

# Slotting Allowances in the Norwegian Grocery Industry: An Economic Analysis

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## **Preface**

This thesis is submitted as part of the two-year master's degree program in Economics at the University of Oslo.

I would like to thank my supervisor, Tore Nilssen, for his invaluable feedback and guidance throughout the writing process. I would also like to thank my family and friends for their continued support through the duration of my studies. It has meant a great deal.

All remaining errors are my own.

Ingrid Haaland Fosvold

November 11<sup>th</sup>, 2018

## **Abstract**

Slotting allowances are defined as fees paid by suppliers in order to gain access to shelf space at the retailer level. Contracts between the two parties on slotting allowances are negotiated both orally and in private, meaning there is no public data to be found on the subject. A prominent characteristic of slotting allowances is that the fee paid is independent of quantity sold. Suppliers provide retail chains with products that retailers then sell on to consumers. For these products, the chains pay the suppliers a wholesale price per unit. Slotting allowances are a factor in determining these prices. Do, however, slotting allowances harm competition in the Norwegian grocery market? I address this question by analyzing the motives of slotting allowances and how they affect competition between retailers. I find that slotting allowances raise consumer prices and reduce the negative consequences of competition for individual retailers, thus increasing the ability of retail owners to enhance their profit.

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# **1. Introduction**

## **1.1. Research question**

The primary aim of this thesis is to research the effect of slotting allowances on retail competition within the Norwegian grocery industry. By examining the use of slotting allowances and how they affect the retail chains' economic decisions, I will attempt to reach some conclusions as to whether or not slotting allowances have negative or positive effects on the level of competition in Norway, focusing the theoretical analysis around the effect on consumer prices.

## **1.2. Background and motivation**

In recent years, the grocery industry has been a matter of debate in Norway. In the early 2000s slotting allowances gained significant media attention, set in motion by numerous reportages on shelf space competition. In the autumn of 2004 claims were made that Synnøve Finden had been excluded from grocery chain Rema1000 as a result of pressure from competitor Tine. The Norwegian competition authority initiated a review of these claims, eventually deciding that Tine had violated the competition law. Tine was later exonerated of these charges in the Norwegian Supreme Court. The case was, however, in many ways, an eye-opener for the general public in regard to the goings-on in the grocery sector. In 2005, the Norwegian business newspaper *Dagens Næringsliv* published an article in which a number of strong claims were made about the conditions in the industry. A small supplier accused retailers of corruption by demanding to be paid for access to shelf-space. "I was in three chains, but now I'm out again. Because I refuse to pay to get in. Corruption." (Johansson og Nordahl, my translation, 2005). The debate further focused on the fact that the large slotting allowance sums could be hidden behind terms such as joint marketing, loyalty bonuses and cooperation bonuses. A concern was that the unclear nature of these bonuses meant that retail chains could increase profit for the chain owners instead of lowering prices for consumers.

Since then, slotting allowances have steadily garnered media attention. Since their introduction during the 1980s, slotting allowances have become an important mechanism for the regulation of market access as well as the exercise of market power. Policymakers have debated measures to ensure healthy competition in the grocery industry as well as actions to lower consumer prices, many focusing on the effect of slotting allowances. In 2011, the Norwegian political party KrF opened for a ban on slotting allowances, arguing that



consumers suffer the consequences when retail chains demand millions for shelf space access (E24, “Krf vil forby betaling for hylleplass”, 2011). In 2015, former minister of agriculture and food, Sylvi Listhaug (FrP), did not reject the idea of banning the practice of purchasing shelf space. “There is a basis for looking at this broadly. We need to look at many different measures to ensure cheaper groceries for consumers”, Listhaug stated when asked by NRK if slotting allowances should be prohibited (NRK, my translation, “Åpner for å forby betaling for hylleplass”, 2015).

There is little literature to be found on the subject of slotting allowances and its effect on retail competition. Stemming from the fact that slotting allowances is a term that was first coined during the 1980s, the literature that does exist is relatively new in the scope of economic theory. There are two main papers that are used as references in this thesis: “Slotting Allowances and Resale Price Maintenance: A Comparison of Facilitating Practices by Greg Shaffer (1991) and “Do Slotting Allowances Harm Retail Competition?” by Øystein Foros and Hans Jarle Kind (2008). The papers and their findings will later be presented and discussed.

The main motivation for this thesis is the increased media attention slotting allowances have garnered in the last few decades. As a consumer of groceries, I, like everyone else, have an interest in low prices and a varied selection. If slotting allowances affect the competition in such a manner that prices are kept high and selection limited, I see this as a problem for all consumers of groceries. I am interested in exploring the ramifications of slotting allowances on the grocery industry as a whole, but also for me as an individual consumer.

### **1.3. Development of the Norwegian grocery industry**

Before delving into the main part of the thesis, I find it necessary to give some background on how the grocery industry has evolved through time. The value chain of the Norwegian grocery industry has been in constant development throughout several decades. During this period, the balance of power between the actors in the market has also varied.

During the 1970s, wholesalers and a few established suppliers had a major influence on which products were offered by the stores. Large wholesalers played a key role through their negotiations with Norwegian and foreign suppliers and they could acquire the products many independent merchants were reliant on.

During the 1980s, the situation changed, and the grocery market became dominated by large suppliers with appealing and well-marketed national brands. The retailers were, however, small and acted independently of each other, only possessing small shares of the total market. The individual grocery store was perceived as passive and easily influenced by the suppliers and wholesalers. The structure of the retail side the market was thus still characterized by many independent merchants, but the formation of chain structures had begun. By the start of the decade, the first Kiwi (Norgesgruppen) and Rema (Rema1000) stores had entered the market. In 1981, the first Bunnpris store was opened in Trondheim, and a year later the first Prix (Coop) store was launched.

Today the grocery market has a completely different structure and a higher level of integration. As early as 1992, 96% of the grocery stores were affiliated with a chain (NOU 2011:4). The most notable development has occurred at the retail level. The rise of national chain operations has resulted in four umbrella chains that dominate the entire Norwegian grocery market. During the last couple of decades, the umbrella chains have taken over wholesaler and distribution functions via vertical integration.

Below are three figures depicting the balance of power in the grocery market during the 1970s, the 1980s and today. The figures demonstrate how the balance of power between the actors has evolved over time. It is evident that the suppliers and the wholesalers/retail chains have altered the most.

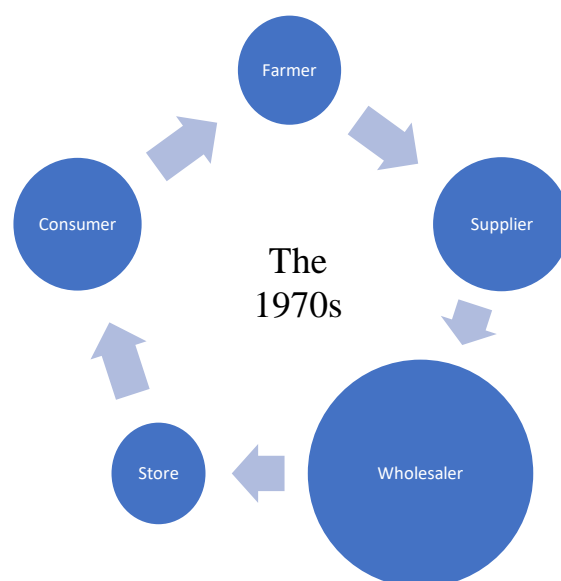


Figure 1a: The balance of power in the Norwegian grocery market during the 1970s.  
Source: NOU 2011:4

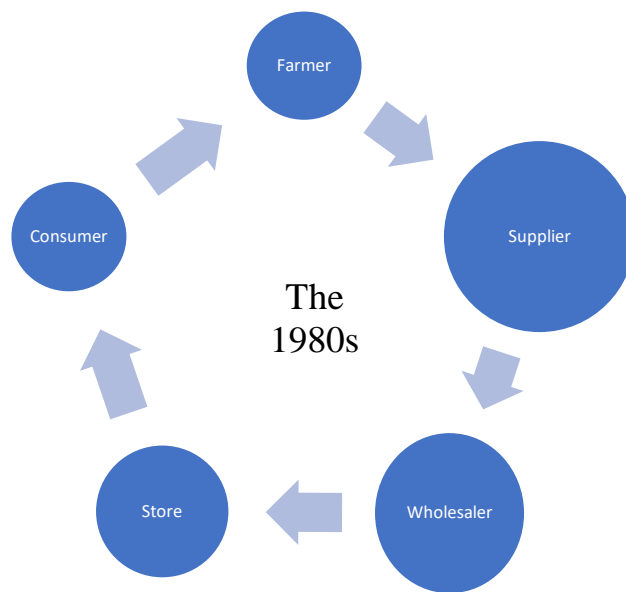


Figure 1b: The balance of power in the Norwegian grocery market during the 1980s. Source: NOU 2011:4.

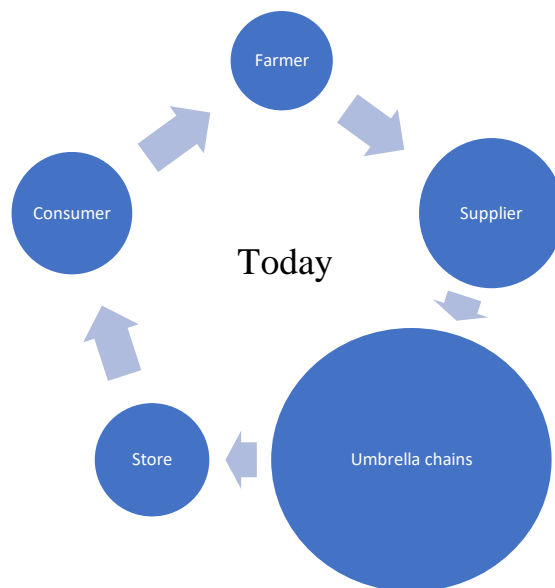


Figure 1c: The balance of power in the Norwegian grocery market today. Source: NOU 2011:4.

#### **1.4. Structure of the thesis**

This thesis is split into 9 chapters. In the second chapter, I explain the organization of the Norwegian grocery industry, first giving an introduction to the two sides of the market, then presenting relevant theories on market structure. In the third chapter, I examine barriers to entry, focusing on how they relate to competition and slotting allowances. The fourth chapter explains the slotting allowances in the Norwegian market, how they are negotiated and how payments are made. In chapter five I discuss the rationales behind slotting allowances, and I also present relevant literature on this topic. The aim of this chapter is to give an overview of which factors incentivize the use of slotting allowances. Chapter six seeks to analyze the effect of slotting allowances on prices. To do so, I present a model that is based on Shaffer (1991) and Foros and Kind (2008) and also show how slotting allowances can have anti-competitive effects. The seventh chapter discusses the rationales mentioned in chapter five and attempts to clarify whether they hold merit in the Norwegian market. This chapter also includes a policy discussion on slotting allowances in Norway and critiques the views held by the Norwegian Competition Authority. Chapter eight sets slotting allowances in an international context and attempts to make comparisons between Norway, Denmark, and the UK. The last part of this chapter is a policy discussion centered around the potential knowledge that can be gained from the Danish and UK cases. Finally, in chapter 9, I conclude the thesis.

## **2. The Organization of the Norwegian grocery industry**

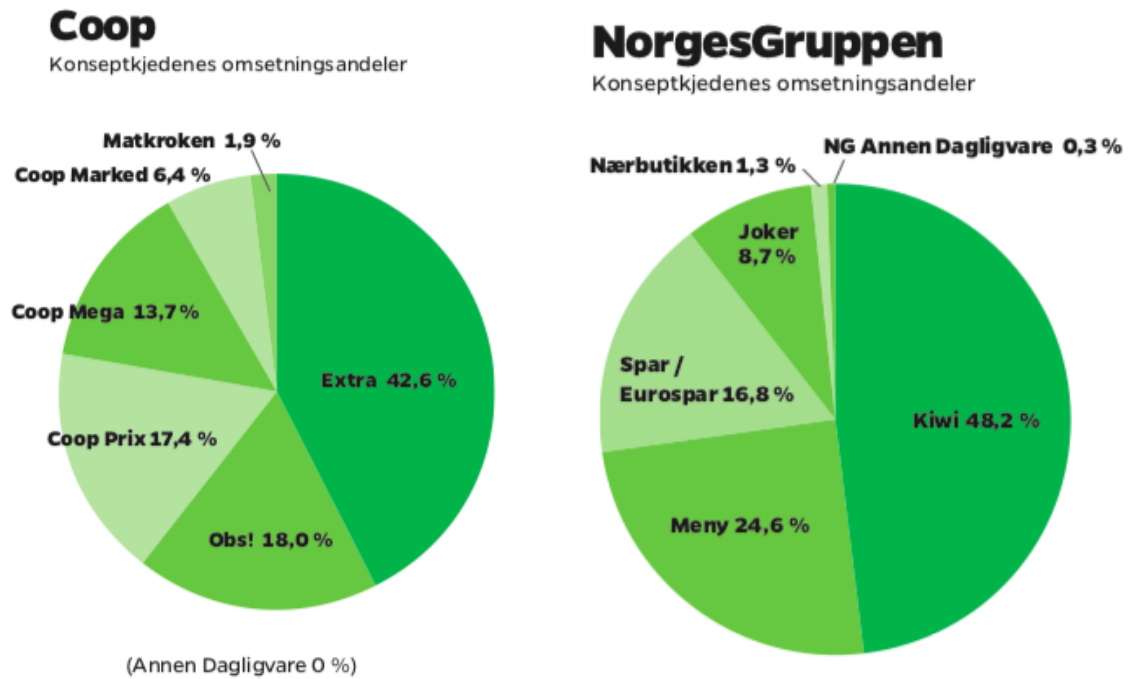
### **2.1. The retailers**

The Norwegian grocery industry is dominated by four large umbrella chains; Norgesgruppen, Coop Norge, Rema1000 and Bunnpris. In addition, there exist some smaller grocery stores that are not affiliated with the large umbrella chains. These smaller grocery stores are however of little interest when examining the effect of slotting allowances, as it is the larger groups who have the most authority to implement slotting allowances. The umbrella chains consist of stores that cooperate in grocery chains (horizontal integration). Simultaneously, these groups each own a wholesaler (vertical integration). The purpose of this organization is to reduce costs and realize efficiency gains. The structural organization of the grocery market will be further discussed in section 2.3.

The umbrella chains each own their different chain concepts and have the right to design and decide the content of these. Norwegian chain concepts are typically sorted into two categories; low-cost concepts and supermarket concepts. Low-cost concepts have a limited selection of products, but lower prices than supermarkets. Supermarket concepts have a wide range of products, where fresh products make up a relatively large proportion, and where prices are somewhat higher than in low-cost concepts.

The product range in the individual grocery concept is divided into different assortment categories. The chains each have a standard assortment of products that all stores must offer. In addition, there are assortment categories such as voluntary assortment, seasonal assortment, and regional assortment. The product range offered by an individual store depends on which chain it belongs to and the size of the store. For suppliers of groceries, it is imperative to place products in the most valuable assortment categories and preferably also in as many assortment categories as possible.

The figures below show an overview of revenue shares for each chain concept within the umbrella chains Norgesgruppen and Coop. Rema1000 and Bunnpris only operate with one chain concept each.



Figures 2 and 3: Revenue shares for concept chains under Coop and Norgesgruppen. Source: Nielsen, Daglivarerapporten 2018.

## 2.2. The suppliers

The Norwegian grocery store's association, DLF, has over 100 members who together account for approximately 95% of the supply of consumer products in Norway (dlf.no). Suppliers include everything from large corporate groups to small suppliers of niche products. The Norwegian Competition Authority (2005) classifies suppliers of Norwegian retail chains into six different categories

- i. International groups (Nestlé, Procter & Gamble)
- ii. Groups who mainly sell to the Norwegian market (Orkla)
- iii. International brand suppliers (Coca-Cola, Santa Maria)
- iv. National brand suppliers (Tine, Gilde, Mills)
- v. Regional suppliers (especially coffee and beer)
- vi. Local suppliers (niche agricultural products)

Generally, the supplier side of the grocery industry is characterized by a high level of concentration. Most of the product categories have one or few dominating actors. Norway has a strict tariff-based import protection system meant to shield Norwegian agriculture and food

production from foreign competitors. Due to this, suppliers of agriculture-based foods are usually Norwegian producers or Norwegian-established subsidiaries of foreign companies. Grocery products that are not agriculture-based, and therefore not tariff imposed, are supplied by both Norwegian and foreign producers.

Private brands are brands that the individual grocery chain has the ownership of, and which are only sold through the individual chain. Examples of such brands are Norgesgruppen's First Price and Coop's X-tra. These private brands typically supply inexpensive alternatives to other supplier brands.

### **2.3. Market structure**

An important element to consider when discussing the grocery industry is its organization. Understanding how the actors behave, and why, is crucial in order to analyze the effects of slotting allowances. The existing literature on slotting allowances focuses on two different theories regarding the market structure of the grocery industry. Most of the literature depicts two layers: suppliers at the upstream level and retailers at the downstream level. Foros and Kind (2008) somewhat depart from this theory and describe the grocery market as having procurement alliances.

#### **2.3.1 Vertical relations**

In the grocery industry, sales mostly happen via intermediaries. A product is not sold directly from the producer to consumer, but rather through retailers. This is what is called a vertical relation. In its most simple form suppliers act as upstream firms and produce a product at a constant unit cost,  $c$ . The supplier then sells their product to a retailer for a wholesale price,  $w_i$ . The retail chains act as downstream firms, selling the product on to consumers for a retail price,  $p$ , at demand  $q$ . (See figure 4). In this type of model, the retail chains are fully integrated, meaning that the chains and their stores act as one firm and maximize their profit as a whole. The composition can nonetheless be more complex and include other intermediaries between supplier and retailer. An example of a composition that is typical for the Norwegian market is supplier – umbrella chain – chain concept – store. But here, as in the simple form, the retail side is usually vertically integrated. An exception could be a vertically separated chain where for example the umbrella chains and the chain concepts have different owners, and thus make their own independent decisions on prices. In a vertically separated

chain, the headquarters of the chain concept maximize their own profit, but not the profit of the entire umbrella chain.

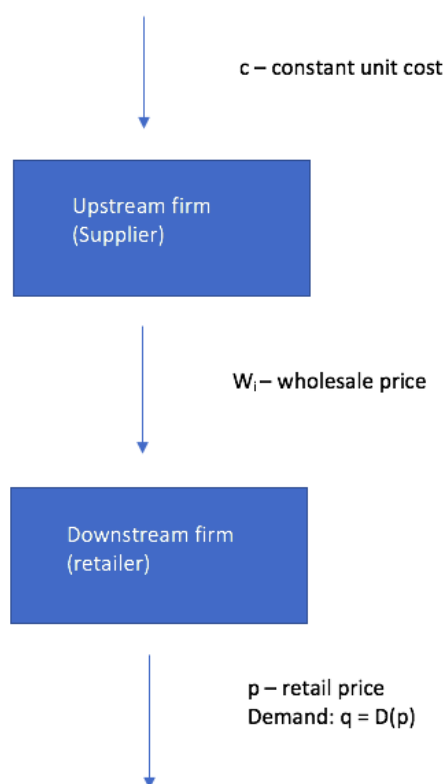


Figure 4: Vertical relation. Adapted from Figure 4.1. Tirole, 1994.

In order to regulate transactions between supplier and retailer, vertical restraints are often implemented. One type of vertical restraint is a so-called two-part tariff – a contract consisting of a constant unit price and a fixed fee that is independent of quantity. Slotting allowances are the fixed fees in two-part tariffs between supplier and retailer. The motives behind the use of vertical restraints are centered around efficiency enhancement (especially in connection to asymmetrical information) and the competition softening effects vertical restraints generate. This is further discussed in chapter 5. If slotting allowances are implemented, the wholesale price will evolve to include the slotting allowance, denoted  $S_i$ . The total wholesale price observed by the suppliers will then be  $w_i = p_w - S_i$ , where  $p_w$  is the price per unit and  $S_i$  is a fixed fee (slotting allowance).



### 2.3.2. Procurement alliances

Procurement alliances are defined as buyer groups formed by large retail chains. (Foros and Kind, 2008). The argument Foros and Kind make is that the existing literature on slotting allowances has not considered that most countries operate with procurement alliances consisting of several retailer sub-chains.

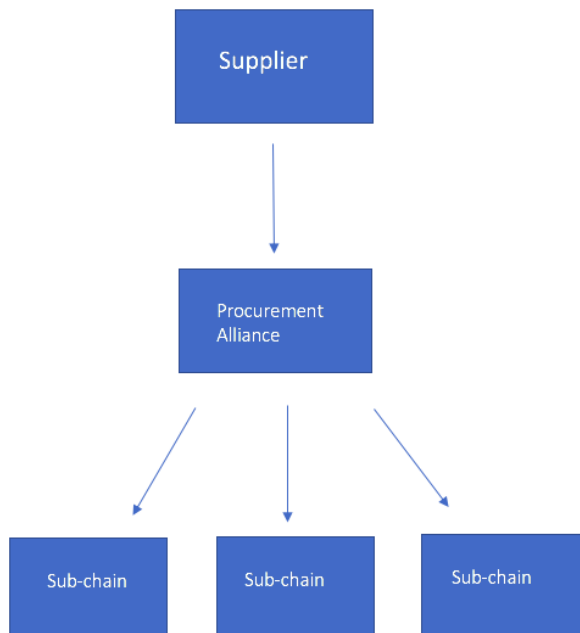


Figure 5: Procurement alliances. Adapted from Figure 1b), Foros and Kind, 2008.

From figure 5 we can clearly see the market structure with procurement alliances. The headquarters of the procurement alliance (buyer groups) are typically only in charge of the procurement of products, which happens via suppliers. The sub-chains then take care of retailing. Even if the sub-chains are owned by the procurement headquarters, they are usually organized as divisionalized firms. While the headquarters decide the procurement contracts at the central level, each sub-chain determines end-user prices. This is in contrast to the upstream/downstream model presented above, where retailers handle both procurement and end-user pricing.

Thus far I have given a preliminary introduction of the Norwegian grocery industry and how it is organized. I now turn to the main part of the thesis, namely slotting allowances and their effect on competition. Before the rationales of slotting allowances are explained and discussed, I first attempt to explain why slotting allowances can generate barriers to entry (chapter 3) and the use of slotting allowances in Norway (chapter 4).

### 3. Barriers to entry

Generally, the more actors present in a market, the higher the level of competition. Increased competition will benefit consumers by lowering prices, increasing quality and generating a more varied selection of products. It is therefore desirable to facilitate new market entrants and make it easier for small actors to expand. Consequently, conditions that make an entrance and/or expansion difficult should, therefore, be remedied, if possible. (Oslo Economics, 2017). In this chapter, I will discuss barriers to entry in the Norwegian market and whether slotting allowances create barriers to entry.

#### 3.1. The level of competition in the Norwegian grocery industry

It is widely agreed upon amongst economists that the grocery industry can be viewed as being oligopolistic, especially in Europe. In Norway, the lack of competition is even more evident, with four nationwide retail chains sharing 99,9% of the market power. (Nielsen, 2018). (See figure 6). The high concentration in the Norwegian grocery industry makes it particularly difficult for new and smaller grocery stores to enter the market. At the same time, stand-alone stores that are already well-established in the market will find it difficult to achieve equally good terms with the suppliers as the grocery chains.

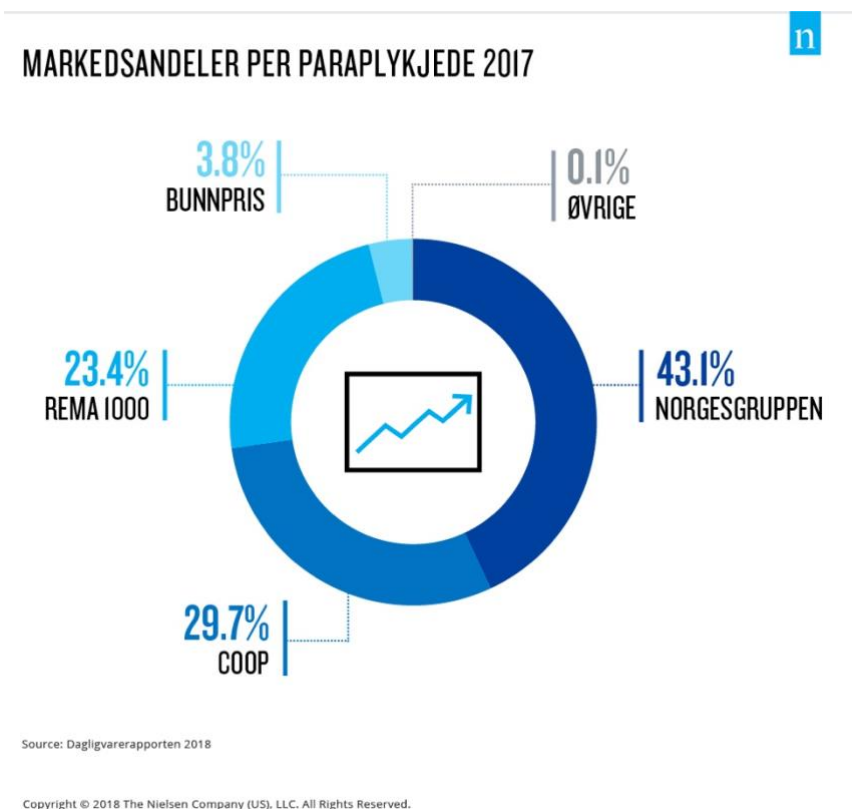


Figure 6: Market share per umbrella chain 2017. Source: Nielsen, Dagligvarerapporten 2018.

Thus, the well-established umbrella chains have a competitive advantage because they achieve better wholesale prices and conditions from the suppliers. It is reasonable to assume that an efficient market entry will require the smaller stores to grow to a comparable size as the umbrella chains. This period of growth may, however, be so long that entry could be unprofitable. Due to this, the most likely way Norway can achieve new entrants is through the involvement of foreign chains. In today's market, large international chains could be the only potential competitor at the retail level.

### **3.2. The relationship between barriers to entry and competition**

Barriers to entry that for different reasons are unnecessarily high can lead to fewer competing firms and also potentially weaken the competition between firms that currently exist in the market. As a consequence, barriers to entry can have a negative effect on economic efficiency. The higher the number of retail chains competing for customers, the more the chains typically have to strive to maintain demand, for example by offering lower prices. The retail chains' market power, i.e. their ability to set prices that exceed the cost of producing is thus assessed to be declining in the number of chains. At a high level of competition, an individual firm may be incapable of earning the revenue needed to cover fixed costs. This is due to the fact that the chains will press prices down to the variable costs simultaneously as sales are divided between a greater number of chains. In the long run, retail chains must cover their fixed costs to remain in the market. Thus, the cost and demand structures determine how many chains there is capacity for. From an economic perspective, the grocery market is best served when prices are set at a level such that only the fixed costs of the most efficient chains are covered, and capital investments garner a normal return. For this to be the case, there needs to be a sufficient number of retail chains in the market. (Oslo Economics, 2017).

### **3.3. Slotting allowances as a barrier to entry**

It is reasonable to assess that slotting allowances create barriers to entry for suppliers. Small suppliers do not have the necessary cash flow and capital required to pay the high slotting allowances demanded by retailers and are therefore incapable of competing with the larger suppliers. It is, however, of a greater interest to me to determine whether slotting allowances lead to barriers to entry for the retailers. Given the lack of competition amongst retail chains in the Norwegian grocery market, one could argue that prices on groceries are unnaturally high due to the use of slotting allowances. This will be further discussed in chapters 5 and 6. The more dominant retailers are able to negotiate higher slotting allowances than their smaller

competitors and are thus able to increase their prices, which in turn leads to increased profit. Following this hypothesis, the high concentration could contribute to fewer retailers being able to enter the market because the costs of doing so are too high. In a report from 2005, the Norwegian Competition Authority observed difficulties pertaining to the entry of new retail chains in the Norwegian market. They found that an important reason for this is that a new competitor must be of sufficient size to be able to achieve the same conditions as the existing chains (NCA, 2005). The NCA does, however, generally dismiss the idea that slotting allowances have a detrimental effect on competition between retailers. I disagree with this assessment and will discuss the reasons why in chapter 7.

## **4. The use of slotting allowances in Norway**

### **4.1. A description of negotiations between retailers and suppliers**

Every fall, suppliers travel to Oslo to present their products to representatives from the Norwegian umbrella chains. In Norway, this is called “høstjakta” (harvest hunt). In these negotiations, suppliers and retailers discuss selection, price, and exposure. Emphasis is especially put on what type of assortment is desired within each product category. Another important aspect of the agreements has to do with line-item discounts. These discounts are product specific. One line-item may, for example, be a 0,5-liter carton of milk from a specific producer, while another line-item may be a 1-liter carton of milk from the same producer. Within the umbrella chains, there are also negotiations on chain marketing activities. These differ greatly between the chains. If the suppliers are not able to negotiate a deal with one of the umbrella chains, this can have significant consequences; the supplier is as good as excluded from Norwegian stores for the following year.

When an agreement has been reached, almost everything is fixed until next year's negotiations. There is nonetheless room for some adjustments. Unit price changes can, for example, be negotiated at fixed times throughout the year. There are however strict restrictions put on suppliers in regard to these negotiations. Suppliers must be able to prove increased costs in order to increase their unit price. There can also be changes in assortment throughout the year. These changes typically apply to new product introductions. If a new product is performing inadequately, retailers sometimes have the power to cut distribution of the product. This is however not always the case, as the initial assortment agreement is usually binding. Lastly, there may be changes in marketing activities. Agreements on marketing are often loosely negotiated, meaning that further negotiations are required to reach a final accord.

### **4.2. Supplier benefits**

The reason slotting allowances are able to exist is that suppliers are willing to pay them. For that to be the case, suppliers must have some incentive that would lead them to pay such high fees. One of these incentives is product placement. The placement of products in stores is a large part of the agreement between retailer and supplier. Suppliers will naturally want their product placed somewhere that will increase the chances that a consumer will choose their

product over others. Payment for a particular space in store shelves rarely happens directly. Rather, an agreement is usually made so that a retailer commits to placing a supplier's product in a space that is favorable. In time-limited campaign agreements it is not unusual that suppliers pay to have their products placed in predetermined spaces. Suppliers can, for example, pay for a product placement in a different area from where the product is normally placed.

Another incentive for slotting allowances on the suppliers' part is joint marketing. This is an agreement on marketing controlled by the chains and can include payment for time-limited campaign placement as previously mentioned, or for example, paid advertisement in store newsletters. However, when suppliers pay for joint marketing, they partially pay for the coverage of the chains' direct costs of marketing. This can, for example, be costs tied to design, printing, and distribution of customer newsletters, ads, etc. In addition, the payment includes a significant element of pure profit transfer as the payment for joint marketing is often much higher than the direct cost of marketing.

A large variety of products are delivered directly to the chains, who further distribute the products to the stores. Many suppliers therefore also benefit from the grocery groups' integrated wholesaler function to carry out logistics tasks such as transportation and storage. These tasks are paid for through slotting allowances.

#### **4.3. Supplier payments**

In the previous section I explained which benefits the suppliers pay for through slotting allowances. In this section, I will explain how these payments are made.

Fixed slotting allowance sums are used to a considerable extent in the Norwegian market. In some cases, the sums in the individual agreements between suppliers and retailers have values of several tens of millions of kroners. Usually, one or more compensations for the supplier can be found in the agreements, but it not necessarily specified specifically what the compensation consists of. As previously mentioned, it is relatively common that the fixed sums are used as payment for joint marketing. For some chains, compensations are very carefully specified in these types of agreements, while in other chains compensations are specified to a small degree. The NCA has found examples of slotting allowances being required as a type of entry fee for suppliers to be able to supply groceries. This applies to both

payments made in order to enter into a long-term agreement and one-time payments in connection with a change in supplier. In the debate on slotting allowances, many argue that payment is required in advance, or “up front”. The NCA find examples that payment is required when the agreement is put into effect. Usually, however, the agreed-upon amount is divided into several payments that occur during the contract period, most often quarterly (NCA, 2005).

## **5. Why do slotting allowances exist?**

Two schools of thought dominate the discussion on the welfare effects of slotting allowances. The efficiency school argues that slotting allowances can, for example, solve problems tied to asymmetrical information. The market power school argues that slotting allowances may have anticompetitive effects. In addition, there are also other types of motives for slotting allowances that are not necessarily formally connected to the two schools of thought. This chapter will explore these motives.

### **5.1. The increased efficiency argument**

There are several theories that tie slotting allowances to efficiency enhancement.<sup>1</sup> For one, the use of slotting allowances can lead to effective use of limited shelf space. According to this theory, slotting allowances are an effective way to distribute shelf space to the most valued products, while also compensating the retailer for different costs associated with the retention of products (direct cost) and the intake of new products that displace others (alternative cost) (NCA, 2005). An example of a direct cost a retailer might face when retaining a new product is the cost of new shelf labels. Because shelf space is a limited commodity, choosing to supply a product will prevent the retailer from supplying another and thus lose out on potential earnings the other product might have accumulated. This is what is called an alternative cost. The products valued highly by consumers will be awarded shelf space, assuming no uncertainty with respect to the product's sales potential and quality.

Another theory is that slotting allowances promote efficiency through risk-sharing. There are some situations (i.e. the introduction of a new product) where neither retailer or supplier have knowledge of how well a product will do in the market. In these circumstances, slotting allowances can divide the risk between the two parties. Risk-sharing is especially important for the retailers. If a retailer were to only pay a unit price for a new product, he would carry all the risk of new product introduction. If the product performs poorly, sales will not cover the alternative cost. In this case, slotting allowances can be used as a tool to transfer some of the risks to the supplier. Slotting allowances will ensure the retailer complete or partial cost recovery in the event of an underwhelming product performance.

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<sup>1</sup> See for example Kelly (1991) who argues that slotting allowances can be used to communicate information and allocate risk between supplier and retailer.



Lastly, slotting allowances can be used for screening and signaling. This theory assumes the existence of asymmetrical information on the demand and/or quality of a product in favor of the supplier. If a supplier knows that a product will have high demand, he will be willing to pay a high slotting allowance because he expects a high unit price. If the supplier knows the product will have low demand, he will not be willing to pay a high slotting allowance because he risks low sales and thus not enough revenue to cover the slotting allowance cost. The supplier can signal to the retailer that he has faith in a product by suggesting a high slotting allowance. Likewise, retailers can screen a product by suggesting a high slotting allowance. Only suppliers with faith in their product will be willing to accept this. Based on this knowledge, the retailers can sort out the best products. In short, screening and signaling increase the likelihood of retailers choosing products that will succeed in the market. This theory assumes that the supplier has more information about the demand potential of a product. The theory will, however, have little relevance if it is the retailer who has this information. Theoretic models of screening and signaling show that slotting allowances can have a redistributing effect between supplier and chain. This will be further discussed in section 5.5.

## **5.2. The market power argument: softened retail competition**

### **5.2.1 Shaffer's theory**

The strategic game between chains and retailers can be influenced by how payments between chains and retailers occur. According to Shaffer (1991), slotting allowances can be used to soften competition through such strategic effects. Shaffer analyzes a situation with limited shelf space and competition between few chains. He assumes that retailers have complete bargaining power over supplies. Shaffer also assumes contract observability between competitors, and that the contract cannot be altered after the initial agreement.

The theory looks at a market where two differentiated retailers compete in prices, and where suppliers are homogenous and perfectly competitive. In this model, suppliers offer identical products, but consumers differ in their store preferences. While one consumer may prefer a store because he likes their layout, a different consumer might prefer another store because he likes the staff. There are no limitations on preferences. This assumption assures that higher retail prices at one store will not cause the store's demand to fall to zero. Because the

suppliers are homogeneous and act in a perfect competition, their profit will equal zero. The retailers, however, are differentiated and act in a duopoly, meaning they can set a higher price than their competitor without losing demand. By setting a retail price that is higher than the wholesale price, retailers can earn a profit. The high resale price also signals to others that the retailer intends to be less aggressive in pricing – a so-called puppy-dog strategy. This incentivizes the other retailers to increase prices, and the initial retailer gains through feedback. The overall effect is softened competition at the retailer level.

The retailers are profit maximizers and determine their retail price with respect to their marginal cost, or in other words, the wholesale price from the suppliers. If a supplier pays one of the retailers a slotting allowance, the unit price must be increased so that the supplier does not experience a deficit. (Remember, suppliers do not earn a profit in this model). Thus, the resale price from retailer to consumer is increased. The other retailer's best response is to also increase his price, independent of whether or not this retailer has a slotting allowance offer.

The total effect of a slotting allowance for one retailer is an increased resale price for both retailers, and thus also increased profit. For the supplier, however, nothing has changed. Either way, suppliers will not earn any profit due to the strong competition. A supplier will, therefore, be indifferent between paying a slotting allowance or not. Because retailers are best served by accepting slotting allowances, the suppliers who are willing to pay are preferred. In equilibrium, retailers will choose a supplier who offers a slotting allowance. In this case, a slotting allowance will be paid, and competition will soften for retailers. In Shaffer's model, he shows that suppliers will gain by offering slotting allowances. Slotting allowances lead to higher wholesale prices, which in turn lead to higher prices for consumers. Shaffer concludes his discussion by stating that slotting allowances have a negative effect on welfare. Shaffer's model is however critique-worthy. The model is based on relatively strict assumptions, like contract observability. The Norwegian grocery industry does not fully satisfy these assumptions, indicating that Shaffer's theory cannot entirely explain the Norwegian market.

### **5.2.2. Foros and Kind's theory**

Foros and Kind (2008) observe procurement alliances. Based on this observation, they argue that concentration is higher for procurement than for retailing, citing Dobson and Waterson (1999) as a source. The buyer groups each handle procurement, while the retailer sub-chains handle retailing. Foros and Kind argue that the procurement alliances use slotting allowances

as a means to soften competition amongst retailers. To reach this conclusion they, like Shaffer, assume imperfect competition at the retailer level.

Foros and Kind's paper is an extension of Shaffer's. In their paper, the authors present a model that is similar to Shaffer's but has the added element of procurement alliances. Both papers agree that contract irreversibility is a correct assumption to make. Resale prices are indeed determined before the pricing game between retailers begin. Where the authors disagree is on the argument of contract observability. Foros and Kind find that contracts need not be perfectly observable in order to achieve the same result as Shaffer, namely that slotting allowances lead to reduced competition at the retailer level. According to them, it is sufficient, but not necessary, that contracts are observable within buyer groups. A conclusion drawn by Foros and Kind is that there has been a correlation between the widespread use of slotting allowances over the last decades and the emergence of large buyer groups. Due to this, the potential for using slotting allowances to raise resale prices has increased.

I will present a concrete model for price competition that is built on Foros and Kind and Shaffer in chapter 6. The two schools of thought that have been presented thus far will be revisited and discussed in chapter 7. I now turn to motives for slotting allowances that are not formally tied to the two schools of thought, and discuss whether they hold any merit in the Norwegian grocery market.

### **5.3. Tacit Collusion**

Retailers in the grocery industry have a common interest in keeping the competition on prices as unaggressive as possible. As previously mentioned, this will increase retailer profit. It is illegal to directly agree upon cooperation to soften price competition. Tacit collusion is not illegal in the sense that no direct price agreement has been made between the competitors. Instead, the retailers agree to play a repeated strategic game without explicitly saying so. This type of strategic game is, however, difficult to actualize because there are incentives to deviate from the agreed-upon strategy. If the other retail chains set high prices, one retail chain can gain by setting a marginally lower price. This will give him increased demand and thus higher sales and increased profit at the expense of the other retail chains. In turn, this deviation can incentivize the other chains to also decrease their prices, leading to increased competition and thus decreased profit. The retail chains consequently face a trade-off between short-term gain (increased profits today) and a long-term loss (deviation by others later).

To determine whether tacit collusion is feasible in the Norwegian market, it is crucial to take a closer look at the conditions between retail competitors. Tacit collusion will occur if the chains put a greater weight on long-term loss than short-term gain. The Norwegian retail chains invest large sums in premises and wholesalers, and they operate in a relatively stable market. This indicates that they have little to gain from initiating a price-war to gain short-term profit. In other words, they have a long-term perspective on time. Another aspect to consider is the short reaction-time retail chains have in response to price cuts from their competitors. Prices in the Norwegian grocery market have a relatively high observability. Retail chains can gain knowledge of their competitors' prices by observing their shelf prices and keeping track of any potential advertisement offers. The Norwegian retail chains also exchange information about each other's prices and sales via the analyst agency AC Nielsen. The subsequent market transparency allows the chains to react quickly to price reductions from their competitors. At the same time, this is information that consumers do not have access to, meaning that there are no positive demand effects to be gained (NCA, 2005).

#### **5.4. Restriction of the product range**

In section 5.1. I discussed how slotting allowances can be used to effectively allocate limited shelf space. In some situations, however, the actors in the grocery market wish to limit shelf space. In the debate on slotting allowances, many have focused on the fact that retail chains may use slotting allowances to limit product variety to a degree such that consumers are negatively affected. It is important to note, however, that maximum freedom of choice for consumers is not optimal from a welfare standpoint. According to the Norwegian Competition Authority, "Economies of scale will make the cost of producing and distributing a large number of product variants that slightly differ from each other too large compared to the added benefit a wide range gives" (NCA, my translation, 2005, p. 28).

The high concentration in the Norwegian market is a possible reason why retail chains could limit product selection. Norwegian retail chains can have incentives to restrict the number of suppliers within each product category in order to reduce transaction costs. This can have excluding effects for smaller suppliers who are unable to deliver the chains' requirement for products. Another aspect to consider is the strategic effect. In a market as concentrated as the Norwegian grocery market, a limited product selection can soften price competition. This is of particular importance due to the fact that chains will profit from reduced competition on

prices. Moreover, limited shelf space leads to increased buyer power with lower wholesale prices and higher slotting allowances for the retail chains.

### **5.5. Profit redistribution**

Slotting allowances can be used as a means to redistribute revenue between suppliers and retail chains. There are two mechanisms for such a redistribution. The first mechanism is screening, as mentioned in section 5.1. When retail chains screen a product, they can transfer a large part of the profit from the supplier. This implies that retail chains have bargaining power over suppliers and thus have the authority to suggest the details of a contract, something we know is accurate for the Norwegian market. The other mechanism, mentioned in section 5.4, is the restriction on product range such that retail chains can transfer profit from suppliers through slotting allowances. There are, however presumptions to be made for such a situation. Firstly, retailers must not have enough bargaining power to present the suppliers with “take it or leave it” contracts. This means there is room for suppliers to negotiate with the retailers. Secondly, the retail chains must face two products with unequal sales potentials, as shown in Marx’ and Shaffer’s (2004) model with two suppliers and one retailer. In the model, Marx and Shaffer argue that the retail chain has incentives to choose a limited assortment of products in a situation where it is only possible to agree on a price per unit. When the use of slotting allowances is introduced, it can be shown that the slotting allowance makes it possible for the retail chain to force the supplier who obtains the shelf space to pay the chain some of what would be its profit. It is important to note that this effect only occurs when the retailer has limited bargaining power. Thus, this mechanism may only apply to strong brand suppliers. Given the high concentration in the retail sector of the Norwegian market, it is reasonable to conclude that the chains do indeed have sufficient bargaining power to offer “take it or leave it” contracts. This assessment is also made by Steinar Kristiansen, former market director for Norgesgruppen. He explains that the retail chains today have all the power in regard to negotiations with suppliers (NRK Brennpunkt, 2015). Restricting product range to redistribute profit through slotting allowances is therefore perhaps not a likely explanation for the Norwegian market.

## 6. A model for price competition

In this chapter, I will present a model for price competition between retailers that is based on the model presented by Shaffer (1991), and the extension of Shaffer's model by Foros and Kind (2008). While Foros and Kind separate between a market with and without procurement alliances, I separate between a market with and without slotting allowances. The purpose of this is to make the distinction between the difference in prices with and without slotting allowances clearer. Foros and Kind presuppose that the retail chains have a marginal cost in addition to a wholesale unit price and that suppliers have a marginal cost that is normalized to zero. In order to further simplify the model, I depart from separate marginal costs and only include the wholesale unit price in my analysis. Shaffer's model assumes a duopoly, i.e. two retail chains competing on prices. Foros and Kind's model assumes that the number of retail chains in the market is equal to or greater than two. For the Norwegian market, this is a more accurate description. Shaffer also assumes perfect wholesale contract observability. Foros and Kind argue that contracts need only be observable by at least one rival in order to reach the same result. I adopt this view in my analysis as loosening the conditions makes the model more realistic.

By comparing the retail chains' end-user prices when slotting allowances are used and when they are not, I can reach a result on how slotting allowances affect prices and the competition on prices between retail chains. I can also draw some conclusions as to whether slotting allowances are efficient, or if they generate a market failure.

### 6.1. The model set-up

I consider a market in which  $n \geq 2$  differentiated retail chains buy a homogeneous input from a perfectly competitive supply sector. The consumers have heterogeneous store preferences and the following Shubik-Levitan (1980) utility function:

$$U(q_1, \dots, q_i, \dots, q_n) = v \sum_{i=1}^n q_i - \frac{n}{2} \left[ (1 - \sigma) \sum_{i=1}^n q_i^2 + \frac{\sigma}{n} \left( \sum_{i=1}^n q_i \right)^2 \right] , \quad (1)$$

where  $v \geq 0$  is a parameter for market potential,  $q_i$  is the quantity supplied by retailer chain  $i$ ,  $n \geq 2$  is the number of retail chains in the market and  $\sigma \in [0,1)$  is a parameter that measures

how differentiated the retail chains are. If  $\sigma$  is equal to 0, the chains are independent of each other. If  $\sigma$  is equal to 1, consumers perceive the retail chains as identical. I use a Shubik-Levitan utility function because it has the advantage that the market does not vary with  $\sigma$  or  $n$ .

The first-order condition of the utility function with respect to quantity,  $q_i$ , is:

$$\frac{\partial U}{\partial q_i} = v - \left[ (1 - \sigma)nq_i + \sigma \sum_{j=1}^n q_j \right] = 0$$

I denote the price charged in the end-user market by retail chain  $i$  as  $p_i$ .

Solving  $\frac{\partial U}{\partial q_i} - p_i = 0$  for  $i = 1, \dots, n$  yields the following inverse demand function:

$$p_i = v - \left[ (1 - \sigma)nq_i + \sigma \sum_{j=1}^n q_j \right] \quad (2)$$

The inverse demand function can be written in a matrix form:

$$p - v = -(1 - \sigma)Aq \quad ,$$

where  $p$  and  $q$  are respectively the price and quantity  $(n, 1)$  vectors,  $v$  is a  $(n, 1)$  vector with the scalar  $v$  in each entry,  $\sigma$  is a scalar and  $A$  is a  $(n, n)$  matrix with element  $n + \sigma$  on the diagonal and element  $\sigma$  everywhere off the diagonal.

Following, the direct demand function can be written in a matrix form:

$$q = -\frac{1}{(1 - \sigma)}A^{-1}(p - v)$$

I define  $d = \frac{\sigma}{(1 - \sigma)n}$  and further define the matrix  $A$  as:

$$A = n(I + dO) \quad ,$$

where  $I$  is the identity matrix with 1 on the diagonal and 0 off the diagonal.  $O$  is the matrix with 1 in all its entries.

It follows that the inverse of matrix  $A$  is given by:

$$A^{-1} = \frac{1}{n}(I + dO)^{-1}$$

Because the product of a matrix by its inverse must be  $I$ , the following is true:

$$(I + dO)^{-1} = I - \left(\frac{d}{1 + dn}\right)O$$

Inserting for  $d$ , I now find that the inverse of matrix  $A$  is given by:

$$A^{-1} = \frac{1}{n}\left(I - \frac{\sigma}{n}O\right)$$

Inserting for  $A^{-1}$  in the expression  $q = -\frac{1}{(1-\sigma)}A^{-1}(p - v)$ , yields the following direct demand function:

$$q_i = \frac{1}{n}\left[v - \frac{p_i}{(1-\sigma)} + \frac{\sigma}{(1-\sigma)n}\sum_{j=1}^n p_j\right] \quad (3)$$

I assume that retailer chain  $i$  pays a wholesale price per unit of the supplier product. I denote this price by  $w_i$ .

The profit for retailer chain  $i$  is thus given by<sup>2</sup>:

$$\pi_i^R = (p_i - w_i)q_i(p_1, \dots, p_n) + S_i \quad ,$$

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<sup>2</sup> Foros and Kind include a marginal cost,  $d$ , of selling goods for each retailer chain. For simplicity, I abstract from this cost.



where  $S_i$  is a slotting allowance, or in other words, a fixed fee specified in the contract between the retail chain and the supplier. If  $S_i > 0$  the retail chain accepts a slotting allowance.

The profit for the suppliers is given by:

$$\pi_i^S = w_i q_i(p_1, \dots, p_n) - S_i$$

I now consider a two-stage strategic game. In the first stage, the retail chains decide whether to offer suppliers contracts with slotting allowances or without. Without slotting allowances, it is required that  $w_i \geq 0$  for suppliers to want to participate in the game. The suppliers will naturally not want to sell their product to retailers for a negative wholesale unit price. With slotting allowances, the retail chain sets a tariff  $T_i = (w_i, S_i)$  such that  $\pi_i^S \geq 0$ . In the second stage, retail chains compete in prices. The game is solved by using backward induction.

The first-order condition from retailer  $i$ 's profit is given by:

$$\frac{\partial \pi_i^R}{\partial p_i} = q_i + (p_i - w_i) \frac{\partial q_i}{\partial p_i} = 0$$

Inserting for the direct demand from equation (3) into the first order condition above yields the following reaction function:

$$p_i = \frac{nv(1 - \sigma) + w_i(n - \sigma) + \sigma \sum_{j \neq i}^n p_j}{2(n - \sigma)} \quad (4)$$

And thus, the equilibrium price for retail chain  $i$  is:

$$p_i^* = \frac{nv(1 - \sigma)(2n - \sigma) + (n - \sigma)[n(2 - \sigma)w_i + \sigma \sum_{j \neq i}^n w_j]}{[n(1 - \sigma) + (n - \sigma)](2n - \sigma)} \quad (5)$$

The outcome of stage 1 depends on whether the market operates with slotting allowances or not. I will look at these cases separately in sections 6.2 and 6.3.

Most economic models are a simplified description of reality, but one could perhaps criticize the model I present as being too simple. An assumption I make is that each retailer chain sells one product. This can be viewed as being unrealistic as we know that retail chains sell a variety of different products. The reason why only one product is included in the model is to distinguish between the end-user price for a product with and without slotting allowances. This is to make the result of the analysis as clear as possible. The model also implies that every retailer chain only has one supplier of products. A justification of this could be that because the model assumes that retail chains only sell one product, there is only need for one supplier. The assumption that retail chains are perfectly competitive is also a simplification. However, because I am interested in the competition between retail chains, I find that this assumption is acceptable. We know that the supplier side of the market is less concentrated than the retail side and that slotting allowances are fees that benefit the chains. It is, therefore, reasonable to assume uncompetitive suppliers when analyzing the use of slotting allowances on retail competition - even though we know that in reality suppliers also compete with each other for market power.

## 6.2. A market without slotting allowances

I now look at a market where it is assumed that there are no slotting allowances ( $S_i = 0$ ). Since suppliers are perfectly competitive, the profit for the suppliers is equal to zero ( $\pi_i^S = 0$ ). In this case, the supplier profit function generates a wholesale unit price that is also equal to zero ( $w_i = 0$ ).

From equation (5), it follows that the end-user equilibrium price in the market without slotting allowances is:

$$p^{nsa} = \frac{1 - \sigma}{n(1 - \sigma) + (n - \sigma)} nv, \quad (6)$$

where

$$\frac{\partial p^{nsa}}{\partial \sigma} < 0$$

From equation (6) it is clear that the end-user price is decreasing in  $\sigma$ . Firms have to set a lower price the higher the degree of competition and vice versa. It is also important to note that if  $\sigma = 1$  it follows that  $p^{nsa} = 0$ . This is due to the fact that chains are then perceived to be perfect substitutes.

### 6.3. A market with slotting allowances

I now assume that the market operates with slotting allowances.

At stage 1, retailer chain  $i$  sets  $(w_i, S_i)$  and solves the following maximization problem:

$$\begin{aligned} \max_{w_i, S_i} \quad & \pi_i^R = (p_i^* - w_i)q_i^*(p_1^*, \dots, p_n^*) + S_i \\ \text{subject to} \quad & \\ & \pi_i^S \geq 0 \end{aligned}$$

Since suppliers are perfectly competitive, the profit for the suppliers is equal to zero:

$$(\pi_i^S = 0), \text{ yielding } w_i q_i^* = S_i.$$

The profit function for the retailer can then be written as

$$\pi_i^R = p_i^* q_i^*(p_1^*, \dots, p_n^*)$$

Consequently, the first order condition is

$$\frac{\partial \pi_i^R}{\partial w_i} = \frac{\partial p_i^*}{\partial w_i} q_i^* + \frac{\partial q_i^*}{\partial w_i} p_i^* = 0 \quad (7)$$

The direct demand from equation (3) and the equilibrium price from equation (5) respectively yield:

$$\frac{\partial p_i^*}{\partial w_i} = \frac{(2 - \sigma)n(n - \sigma)}{[n(1 - \sigma) + (n - \sigma)](2n - \sigma)}$$

and

$$\frac{\partial q_i^*}{\partial w_i} = \frac{1}{(1-\sigma)n^2} \left[ -(n-\sigma) \frac{\partial p_i^*}{\partial w_i} + \sigma \sum_{j \neq i}^n \frac{\partial p_j^*}{\partial w_i} \right] \quad (8)$$

I assume that the retail chains commit to the wholesale unit price tariffs and that the tariffs are observable by at least one competitor. I can then use equation (5) to derive the following:

$$\frac{\partial p_j^*}{\partial w_i} = \frac{\sigma(n-\sigma)}{[n(1-\sigma) + (n-\sigma)](2n-\sigma)} > 0 \text{ for } \sigma > 0 \quad (9)$$

Retail chain  $i$ 's end-user price is increasing in the wholesale unit price,  $w_i$ . Since prices are strategic complements, an increase in  $w_i$  will lead the competitors to increase their prices. This strategic effect explains why equation (9) is increasing in positive substitutability,  $\sigma > 0$ .

In the symmetric equilibrium, I can set  $w_i = w$  for all  $i$ . Using equations (7) – (9) I can derive the wholesale unit price:

$$w^{sa} = (1-\sigma)\sigma^2 \frac{(n-1)nv}{(n-\sigma)[n^2(1-\sigma)(3-\sigma) + (n-\sigma)^2]} \geq 0 \quad (10)$$

$$w^{sa} > 0 \text{ iff. } 0 < \sigma < 1$$

With imperfect competition, each chain will have an incentive to agree with the supplier on a relatively high wholesale unit price. This is due to the fact that competitors will respond to a rival's high wholesale unit price with increased end-user prices. This strategic effect is however weak for small values of  $\sigma$ . If  $\sigma = 0$ , the strategic effect is non-existent, and consequently the wholesale unit price is equal to zero ( $w^{sa} = 0$  for  $\sigma = 0$ .) In other words, with zero substitutability, the retail chains will offer products that are independent of each other and there will be no strategic effect of changes in prices.

With perfect substitutability, the retail chains are much more sensitive to changes in prices. This is due to the fact that when consumers face products that are perfect substitutes, their demand will significantly alter with small changes in prices. Thus, the direct effect will

always be stronger than the strategic effect,  $\frac{\partial p_i}{\partial w_i} > \frac{\partial p_j}{\partial w_i}$ , meaning that if a retailer chain tries to set  $w_i > 0$  for  $\sigma = 1$ , the chain will lose demand (and thus sales) to the competitors. This also explains why  $w^{sa} = 0$  for  $\sigma = 1$ . I can, therefore, draw the conclusion that retail chains will have a stronger incentive to set a high wholesale unit price for intermediate values of  $\sigma$ .

Equation (10) also implies that  $\frac{\partial w^{sa}}{\partial n} < 0$ , meaning that retail chains will have a stronger incentive to set a low wholesale unit price the larger  $n$  is. In other words, retail chains will want to steal business from their competitors the higher the level of competition.

By inserting equation (5) into (10) I can derive the end-user price with slotting allowances:

$$p^{sa} = (1 - \sigma) \frac{(2 - \sigma)n^2 v}{n^2(1 - \sigma)(3 - \sigma) + (n - \sigma)^2} \quad (11)$$

And the size of the slotting allowance will be equal to

$$S_i = (1 - \sigma)\sigma^2 \frac{(n - 1)v^2[n^2(1 - \sigma) + (n - \sigma)^2]}{(n - \sigma)[n^2(1 - \sigma)(3 - \sigma) + (n - \sigma)^2]^2} \quad (12)$$

From equation (12) it is clear that the relationship between  $S_i$  and  $\sigma$  is hump-shaped. This is due to the fact that  $w^{sa}$  reaches a maximum for an intermediate value of  $\sigma$ . Since  $w^{sa}$  is decreasing in  $n$ , it follows that the slotting allowance is smaller the larger the number of retail chains,  $n$ .

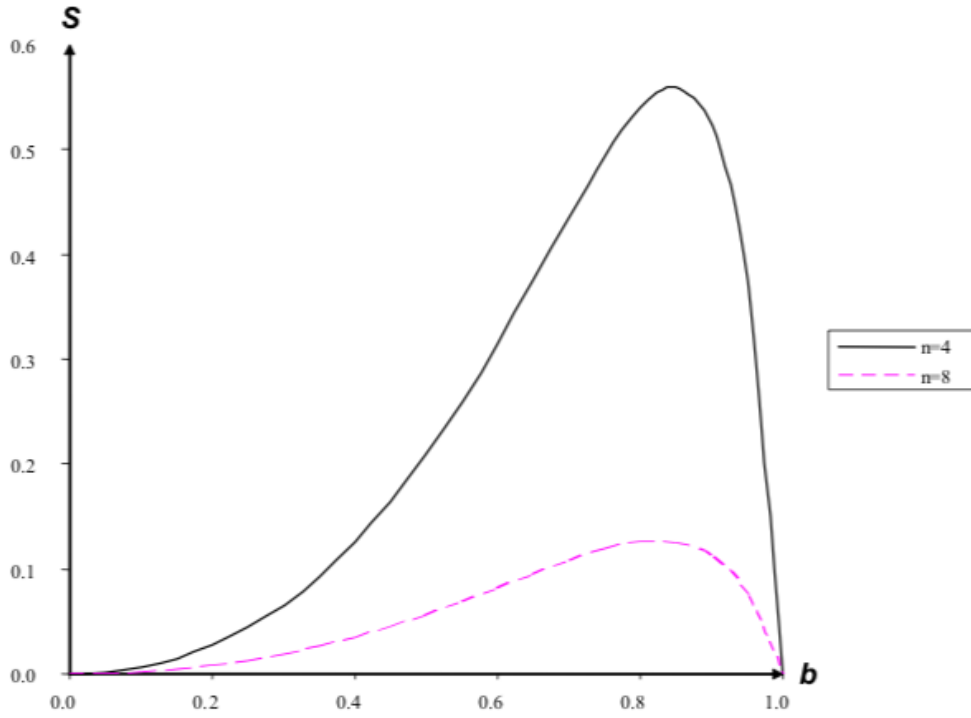


Figure 7: Slotting allowances and retail competition. Source: Foros and Kind (2008).

Figure 7 shows the size of slotting allowances with four and eight retail chains. In this figure, Foros and Kind have set  $v = 10$ . It is clear that slotting allowances will have a lower value for a higher number of retail chains,  $n$ . The relationship between slotting allowances and the number of retail chains is thus negative.

Using equations (6) and (11), I can find the difference in price with and without slotting allowances:

$$\Delta p = p^{sa} - p^{nsa} = \frac{n - \sigma}{n(1 - \sigma) + (n - \sigma)} w^{sa} \geq 0 \quad (13)$$

From equation (13) it is clear that the difference in price with and without slotting allowances is also hump-shaped. The price difference reaches a maximum for an intermediate value of  $\sigma$  (Shaffer, 1991). Following the intuition of equation (13), it is reasonable to draw the conclusion that slotting allowances are used to soften competition if the consumers perceive the retail chains to be imperfect substitutes,  $p^{sa} - p^{nsa} > 0$  for  $0 < \sigma < 1$ . The end-user retail price is thus higher with slotting allowances than without.

Slotting allowances can be seen as a form of non-linear wholesale pricing. In this case, the non-linear wholesale price is a two-part tariff with a fixed fee. In general, when competition is strong, it is more difficult to maintain non-linear pricing. Under the assumption that contracts can be observed by at least one competitor, slotting allowances will be observed in equilibrium. Suppliers will charge a high wholesale unit price, but they give their profits back to retailers through slotting allowances. It would seem that the rationale behind the use of slotting allowances, and the ensuing high wholesale unit prices, is to reduce the negative effects of competition and for retail chains to capitalize on their market power. When the wholesale unit price rises, the end-user price follows suit. This is to the advantage of the retail chains. Without slotting allowances, wholesale unit prices are equal to zero in equilibrium and prices are reduced, to the advantage of consumers. We can, therefore, conclude that slotting allowances lead to a form of market failure because welfare is higher without them.

## **7. Slotting allowances' effect on retail competition: a discussion**

In this chapter, I will discuss some of the previously mentioned motives for slotting allowances, how they relate to the Norwegian market for groceries and whether they hold any merit. The discussion is mostly weighted around the efficiency-enhancing effects and the strategic effects of slotting allowances. The other motives for slotting allowances and their context in the Norwegian market have been previously discussed in sections 5.3-5.5. The last section of this chapter will focus on the political discussion that is centered around slotting allowances in Norway.

### **7.1. Efficiency-enhancing effects**

In section 5.1. I presented the theory that slotting allowances can lead to increased efficiency. One of the arguments of this theory states that slotting allowances compensate retail chains for the loss in profit due to alternative costs. Accordingly, low-cost chains with limited shelf-space should require a higher slotting allowance than those with more shelf-space and a wider selection of products. The Norwegian Competition Authority (2005) has, however, found that the opposite seems to be true for the Norwegian market. The low-cost chains require lower slotting allowances than the wide-variety chains.

Another theory in the argument for increased efficiency that I previously mentioned is risk-sharing, with emphasis put on the introduction of new products. If slotting allowances are meant to transfer risk from chain to supplier, and thus insure the retail chains against losses in the event that a product should fail, the slotting allowances for new products should be relatively high. There is, however, no general tendency for Norwegian retail chains and suppliers to agree on particularly high slotting allowances for new products. (NCA, 2005). On the contrary, there is some indication that large and established suppliers of well-known brands pay the chains large slotting allowance sums. In an episode of the Norwegian investigative documentary series, Brennpunkt, the CEO of Orkla, Peter Ruzicka, admitted that the company uses significant sums to enter the chains every year. He would not comment on how large these sums are but disclosed that they are “somewhere in the billions” (NRK Brennpunkt, 2015). For already well-established products, risk-sharing as a motive for slotting allowances may, however, hold some merit. Over time, consumers can alter their preferences for products, for example as a result of negative or positive media attention surrounding a certain food group.



The last efficiency enhancing argument for slotting allowances with respect to retailers that I presented in section 5.1 is signaling. A retail chain uses a supplier's willingness to pay a high slotting allowance as a signal that he has faith in the sales potential of a product. According to Rao and Mahi (2001), suppliers can use advertisement to signal faith in a product, as an alternative to slotting allowances. If this is the case, low slotting allowances should be observed for suppliers who advertise heavily. Another conclusion that can be drawn is the fact that suppliers of large, well-known brands should pay lower slotting allowances than suppliers of unknown brands if slotting allowances are used to signal demand potential. The Norwegian market tells us differently. It is often the suppliers of large brand names that advertise the most frequently and successfully. According to the statement made by Peter Ruzicka, we also know that suppliers of large brands pay considerably high sums. It is, therefore, reasonable to say that signaling may not be a significant motive for slotting allowances.

## **7.2. Strategic effects**

In chapter 6 I presented a model that shows how slotting allowances can be used to strategically soften retail competition. In order to compensate for the slotting allowances, suppliers must increase the wholesale unit price to the retail chains. This leads to increased prices for the consumer, implying less competition and increased retail profit. In my analysis, I showed that slotting allowances will be harder to implement if the degree of competition is sufficiently strong. This is in accordance with Foros and Kind and Shaffer's theory. The Norwegian Competition Authority disagrees with this assessment, stating that "If the theory is any good, one should observe especially high slotting allowances for product categories where the competition between chains is very strong." (NCA, my translation, 2005, p.55). Sudhir & Rao (2006) echo this view. Foros and Kind counter argue, stating that the views held by NCA and Sudhir & Rao are in general not true because Foros and Kind's analysis shows that the size of the slotting allowances must be reduced in the event that the chains become close substitutes. They do however admit that it is possible to imagine that the entrance of a new retail chain could increase the size of the market so much that the wholesale unit price is increasing in  $n$ . (Remember that with the Shubik-Levitan utility the size of the market is independent of  $n$ ). They, however, find this unlikely in a mature grocery market, such as the Norwegian one. Foros and Kind further argue that they "suspect the belief that the size of the slotting allowances increasing in the extent of competition is partly caused by a lack of accuracy in distinguishing between industry-wide benefits from using slotting

allowances and individual undercutting incentives” (Foros and Kind, 2008, p.376). They explain that retail chains have more to gain from the use of slotting allowances to raise prices when competition is strong. Simultaneously, retail chains also have incentives to undercut rivals in order to increase gains when consumers perceive the chains to be more or less perfect substitutes. I tend to agree with Foros and Kind's assessment and not the views held by the NCA. The model I have presented is in accordance with Foros and Kind (2008) and finds that slotting allowances are negatively correlated with the level of competition. The NCA's criticism of the competition softening effects of slotting allowances is based around the assumptions made by Shaffer (1991) regarding contract observability. In my model, I have shown that the same conclusion as Shaffer can be reached when relaxing the assumptions. Given this analysis, I disagree with the NCA's opinion that slotting allowances do not soften competition through strategic effects.

According to the model presented in this thesis, end-user prices are set with respect to wholesale unit prices. The Norwegian Competition Authority has some arguments against this. Firstly, the NCA argues that Norwegian retail chains claim that fixed costs are included in the calculations to determine end-user prices. If this is the case, consumers face a form of average pricing, and thus the strategic effect of a combination of slotting allowances and unit prices compared to only unit prices is eliminated. Again, I find a reason to critique the NCA. There is no evidence to support the claims made by the retail chains, and it is thus important to note that these claims could be misleading. The sums generated through slotting allowances may incentivize the chains to secretly hold back some of their profits, especially because a retail chain's distribution of profit is private information. Secondly, the NCA has observed that there is a big difference in the gross imbalance between products, explained by the fact that competition is tougher for some products than others. The NCA thus argue that it is the competitor's price level that determines the prices of each chain. Wholesale prices and retail prices in the chains are much more decoupled than assumed in the model. I agree with the NCA on the argument that end-user prices and wholesale prices may not be as correlated as is assumed in the model. The model I have presented is simplified and is therefore not entirely realistic. However, there are grounds to argue that higher wholesale prices will increase consumer prices. As I have shown, slotting allowances will incentivize suppliers to set high wholesale unit prices. As retailers are profit maximizers, they will respond to the high wholesale prices by increasing end-user prices. It is therefore inaccurate to argue that prices are solely determined on the basis of competitor prices. Consumer prices are indeed also

determined by wholesale prices. The Norwegian Competition Authority concludes that strategic competition softening as an explanation for the use of slotting allowances lends little credence. As I have mentioned, I disagree with this conclusion. They do however find that it can have a certain validity in individual product markets due to the fact that there are differences in how prices are set.

### **7.3. Policy discussion**

The owners of the large retail chains have accumulated a large amount of wealth over the course of just one generation. Steinar Kristiansen, former head of markets for Norgesgruppen, implies that this is in large part due to the enormous sums acquired through slotting allowances. He argues that Norwegian consumers overpay for groceries (NRK Brennpunkt, 2015).

In total, suppliers estimate that they pay retail chains between 7 and 10 billion kroners (2015) annually for bonuses, discounts, and market support. Norgesgruppen defends these large payments, arguing that the money is deducted from the price of the product and that this leads to lower prices overall. Øyvind Andersen, present executive vice president of purchasing and category development, explains that Norgesgruppen has two types of discounts that decrease the consumer price: a cooperation bonus on the whole purchase from the supplier, as well as line item discounts on individual products. Andersen states that both these components are added in the calculation of the prices consumers will face and that the system contributes to the lowest possible end-user prices (NRK Brennpunkt, 2015). Peter Ruzicka, CEO of supplier Orkla, on the other hand, argues that these large sums of bonuses and discounts do not necessarily follow the product all the way to the consumer. On slotting allowances, Ruzicka explains “I am under the impression that since the 90s this has developed in a more unfortunate direction. I do not blame any single participant. This has evolved over time. It has evolved into a system with some unfortunate effects” (NRK Brennpunkt, my translation, 2015). Economist and author, Espen Bogen, echoes Ruzicka’s view and states rather harshly that “Andersen is lying through his teeth when he says that bonuses give lower prices for consumers” (Bogen, 2015). He also expresses doubt as to whether the NCA have properly done their job, referring to their report from 2005, and questions whether their economic experts fully understand the meaning of slotting allowances.

Randi Flesland, head of the Norwegian Consumer Council argues that the retail chains have too much power and that this power is abused. She asserts that the retail chains make decisions on prices and keep slotting allowances as profit instead of decreasing consumer prices. This allows the chains to control which suppliers are able to access shelf space. In negotiations, retail chains act as both procurer and competitor as the retailers also own private brands which are essentially lower-priced copies of other product brands. Flesland states that increased competition will serve consumers by lowering prices to a natural level and that the Norwegian government should consider implementing regulations on the use of slotting allowances (NRK Brennpunkt, 2015). Whether this statement holds true will be explored in the next chapter, where I will discuss the use of slotting allowances in Denmark and the United Kingdom and attempt to reach some conclusions as to how the Norwegian market compares to markets with a higher level of competition. Whether regulations on slotting allowances can improve competition is also an interesting matter of debate. This will be explored in section 8.2, where I will discuss the fact that the UK has implemented a prohibition on retailers requiring suppliers to pay slotting allowances.

Foros and Kind argue that there are alternative instruments to slotting allowances. In the efficiency argument on slotting allowances, many of the motives are concerned with challenges to new product introduction. Suppliers can use slotting allowances as a screening or signaling device when there exists asymmetrical information to the supplier's benefit. When the retail chain does not expect the supplier to go bankrupt, an alternative to screening and signaling could be buy-back guarantees. Desai (2000) argues that it may be more efficient for a supplier to advertise than to offer to pay a slotting allowance if the main goal is to signal the market potential of a new product. Another motive for slotting allowances is the fact that they may serve as an effective way to allocate scarce shelf space. An alternative is for suppliers to reduce the wholesale unit price. Even though alternatives exist, retail chains prefer to use slotting allowances. A possible answer for why this is the case is the fact that slotting allowances have the added benefit of softening retail competition. It should, therefore, be of interest for the Norwegian government to explore alternative methods to achieve efficiency effects without anti-competitive side-effects.

Today, slotting allowances are legal in Norway. The Norwegian Competition Authority has conducted a thorough review of slotting allowances in the Norwegian grocery industry and has not currently found any evidence of violations of the competition law. They do, however,

base this assessment on their report on slotting allowances from 2005 that I have critiqued throughout this thesis. In my view, the NCA should revisit their review, especially considering how increasingly outdated it is becoming as time goes on.

According to Eurostat (2017), Norway has the second most expensive groceries in Europe, and several reports point to the fact that the selection of products is less varied in Norway than in comparable countries (Næringskomiteen (Industry Committee), 2017-2018). The NCA (2005) have found that slotting allowances can lead to lower consumer prices, given a sufficient level of competition. In their experience, when chains use their bargaining power to achieve slotting allowances, the effect is reduced prices for consumers. Based on the model presented in chapter 6, I have found this to be untrue. The use of slotting allowances raises wholesale unit prices, which in turn increases end-user prices. The model has, nonetheless, shown that with sufficient competition, the size of the slotting allowances will be reduced. Still, consumer prices are higher with slotting allowances than without.

In March of 2018, the Norwegian parliament issued a proposal urging the government to submit a motion for a so-called law of good trading practice.<sup>3</sup> One of the members of parliament behind the proposal, Terje Lien Aasland, says the reasoning behind such a law is the increased concentration of market power which has led to conditions that are less than optimal. Aasland also points to problems tied to the distribution of products and to negotiations on wholesale prices between suppliers and retailers (Valvik, 2018). In regard to this, I argue that one of the measures the parliament should implement is regulations on the use of slotting allowances. The parliament is adamant that realizing the measures proposed in the good trading practice will lead to increased competition and efficiency in the grocery industry, and as a result benefit the consumers (Næringskomiteen, 2017-2018). The Minister of Trade and Industry, Torbjørn Røe Isaksen, disagrees, arguing that a law of good trading practice will require a significant amount of resources, and not directly benefit consumers, nor solve any problems tied to competition in the grocery sector. He further implies that a solution will more likely be achieved through measures to increase competition. (Næringskomiteen, 2017-2018). Whether the law of good trading practice can offer any potential solutions to the high concentration in the grocery market remains to be seen. However, if the law can counteract problems tied to slotting allowances, I see this as a step in the right direction.

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<sup>3</sup> A similar practice invoked by the UK authorities will be discussed in section 8.2.

## 8. Slotting allowances in the international context

Thus far, this thesis has solely focused on slotting allowances in the Norwegian market. An interesting aspect to consider, however, is whether the use of slotting allowances and their consequent effect on competition in the Norwegian grocery market is unique compared to other countries. This chapter will explore the concentration of retail chains and the use of slotting allowances in Denmark and in the United Kingdom and attempt to make some comparisons to the Norwegian market.

### 8.1. Denmark

Denmark is one of Norway's closest neighbors, and it is, therefore, natural to compare the two. The Norwegian market for retailers is relatively more concentrated than the Danish market, although both countries are considered to have high retail concentration. A general measure for market concentration is the Herfindahl-Hirschman index (HHI). HHI is defined as the sum of the square of retailers' market shares given by the following formula:

$$HHI = \sum_{i=1}^n s_i^2 \quad ,$$

where  $s_i \in [0,100]$  is the market share of retail chain  $i$ , and  $n$  is the number of chains. The index has a scale from 0 to 10 000, where 10 000 indicates that a chain has 100% market share ( $100^2 = 10\,000$ ). According to the guidelines of the U.S. Department of Justice and the Federal Trade Commission (2010), a market is considered to have a high concentration at an HHI greater than 2500, a moderate concentration at an HHI between 1500 and 2500, and low concentration at an HHI below 1500. Oslo Economics (2017) find that Norway has an HHI index of 3264, while Denmark has an HHI index of 2772.

Norway differs from Denmark in the fact that it has a lower number of chains and the absence of international competition. Figure 8 gives an overview of the market shares of retail chains in Denmark. An interesting observation to be made is the fact that the Norwegian umbrella chain Reitangruppen, which consists of the grocery store Rema 1000, has a considerable share in the Danish market. Other foreign retailers in the Danish market are the German concepts Lidl and Aldi. Norway and Denmark are similar in the fact that the two largest chains possess an aggregate market share of about 70%. However, by comparing the three largest chains in

Norway (96,1% of the aggregate market share) with the three largest chains in Denmark (81,7% of the aggregate market share), a considerable difference can be observed.

Denmark Grocery Chain Market Shares 2018

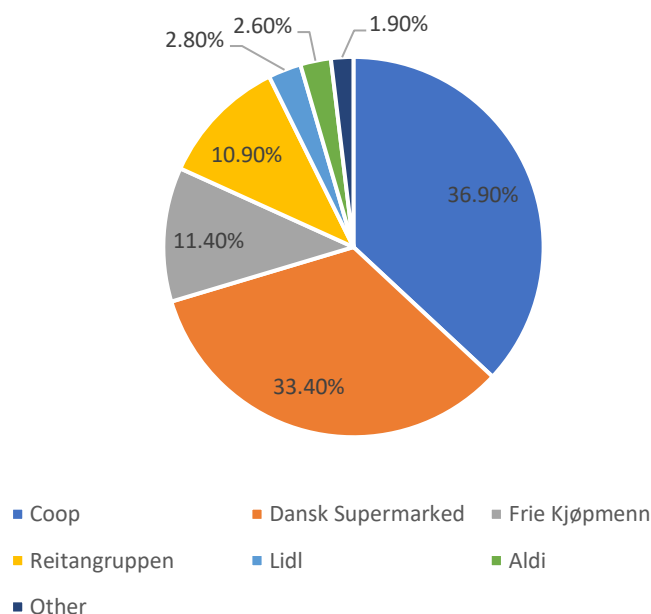


Figure 8: Market shares per retail chain in Denmark. Adapted from: Dagligvarukartan 2018, DLF Sverige.

In 2004, the Danish Competition Authority (DCA) published their annual competition report, in which the use of slotting allowances in the Danish market was reviewed. According to the report, DCA found that slotting allowances do not give rise to problems concerning competition when there is effective shelf space competition between multiple suppliers. On the contrary, they argue that slotting allowances can have positive effects on competition. The DCA also concludes that slotting allowances are efficiency enhancing by promoting innovation and product development and ensuring that shelf space is effectively allocated. The DCA's conclusions echo those made by their Norwegian counterpart. In section 7.2, I made arguments against the NCA's assessment that slotting allowances are not detrimental to competition. Given that the Norwegian and Danish grocery markets are relatively similar, it can be perceived that the use of slotting allowances also has similar effects in both markets. However, it is important to note that the Danish market is less concentrated and includes foreign competition. Hence, slotting allowances in the Danish market may have a smaller effect on retail competition compared to Norway. According to the model I presented in

chapter 6, wholesale unit prices are lower the higher the level of competition (the higher the number of retail chains). Since slotting allowances heavily depend on the size of wholesale unit prices, slotting allowances will also be low when unit prices are low. Low slotting allowances will, in turn, give low prices. This gives rise to argue that end-user prices in Denmark may be relatively lower than end-user prices in Norway.

## **8.2. United Kingdom**

Compared to Norway, it is evident from figure 9, that the UK market has a larger number of retail chains competing for customers. It is also evident, as in the Danish market, that foreign competitors are present in the UK grocery market. An especially interesting element of the UK case is the fact that retail chains are prohibited from requiring suppliers to pay slotting allowances. Whether this has any implications for the level of competition between retailers in the UK will be discussed later in this chapter.

According to the Herfindahl-Hirschman index, the UK grocery market is classified as being moderately concentrated (Corfe and Gicheva, 2017).<sup>4</sup> During the late 1990s and early 2000s, however, the UK grocery market was characterized as having a high level of concentration, with four retail chains sharing the majority of the market. However, German retail chains Lidl and Aldi have in recent years eroded the market share of these chains, and the concentration has thus declined. With the added competition brought on by foreign retailers, the UK retail chains have since experienced price wars on grocery products.

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<sup>4</sup> It should be noted here that Corfe and Gicheva use the European Commission's guidelines on the assessment of horizontal measures (2014) to classify the concentration in the UK. According to the U.S. Department of Justice and the Federal Trade Commission (2010), the UK market is considered to have a low concentration.



## UK Grocery Chain Market Shares 2018

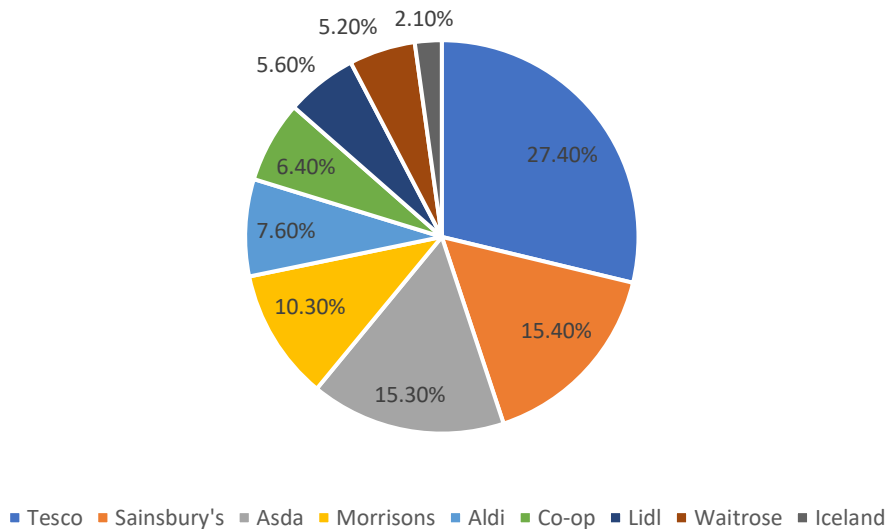


Figure 9: Market shares per retail chain in the UK. Adapted from: Kantar Worldpanel, market share summary, 12 weeks to October 7<sup>th</sup>, 2018.

During the period of high concentration, the UK Competition Commission published a report evaluating the situation in the grocery market. In regard to slotting allowances, they found that the large retail chains required high fees for shelf space access in their negotiations with suppliers. A concern of the Competition Commission was that these fees were not related to cost saving, and thus had potential negative effects on competition. A conclusion drawn was that the slotting allowances led to a reduction in innovation and product development, negatively affecting consumers by reducing quality and variety, and creating barriers to entry for new potential actors in the market (NCA, 2005). This assessment is incidentally not shared by the NCA. They, unlike the UK Competition Commission, do not find that slotting allowances have unfavorable effects for the Norwegian grocery industry.<sup>5</sup>

The Competition Commission recommended that guidelines should be implemented through a so-called Code of Practice. Following these recommendations, the Office of Fair Trading published a “Good behavior code for supermarkets and suppliers” in 2001. One of the guidelines prohibits retail chains from requiring one-time payments in order to stock a supplier’s product, the exception being payments tied to marketing or the launch of new

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<sup>5</sup> cf. sections 7.1. and 7.2.

products. Another guideline prohibits retail chains from requiring one-time payments for better placement or increased shelf space for a product (NCA, 2005).

Whether or not the Code of Practice has been successful is debatable. After an examination of the code's effects by the Office of Fair Trading in 2004, it was revealed that the parties had differing views. While retail chains were generally satisfied with the code, some suppliers were under the impression that the guidelines did not serve their purpose. One of the main issues was that some suppliers were fearful that any sign of dissatisfaction would lead the retailers to downgrade them and possibly exclude them from the market (NCA, 2005). What we do know, however, is that competition has increased since the introduction of the Code of Practice. There is nonetheless no research on the correlation between the two. Also noteworthy is the fact that the code does not prohibit suppliers from offering to pay for shelf space. In 2016 Groceries Code Adjudicator Christine Tacon launched an investigation into The UK's largest grocery chain, Tesco's, finding that the supermarket accepts indirect payments of slotting allowances (Dinkovski, 2016). As such, the prohibition has not fully eliminated slotting allowances from the UK market. There are, however, grounds to say that the Code of Practice has improved the relationship between suppliers and retailers. Following a 2017 survey of suppliers in the UK market, Tacon could report that the number of cases in which a supplier claimed that a violation had been made by the retail chains decreased by 40%, compared to those surveyed in 2014.

### **8.3. Policy discussion: What can Denmark and the UK tell us?**

Taking the evidence from the Danish and UK market into account, it can be argued that slotting allowances will have a smaller effect on the competition when the concentration is reduced. The introduction of foreign competitors in the Norwegian market is one possible solution to the high concentration. However, this relies heavily on the ability of foreign competitors to successfully compete with the three large Norwegian chains. The Code of Practice implemented by the UK can be compared to the potential law of good trading practice proposed by the Norwegian parliament. While the UK code of practice has strictly prohibited retailers from accepting direct payments for shelf space, no such prohibition has been proposed by the Norwegian parliament. The Norwegian parliament does, however, find the need for negotiations on prices between suppliers and retailers to be reviewed, and as such, the use of slotting allowances will perhaps be explored. However, whether the UK Code of Practice has had any effect on the use of slotting allowances in practice is debatable. It will

certainly be of interest to see what the potential Norwegian law of good trading practice can bring forth.

## 9. Conclusion

In this thesis, I have attempted to answer the question of how slotting allowances affect competition in the Norwegian grocery sector. In order to examine this, I first presented a short overview of the historical development of the Norwegian grocery industry, before giving an introduction to the current market. In the economic analysis, I presented relevant theories centered around the rationales behind slotting allowances and offered a discussion on these, examining whether they hold merit in the Norwegian context. I further analyzed the effect of slotting allowances on price competition between retailers, utilizing a model based on previous papers on slotting allowances by Shaffer (1991) and Foros and Kind (2008).

I find that slotting allowances have efficiency-enhancing as well as competition softening effects. However, evidence from the Norwegian market suggests that the competition softening effects of slotting allowances are much more extensive. Given the high concentration of the retail side of the Norwegian grocery market, I argue that the dominant umbrella chains are able to negotiate high slotting allowances, which increases profit and further enhances their market power. As a result, smaller retailers are unable to successfully compete with the larger chains. The main conclusion reached in this thesis is that slotting allowances benefit retailers by reducing the negative consequences of competition and that they, as a result, lead to increased end-user prices. This is to the detriment of the Norwegian grocery industry, as well as consumers of grocery products.

This thesis heavily criticizes the Norwegian Competition Authority's report on slotting allowances from 2005. The NCA find that slotting allowances do not seem to have anti-competitive effects for the Norwegian grocery industry. I argue that the report is outdated and should be renewed. Presently, the Norwegian parliament has issued a proposal for a law of good trading practicing in which it is recommended that negotiations on prices between suppliers and retailers be reviewed. If the law can properly address the detrimental effects of slotting allowances, a possible solution may be on the horizon.

## References

- Bogen, E. (2015, April 1), "Konkurransetilsynet har sovet i timen", *Dagbladet*. Retrieved from <https://www.dagbladet.no/kultur/konkurransetilsynet-har-sovet-i-timen/60185822>
- Corfe, S. and Gicheva, N. (2017), Concentration not competition: the state of UK consumer markets. *The Social Market Foundation*, October 2017. Retrieved from <http://www.smf.co.uk/wp-content/uploads/2017/10/Concentration-not-competition.pdf>
- Dagligvareutvalget, 2011. NOU 2011:4 *Mat, makt og avmakt – om styrkeforholdene i verdikjeden for mat*. (Food, power and powerlessness – the relations of strength in the value chain for food). Retrieved from <https://www.regjeringen.no/no/dokumenter/nou-2011-4/id640128/>
- Danish Competition Authority (2005), Nordic Food Markets – A Taste of Competition. Retrieved from [https://www.kkv.fi/globalassets/kkv-suomi/julkaisut/pm-yhteisraportit/nordic\\_food\\_markets.pdf](https://www.kkv.fi/globalassets/kkv-suomi/julkaisut/pm-yhteisraportit/nordic_food_markets.pdf)
- Desai (2005), Multiple Messages to Retain Retailers: Signaling New Product Demand, *Marketing Science* 19, 381-389. Retrieved from <https://www.jstor.org/stable/193268>
- Dinkovski, N. (2016, September 5), "Shelf-space payments face GCA scrutiny", *Food Manufacture*. Retrieved from <https://www.foodmanufacture.co.uk/Article/2016/09/06/Supplier-payments-for-supermarket-space-scrutinised>
- DLF Sverige, Delfi and HUI Research (2018), Dagligvarukartan 2018. Retrieved from <https://www.delfi.se/wp-content/uploads/Dagligvarukartan-2018.pdf>
- Eurostat (2017), "Food most expensive in Denmark and cheapest in Poland", (2017, January 27), *Eurostat*. Retrieved from <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20170127-1?inheritRedirect=true&redirect=%2Feurostat%2F>
- Foros, Ø. And Kind, H.J. (2008), Do Slotting Allowances Harm Retail Competition?, *The Scandinavian Journal of Economics*, 110, 367-384. Retrieved from <http://www.jstor.org/stable/25195347>
- Johansson, J.M. og Nordahl, B.O. (2005, January 8), "Hyllekunstnerne", *Dagens Næringsliv*. Retrieved from <https://www.dn.no/hyllekunstnerne/1-1-509953>
- Kantar World Panel (2018, October 7), *Grocery Market Shares (12 weeks ending)*. Retrieved from <https://www.kantarworldpanel.com/en/grocery-market-share/great-britain/snapshot>

- Kelly, K. (1991), The Antitrust Analysis of Grocery Slotting Allowances: The Procompetitive Case, *Journal of Public Policy & Marketing*, 10, 187-198. Retrieved from <http://www.jstor.org.ezproxy.uio.no/stable/30000259>
- “Krf vil forby betaling for hylleplass” (2011, April 13). *E24*. Retrieved from <https://e24.no/makro-og-politikk/krf-vil-forby-betaling-for-hylleplass/20046091>
- Marx, L.M. and Shaffer, G. (2004), Slotting Allowances and Scarce Shelf Space, working paper, University of Rochester, October 2004. Retrieved from <http://competitionpolicy.ac.uk/documents/8158338/8256105/CCP+Working+Paper+10-14.pdf/392f0e2d-4e5e-437a-bcdc-d36f03dd68c1>
- NCA (Norwegian Competition Authority) (2005), Betaling for hylleplass (Payment for Shelf Space), Report 2/05, Bergen.
- Nielsen (2018), Dagligvarefasiten 2018, *Dagligvarehandelen*. Retrieved from [https://dagligvarehandelen.no/sites/handelsbladet.no/files/dagligvarefasiten\\_2018.pdf](https://dagligvarehandelen.no/sites/handelsbladet.no/files/dagligvarefasiten_2018.pdf)
- NRK Brennpunkt (2015, March 17) *Brennpunkt: Matvarekrigen*. Retrieved from <https://tv.nrk.no/serie/brennpunkt/MDDP11000515/17-03-2015>
- Næringskomiteen (2017-2018), Innstilling 292 S (2017-2018). Retrieved from <https://www.stortinget.no/nm/Saker-og-publikasjoner/publikasjoner/Innstillingar/Stortinget/2017-2018/inns-201718-292s/?all=true>
- Oslo Economics (2017), Etableringshindringer i dagligvaresektoren (Barriers to Entry in the Grocery Sector), Report 09/17, Oslo. Retrieved from [http://osloeconomics.no/wp-content/uploads/Etableringshindringer-i-dagligvaresektoren\\_ref2.pdf](http://osloeconomics.no/wp-content/uploads/Etableringshindringer-i-dagligvaresektoren_ref2.pdf)
- Rao, A.R. and Mahi, H. (2001) The Price of Launching a New Product: Empirical Evidence on Factors Affecting the Relative Magnitude of Slotting Allowances, working paper, The Retail Food Industry Center, University of Minnesota, May 2001.
- “Rekordlav vekst i Norsk dagligvare i 2017” (2018, February 27). *Nielsen*. Retrieved from <https://www.nielsen.com/no/no/insights/news/2018/dagligvarerapporten-2018.html>
- Shaffer, G. (1991), Slotting Allowances and Resale Price Maintenance: A Comparison of Facilitating Practices. *Rand Journal of Economics* 22, 120-135. Retrieved from <http://www.jstor.org/stable/25195347>
- Sudhir, K. and Rao, V.R. (2006), Do Slotting Allowances Enhance Efficiency or Hinder Competition? *Journal of Marketing Research* 43, 137-155. Retrieved from <http://www.jstor.org.ezproxy.uio.no/stable/30163382>
- Tirole, J. (1994), *The Theory of Industrial Organization*, Cambridge, Massachusetts, The MIT Press.

U.S. Department of Justice and the Federal Trade Commission (2010), Horizontal Merger Guidelines. Retrieved from <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>

Valvik, M.E. (2018), “Klarsignal for å utrede forbud mot prisdiskriminering” (2018, May 9). *Aftenposten*. Retrieved from <https://www.aftenposten.no/norge/i/e14KPR/Klarsignal-for-a-utrede-forbud-mot-prisdiskriminering>

“Åpner for å forby betaling for hylleplass” (2015, March 19). *NRK*. Retrieved from <https://www.nrk.no/norge/apner-for-a-forby-betaling-for-hylleplass-1.12268388>