds reason

[1] Reference is made to the CMA's market investigation in the funeral market from 2020, *Appendix Q: Profitability Methodology* below *Annex: Theoretical approach to asset valuation*, p. Q12 to Q14. (link)
[2] See CMA's Market Investigation Guidelines (CC3 revised), Annex A, section 14.link)

to believe that there is a significant difference between book value and replacement cost, alternative methods for estimating the replacement cost of the assets are considered.

B.2 Balance sheet entries to be examined in more detail

It is the Norwegian Competition Authority's assessment that the book value will deviate to a small extent from the asset use value for most operating assets in the balance sheet. Goods in stock are traded on an ongoing basis, so that book values at all times reflect updated market values for these assets. Furthermore, trade receivables and relevant liabilities will typically have a clearly defined nominal value, which means that these entries must be said to be valued in line with VTB.

The entries where book values are assumed to differ significantly from VTB are the entries in the category of tangible fixed assets, including:

- Land, buildings and other real property.
- Machines and facilities.
- Ships, rigs, planes and the like.
- Movable property, inventory, tools, office machines and the like.

Ships, rigs, aircraft and the like are not very relevant entries for the companies included in this survey. The other three entries under fixed assets, on the other hand, contain significant values, so that any discrepancies between book value and VTB will be important for the interpretation of the results of an RNOA calculation.

The assets included in the balance sheet entry *Land, buildings and other real property* have a long depreciation period. These assets are booked at historical cost minus depreciation and amortisation. The long economic life means that the historical cost underlying the book value is not necessarily representative of the replacement cost of the asset in today's market.

A similar challenge applies to the balance sheet entry *Machinery and facilities*, and to some extent also to the balance sheet entry *Movable property, inventory, tools, office machinery and the like*, even though the assets included in the latter entry are expected to have a somewhat shorter economic life than those under *Land, buildings and other real property* or *Machinery and facilities.*

Based on the above, the Norwegian Competition Authority has concluded that book values and depreciation related to the tangible fixed assets should be adjusted so that the estimated employed capital included in the denominator in the calculation of RNOA reflects as well as possible the value of the assets given by VTB.

B.3 The Norwegian Competition Authority's method for value adjustment of tangible fixed assets

Considering the challenges described below B.2 , the Norwegian Competition Authority has chosen to index adjust the book values of the companies' tangible fixed assets. Depreciation related to the tangible fixed assets is then adjusted by the corresponding factor in the income statement, so that the remaining economic life remains unchanged. It is the Norwegian Competition Authority's assessment that the index adjustments contribute to significantly reducing the assumed difference between the observable book values of the tangible fixed assets and the unobserved VTB of these assets.

The Norwegian Competition Authority's method for value adjustment of the tangible fixed assets is done through the following two steps:

- The average age of the assets is estimated based on depreciation schedules from the notes in the companies' public accounts.
- Book values and associated depreciation are adjusted in line with growth in the relevant price or cost index.

The Norwegian Competition Authority has calculated the average age of land, buildings and other real property separately, and of other tangible fixed assets[3] separately. The average age of the assets is calculated based on data from the notes in the companies' public accounts[4], by dividing accumulated depreciation by the year's depreciation.

$$\text{Average age} = \frac{\text{Accumulated depreciation}}{\text{The year's depreciation}}$$

The book values of land, buildings and other real property are then adjusted upwards in line with the development in Statistics Norway's construction cost index for residential buildings[5] above the estimated average age of these assets. There will not be a perfect match between the properties on which the index is based and the companies' properties. Nevertheless, it is the Norwegian Competition Authority's assessment that the construction cost index used here is more representative of the cost development of buildings than other alternative price or cost indices, such as core inflation.

For other tangible fixed assets, the Norwegian Competition Authority has made an upward adjustment based on general price growth given by core inflation (CPI-ATE).[6] For the years prior to 2003, developments in the CPI-AE have been used. The Norwegian Competition Authority has compared core inflation with developments in Statistics Norway's price index of first-hand domestic sales for the commodity sub-groups SITC72 (Machinery for special industries) and SITC74 (Other industrial machinery and equipment) over time.[7] The Norwegian Competition Authority finds that the price development for machinery does not deviate significantly from core inflation in the survey period, and based on this The Norwegian Competition Authority chooses to adjust the value of other fixed assets as a whole according to core inflation.

For all tangible fixed assets, depreciation costs are adjusted by a factor corresponding to the associated assets in the balance sheet, so that the remaining economic life remains unchanged.

[3] For the sake of clarity, this does not include facilities under construction.

[4] For the suppliers, there is a large degree of correspondence between the entities for which data have been submitted to the Norwegian Competition Authority, and the entities for which public accounting data are reported to the Brønnøysund Register Centre. For Rema, notes from the public accounts of Rema Distribusjon and Rema 1000 Norway have been used. For Coop, notes from the public accounts of Coop Norway and Norsk Butikkdrift have been used. For Norgesgruppen, the Norwegian Competition Authority has used notes from the public accounts for ASKO Central Norway, ASKO North, ASKO West, ASKO East, and ASKO Central Warehouse to calculate age estimates at the wholesale level, and notes from the public accounts for Kiwi Central Norway, Kiwi North, Kiwi West and Kiwi East to calculate representative age estimates at the retail level. All publicly available accounts are taken from the Brønnøysund Register Centre.

[5] 08651: Construction cost index for residential buildings, by type of employment (2015=100) 1978M01 - 2024M02. StatBank (ssb.no)

[6] 05327: CPI-AT and CPI-ATE, by consumption group. CPI-AE, CPI-AEL and CPI-XADM (2015=100) 1995M01 - 2024M03. StatBank (ssb.no)

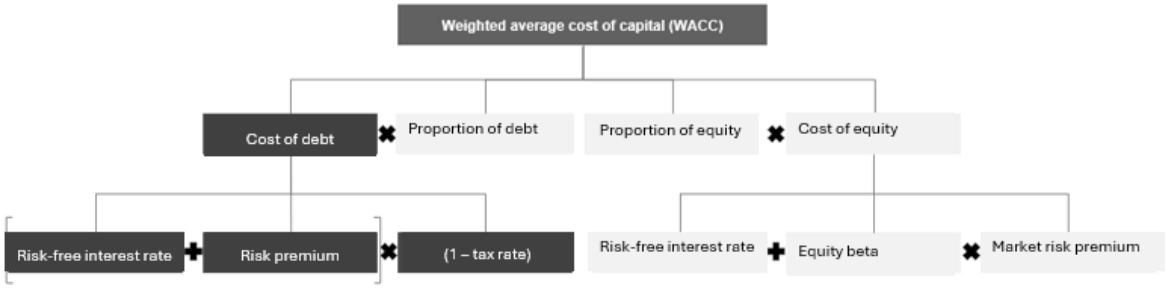
[7] 03675: Price index of first-hand domestic sales, by market and commodity group (2021=100) 1926M01 - 2024M03. StatBank (ssb.no)

Appendix C: Method for estimating WACC

This appendix describes the Norwegian Competition Authority's method for calculating the required rate of return on total capital for the supplier/manufacturer, wholesaler and retail sector in the grocery industry, respectively. The Norwegian Competition Authority emphasises that the calculation of required rate of return is not an exact science, and that the results must therefore be regarded as estimates. Considering this uncertainty, the Norwegian Competition Authority has chosen to round the estimated required rate of return to the nearest half per cent.

WACC (Weighted Average Cost of Capital) represents the weighted, average cost of capital of a company. Companies can finance their operations with debt and equity. Financing with debt and equity respectively entails different degrees of risk, as creditors are paid before shareholders. Since the WACC is a market-derived requirement, the returns from the two funding sources must be compared with what investors can earn from alternative investments with similar risk.[1] A company's WACC is calculated by weighting debt and equity, respectively, based on their market capitalization and expected return. However, current financial theory[2] states that a company's total cost of capital, under certain assumptions, is unaffected by the financing, because debtors will require the same payment as the equity that the debt replaces in the event of capital structure changes. Thus, one can estimate the total return requirement for a specific company with a specific financing structure, and at the same time assume that the company will have the same total return requirement also with a different capital structure, and that another company with similar operational risk will also have the same total return requirement.

In connection with the calculation of the WACC for the survey, the Norwegian Competition Authority has estimated the cost of equity and the cost of debt for the supplier/manufacturer, wholesaler and retail level in the grocery industry, respectively. Thereafter, the cost of equity and the cost of debt are weighted based on market value.



Figur C1 Components included in the calculation of WACC

C.1 Cost of equity

The cost of equity is estimated using the Capital Asset Pricing Model (CAPM). The CAPM is a simple but recognized theory and proven method.[3] The CAPM states that the required rate of return on equity for a company or a share can be expressed as the risk-free return (risk-free rate) plus a general

[1] Kaldestad & Møller (2016). Page 152.

[2] Miller, M.H. & Modigliani, F. (1958). «The Cost of Capital, Corporation Finance and the Theory of Investment». *The American Economic Review*. 48 (3): 261-297. See also description in Kaldestad & Møller (2016). Page 178.

[3] See, for example , Levy, H. (2011). *The capital asset pricing model in the 21st century: analytical, empirical, and behavioral perspectives*. Cambridge University Press.

market premium for investing in shares multiplied by the systematic risk of the specific company in relation to the entire stock market, so-called Beta.

C.1.1 Risk-free interest rate

In estimating the cost of equity, the risk-free rate will be the starting point, because all risky investments must at least generate a higher return than a risk-free investment.[4] As a practical expression of the risk-free rate, one can use the Norwegian zero coupon yields[5], as this is considered not to contain bankruptcy or default risk. A Norwegian interest rate is consistent with opening cash flows for the companies being analysed is in Norwegian kroner. In general, one should use a time horizon (duration) for the interest rate that corresponds to the duration(s) of the cash flows of the company being analysed. In practice, it is often common to assume a 10-year zero coupon yield as a weighted average for the risk-free rate for long-term/perpetual cash flows, and this has also been done for the purpose of this analysis. When estimating the WACC for the years 2017-2022, the Norwegian Competition Authority has used a 10-year zero coupon yield from Norges Bank on the last calendar day of each respective year.

Tabell C1 Risk-free interest rate

Risk-free interest rate						
	2017	2018	2019	2020	2021	2022
Zero coupon yield	1.6 %	1.8 %	1.5 %	1.0 %	1.7 %	3.2 %

C.1.2 Market risk premium

The market's risk premium should reflect the extra return that investors in a market portfolio on average expect or demand to achieve compared to the risk-free rate.[6] In order to calculate the market's risk premium, the Norwegian Competition Authority has taken a mature market as its starting point. The Norwegian Competition Authority has used Damodaran's calculation of the implied market risk premium in the US market (S&P 500),[7] and used an average over the past 10 years for each respective year in which the required rate of return has been calculated. Several studies show that the market risk premium is within the range of 4-6%. PwC and NFF's market research[8] show that the median market risk premium has been 5.0% in the entire period from 2017 to 2022. The market risk premium used in this survey is stable at around 5.5%, which is within the interval 4-6% and somewhat above the median in PwC and NFF's market survey.

Tabell C2 Market risk premium

Market risk premium						
	2017	2018	2019	2020	2021	2022
Market risk premium	5.5%	5.5%	5.6%	5.5%	5.4%	5.4%

Several studies[9] show that the historical market risk premium has varied over time and that the market risk premium is inversely correlated with the risk-free rate. When the economic outlook is negative,

[4] Kaldestad & Møller (2016). Page 156.

[5] Risk-free rate: https://www.norges-bank.no/en/topics/Statistics/norwegian-government-securities/zero-coupon-yields/

[6] Kaldestad & Møller (2016). Page 166.

[7] https://pages.stern.nyu.edu/~adamodar/New_Home_Page/dataarchived.html

[8] Pwc (2022), Risikopremien i det norske markedet

[9] See, among others: Damodaran (2013): *Equity risk premiums (ERP): Determinants, Estimation and Implications*;

S. Darolles, K. Eychenne, S. Martinetti, White Paper: Time Varying Risk Premiums & Business Cycles: A Survey. *September 2010, Isuue 4*

J. Y. Campbell, J. H. Cochrane, By force of habit: A consumption-based explanation of aggregate stock market behavior. *The Journal of Political Economy, Volume 107, Issue 2 (Apr. 1999), 205-251.*

investors' appetite for investment will decline. This can lead to a fall in demand for capital, which contributes to low real interest rates. This, in turn, will lead to an increase in the market risk premium that investors require to invest in the stock market. The opposite will typically be the case during periods of economic upturn. Real interest rates will then rise because of increased demand for capital and the risk premium will fall because the market outlook is brighter. An alternative approach in the calculation could therefore be to set the market risk premium close to 6% in periods of very low real interest rates, while the market risk premium is adjusted downwards to 4-5% in periods when real interest rates are higher. However, such an approach would not entail a significant change in the estimated level of the WACC for the years 2017-2022.

C.1.3 Beta

Beta measures the volatility of a stock, or systematic risk, compared to the stock market.[10] There are several ways to calculate beta, but a good practice is to obtain data from many companies that have approximately the same risk, and measure volatility relative to a broad stock market index (e.g. a global stock index) over several years, with the assumption that the historical volatility observed is representative of future volatility. The Norwegian Competition Authority has retrieved beta from Professor Aswath Damodaran's database[11], where the industry classifications "Food processing", "Food wholesalers" and "Retail (grocery and food)" are considered to be representative of the supplier, wholesaler and retail sector in the grocery industry in Norway, respectively. The Norwegian Competition Authority has used Damodaran's average global beta based on beta for several representative companies. The Norwegian Competition Authority has also used the last five years for each respective period to avoid "noise" and large fluctuations from year to year. The beta for each individual company is converted to an asset beta, defined as the relevant beta value if the company was 100% equity-financed. This is to make the figures comparable. Only later are the asset betas converted into equity betas based on the debt-to-equity ratio for the industries being analyzed. A more detailed description of this weighting is given below C.3.

Tabell C3 Asset Beta

Asset Beta							
Segment	Damodaran classification	[illegible]	2018	2019	2020	2021	2022
Supplier	Food Processing	0.7	0.7	0.7	0.7	0.8	0.7
Wholesaler	Food Wholesalers	0.5	0.5	0.5	0.5	0.6	0.5
Retailer	Retail (Grocery and Food)	0.6	0.6	0.6	0.5	0.6	0.5

C.1.4 Adjustment for other prizes

It should be considered whether other premiums should be taken into account in the calculation of the cost of equity, such as small business, liquidity and country risk premiums.[12] Since the calculated equity requirements are for three different segments within the grocery industry, where both large/small and listed/unlisted companies will be included, the Norwegian Competition Authority has disregarded small business and liquidity premiums. Furthermore, the Norwegian Competition Authority calculates a required rate of return for the companies' total cash flow. It is therefore not as relevant to include additional premiums in such a calculation than it would have been if only a small shareholding were to be considered. Since the survey only covers the companies' activities in the Norwegian grocery market, there is no need to include country risk premiums.

C.2 Cost of debt

The estimated debt cost is based on the Norwegian 10-year government bond yield, i.e. the same interest rate as when calculating the risk-free interest rate for the cost of equity, described below

[10] Kaldestad & Møller (2016). Page 159.
[11] https://pages.stern.nyu.edu/~adamodar/New_Home_Page/dataarchived.html
[12] Verdivurdering, Kaldestad and Møller (2016). Page 171.

C.1.1. In addition to the risk-free rate, a creditor will require a debt risk premium, which is intended to represent compensation for default risk. A company's debt risk premium can be calculated in different ways, but a common approach is to look at the company's credit rating and see what the yield is on listed bonds to companies with similar credit ratings.[13] The debt risk premium will then be the difference between the yield on the listed bond and the risk-free rate.[14]

The Norwegian Competition Authority observes that large companies such as Orkla and NorgesGruppen have investment grade credit ratings of A[15] and BBB+ respectively.[16] This is among the largest companies in the grocery industry and is not necessarily representative for the grocery industry. The Norwegian Competition Authority considers the credit rating between Baa2/BBB to B1/B+ to be a representative estimate for the industry. According to Professor Damodaran's database, companies with a credit rating of Baa2/BBB to B1/B+ would achieve an average risk premium for the period 2017-2022 of between 1.7% and 3.8%. In the Norwegian Competition Authority's calculation of the annual WACC for the period 2017-2022, a debt risk premium equal to the annual average for ratings Baa2/BBB to B1/B+ has been used. Data was taken from Professor Damodaran's public database.[17]

Tabell C4 Debt risk premium

Debt risk premium						
Rating	2017	2018	2019	2020	2021	2022
Baa2/BBB	1.3%	2.0%	1.6%	1.7%	1.6%	2.0%
Ba1/BB+	2.0%	2.5%	2.0%	2.3%	1.9%	2.4%
Ba2/BB	2.4%	3.6%	2.4%	2.8%	2.2%	3.1%
B1/B+	3.0%	4.5%	3.5%	4.0%	3.1%	4.6%
Average	**2.2%**	**3.2%**	**2.4%**	**2.7%**	**2.2%**	**3.0%**

C.2.1 Tax rate

The nominal tax rate in Norway is used as the basis for the transition from pre-tax to post-tax debt costs. This is consistent with the fact that the interest on debt (which is deductible for the company) is mainly expected to be in Norway. Payments from the company to shareholders/equity are not deductible. This is one of the reasons why no tax adjustment is made to the required rate of return on equity.

C.3 WACC

The WACC is calculated by weighting the equity and debt costs, respectively, based on their market value. The Norwegian Competition Authority uses a consistent weighting in the calculation of the WACC and in the transition from asset to equity beta. When weighting the proportion of equity and debt, long-term expectations of an optimal capital structure should be taken into account.[18] The Norwegian Competition Authority has used observed debt ratios in the industry, taken from Professor Damodaran's global database. This is expected to represent the optimal capital structure for the supplier, wholesaler and retail sectors in the grocery industry, respectively.

Based on the discussion above, the Norwegian Competition Authority has estimated the WACC after tax for the period 2017 to 2022.

[13] Unless the company has its own listed bonds.
[14] Verdivurdering, Kaldestad and Møller (2016). Page 176.
[15] https://investors.orkla.com/English/debt/credit-rating/default.aspx
[16] https://nordiccreditrating.com/issuer/norgesgruppen-asa
[17] https://pages.stern.nyu.edu/~adamodar/New_Home_Page/dataarchived.html
[18] Kaldestad & Møller (2016). Page 178.

Tabell C5 WACC (after tax)

WACC (after tax)						
Segment	2017	2018	2019	2020	2021	2022
Supplier	5.5%	6.0%	5.5%	5.0%	6.0%	7.5%
Wholesaler	5.0%	5.5%	5.0%	5.0%	5.5%	6.5%
Retailer	5.5%	6.0%	5.5%	4.5%	5.0%	6.5%

To assess the reasonableness of the estimates, the Norwegian Competition Authority has compared the estimated WACC with which a selection of major suppliers and grocery chains have used in their impairment tests of goodwill and other intangible assets. Data is taken from annual reports for 2021 and 2022. Note that several of the companies operate in different countries and different segments. These therefore specify an interval for the required rate of return. The lower part of the interval is considered to be most representative of the grocery industry in low-risk countries such as Norway. The Norwegian Competition Authority has rounded the average WACC for the companies to the nearest half percent.

Tabell C6 WACC – comparison against a sample of companies

WACC – comparison against a sample of companies								
	After tax				Before tax			
	2021		2022		2021		2022	
Companies	Low	High	Low	High	Low	High	Low	High
NorgesGruppen	7.0 %	9.7 %	7.2 %	9.9 %	n.a.	n.a.	n.a.	n.a.
Rema 1000 Norway	4.6 %	n.a.	6.5 %	n.a.	n.a.	n.a.	n.a.	n.a.
Rema 1000 Denmark	4.1 %	n.a.	6.1 %	n.a.	n.a.	n.a.	n.a.	n.a.
ICA Sverige	n.a.	n.a.	n.a.	n.a.	6.1 %	n.a.	7.7 %	n.a.
Average	**5.0 %**	**9.5 %**	**6.5 %**	**10.0 %**	**6.0 %**	**n.a.**	**7.5 %**	**n.a.**
Wholesaler	**5.5 %**	**n.a.**	**6.5 %**	**n.a.**	**7.00 %**	**n.a.**	**8.50 %**	**n.a.**
Retailer	**5.0 %**	**n.a.**	**6.5 %**	**n.a.**	**6.50 %**	**n.a.**	**8.50 %**	**n.a.**
Companies	Low	High	Low	High	Low	High	Low	High
Orkla	5.5 %	n.a.	6.3 %	n.a.	7.0 %	n.a.	8.1 %	n.a.
Nestle	5.6 %	9.3 %	5.9 %	10.9 %	n.a.	n.a.	n.a.	n.a.
Uniliver	n.a.	n.a.	n.a.	n.a.	6.4 %	7.6 %	7.4 %	11.8 %
Mondelez	n.a.	n.a.	n.a.	n.a.	6.4 %	9.4 %	6.8 %	9.8 %
Average	**5.5 %**	**9.5 %**	**6.0 %**	**11.0 %**	**6.5 %**	**8.5 %**	**7.5 %**	**11.0 %**
Supplier	**6.0 %**	**n.a.**	**7.5 %**	**n.a.**	**7.50 %**	**n.a.**	**9.50 %**	**n.a.**

As can be seen from Table C6 is the Norwegian Competition Authority's estimated required rate of return for the manufacturer, wholesaler and retail sectors in the grocery industry within a reasonable interval when compared with a selection of companies in the grocery industry. On this basis, it is assumed that the estimated required rates of return for the period 2017-2022 are representative of the return required in the various parts of the grocery industry.

C.4 Supplementary tables

WACC – Supplier						
Equity requirement	2017	2018	2019	2020	2021	2022
Risk-free tax	1.6%	1.8%	1.5%	1.0%	1.7%	3.2%
Market risk premium	5.5%	5.5%	5.6%	5.5%	5.4%	5.4%
Asset beta	0.7	0.7	0.7	0.7	0.8	0.7
Proportion of debt (D/E-ratio)	0.2	0.3	0.3	0.2	0.2	0.3
Equity beta	0.9	0.9	0.9	0.8	0.9	1.0
Required rate of return	**6.4%**	**6.7%**	**6.3%**	**5.6%**	**6.7%**	**8.4%**
Required rate of debt						
Risk-free tax	1.6%	1.8%	1.5%	1.0%	1.7%	3.2%
Debt risk premium	2.2%	3.2%	2.4%	2.7%	2.2%	3.0%
Required rate of debt before tax	3.8%	5.0%	3.9%	3.7%	3.9%	6.2%
Tax rate	24.0%	23.0%	22.0%	22.0%	22.0%	22.0%
Required rate of return after tax	**2.9%**	**3.8%**	**3.0%**	**2.9%**	**3.1%**	**4.9%**
Required rate of return on total capital (WACC)						
Required equity	6.4%	6.7%	6.3%	5.6%	6.7%	8.4%
Equity requirements	0.8	0.8	0.8	0.8	0.8	0.8
Weighted equity requirement	5.1%	5.1%	5.0%	4.6%	5.4%	6.5%
Debt requirement	2.9%	3.8%	3.0%	2.9%	3.1%	4.9%
Proportion of debt	0.2	0.2	0.2	0.2	0.2	0.2
Weightet debt requirement	0.6%	0.9%	0.7%	0.5%	0.6%	1.1%
Nominal required rate of return after tax (WACC)	**5.5 %**	**6.0 %**	**5.5 %**	**5.0 %**	**6.0 %**	**7.5 %**

WACC – Wholesaler						
Equity requirement	2017	2018	2019	2020	2021	2022
Risk-free tax	1.6%	1.8%	1.5%	1.0%	1.7%	3.2%
Market risk premium	5.5%	5.5%	5.6%	5.5%	5.4%	5.4%
Asset beta	0.5	0.5	0.5	0.5	0.6	0.5
Proportion of debt (D/E-ratio)	0.6	0.8	0.7	0.8	0.8	0.7
Equity beta	0.8	1.0	0.9	1.0	1.0	0.9
Required rate of return	**6.3%**	**7.1%**	**6.8%**	**6.3%**	**6.9%**	**7.9%**
Required rate of debt						
Risk-free tax	1.6%	1.8%	1.5%	1.0%	1.7%	3.2%
Debt risk premium	2.2%	3.2%	2.4%	2.7%	2.2%	3.0%
Required rate of debt before tax	3.8%	5.0%	3.9%	3.7%	3.9%	6.2%
Tax rate	24.0%	23.0%	22.0%	22.0%	22.0%	22.0%
Required rate of return after tax	**2.9%**	**3.8%**	**3.0%**	**2.9%**	**3.1%**	**4.9%**
Required rate of return on total capital (WACC)						
Required equity	6.3%	7.1%	6.8%	6.3%	6.9%	7.9%
Equity requirements	0.6	0.6	0.6	0.6	0.6	59.5%
Weighted equity requirement	4.0%	4.0%	3.9%	3.6%	4.0%	4.7%
Debt requirement	2.9%	3.8%	3.0%	2.9%	3.1%	4.9%
Proportion of debt	0.4	0.4	0.4	0.4	0.4	40.5%
Weightet debt requirement	1.1%	1.7%	1.3%	1.3%	1.3%	2.0%
Nominal required rate of return after tax (WACC)	**5.0 %**	**5.5 %**	**5.0 %**	**5.0 %**	**5.5 %**	**6.5%**

WACC – Retail						
Equity requirement	2017	2018	2019	2020	2021	2022
Risk-free tax	1.6%	1.8%	1.5%	1.0%	1.7%	3.2%
Market risk premium	5.5%	5.5%	5.6%	5.5%	5.4%	5.4%
Asset beta	0.6	0.6	0.6	0.5	0.6	0.5
Proportion of debt (D/E-ratio)	0.5	0.6	0.8	0.6	0.5	0.6
Equity beta	0.9	0.9	1.0	0.9	0.9	0.8
Required rate of return	**6.8%**	**6.9%**	**7.2%**	**5.8%**	**6.3%**	**7.6%**
Required rate of debt						
Risk-free tax	1.6%	1.8%	1.5%	1.0%	1.7%	3.2%
Debt risk premium	2.2%	3.2%	2.4%	2.7%	2.2%	3.0%
Required rate of debt before tax	3.8%	5.0%	3.9%	3.7%	3.9%	6.2%
Tax rate	24.0%	23.0%	22.0%	22.0%	22.0%	22.0%
Required rate of return after tax	**2.9%**	**3.8%**	**3.0%**	**2.9%**	**3.1%**	**4.9%**
Required rate of return on total capital (WACC)						
Required equity	6.8%	6.9%	7.2%	5.8%	6.3%	7.6%
Equity requirements	0.6	0.6	0.6	0.6	0.7	0.6
Weighted equity requirement	4.4%	4.4%	4.0%	3.6%	4.1%	4.8%
Debt requirement	2.9%	3.8%	3.0%	2.9%	3.1%	4.9%
Proportion of debt	0.4	0.4	0.4	0.4	0.3	0.4
Weightet debt requirement	1.0%	1.4%	1.3%	1.1%	1.1%	1.8%
Nominal required rate of return after tax (WACC)	**5.5 %**	**6.0 %**	**5.5 %**	**4.5 %**	**5.0 %**	**6.5 %**