

# Price setting in the Swedish grocery market

*Monopoly and Monopsony market forces*

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Denne utredningen er gjennomført som et ledd i det fireårige siviløkonomstudiet ved Norges Handelshøyskole og godkjent som sådan. Godkjenningen innebærer ikke at høyskolen innestår for de metoder som er anvendt, de resultater som er fremkommet eller de konklusjoner som er trukket i arbeidet.

## **Abstract**

This paper investigates the level of efficiency in the Swedish grocery market. The effect of market power on price both from retailers to consumers, and from suppliers to retailers is analyzed and discussed. Using three different price studies; the ACNielsen Euro Price Study, the PRO study, and the Consumer Price Index, supported by other sources, and analysis of the defined market using among other tools Herfindahl-Hirschman indexes, I have found that the Swedish grocery prices are quite efficient. Also, I have found that there is low probability that suppliers exert monopoly power over retailers, and that there is low probability that retailers exert monopoly power over consumers. There is a high probability that retailers exert monopsony power over the suppliers, and they seem to share at least parts of the excess profits created with consumers.

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# 1. Background

The annual net consumer turnover of groceries in Sweden in 2006 was SEK 162.5 billion. This is sizable as it compares to 6.1% of the Swedish 2006 GDP. From an economic point of view the grocery market is thus an important part of the Swedish economy. From the perspective of the individual Swede, groceries represented 12.3% of their average household spending in 2003,<sup>1</sup> and are thus a significant part of the Swedish consumer's personal budget. The grocery market is therefore a highly relevant and interesting topic for Swedish consumers, politicians, society and press<sup>2</sup>.

The topic should be ever more relevant as prices for key raw materials used for producing groceries have increased sharply recently; the average spot price of wheat in Sweden went up from SEK 90 per ton in 2005 to 208 in 2007, an increase of 231%. The average spot price of peas went up from SEK 105 per ton in 2005 to SEK 204 in 2007, an increase of 194%<sup>3</sup>. The oil price has increased from USD58 in January 2007 to USD98 in November 2007, an increase of 169% (EUR41 to EUR61, 149%).

Following the relevance of the topic itself, it should be of interest to analyze the market perfection of the Swedish grocery market – specifically how perfectly the prices are set in that market. Inefficiencies in such a large part of the economy could impact the total welfare in the country. A local store monopoly in the Swedish grocery market would lead to 3.1% higher prices than an efficient market, and a banner monopoly at the regional level would lead to 10.7% higher prices<sup>4</sup>, so the economic importance of market efficiency in the Swedish grocery market is high.

There are several situations worth analyzing: Are the prices set too high from the producers and suppliers to the retailers, and thus the producers and suppliers make excess profits (situation 1)? This line of reasoning is from time to time quoted in the press from retail

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<sup>1</sup> Report from the Nordic competition authorities No 1/2005: "Nordic Food Markets – a taste for competition".

<sup>2</sup> The relevance is further underlined by the medial interest in the topic. A Google search for food prices ("matpriser") yields 77,000 hits only from Swedish web pages. The same Google search yields 336,000 hits for singer "Britney Spears", yet only 210 hits for "telefonpriser" (telephone prices) and only 26 for "strömpriser" (electricity prices).

<sup>3</sup> Jordbruksaktuellt magazine, [www.agriprim.com](http://www.agriprim.com).

<sup>4</sup> Asplund, Marcus; Friberg, Richard: "Food Prices and Market Structure in Sweden", Scandinavian Journal of Economics, 2002.

managers<sup>5</sup>. Such a situation could be an example of suppliers exerting monopoly power over the retailers. On the other hand it could be that the retailers themselves are charging consumers too high prices, and thus themselves make excess profits (situation 2). This line of reasoning is from time to time quoted in the press from scholars, journalists, politicians, and industry organizations representing suppliers<sup>6</sup>. Such a situation could be an example of retailers exerting monopoly power over the consumers. A third possibility could be that the suppliers exert monopoly power over the retailers who in turn exert monopoly power over the consumers, and that both the suppliers and the retailers make excess profits (situation 3). A fourth possibility is that the retailers exert monopsony power over the suppliers and thus make excess profits (situation 4). The retailers may choose to either pass this excess profit over to the consumer or add them to their fiscal results. Thus, the retailers may exert monopsony power over their suppliers and either have or not have efficient consumer prices. Finally, it could be that the market is in fact efficient; with consumers being charged efficient prices and that both retailers and suppliers make “fair” and reasonable profits (situation 5).

These five possible market situations will be examined over the following pages.

## **2. Introduction**

### ***2.1 Problem definition***

The problem I wish to investigate is whether Swedish grocery consumer prices are efficient, and whether the prices from grocery suppliers/producers to retailers are efficient. Also, I wish to analyze whether monopoly and monopsony powers affect prices in the Swedish grocery market. I will start by investigating consumer prices, followed by defining the relevant market relationships that exist in the marketplace (which also maps out the substitution possibilities the suppliers have for retailer distribution). Then I will try to find proof if market imperfections exist, or if the Swedish grocery market is in fact an efficient market place.

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<sup>5</sup> Nationen 25/10-02. “På tide med priskutt på barberskum”. CEO of the Norwegian retailer Norgesgruppen is quoted “groceries produced abroad must come down 20% in price”.

<sup>6</sup> Dagens Nyheter (Ekonomi) 9/9-05. ”Matpriserna kan sänkas med 5%”. Economist Joachim Landström from Uppsala University is quoted “prices could come down by 5% and then the retailers would reach the same levels as the heavy industry (“verkstadsindustrin”)”. Landström continues ”...even the wholesalers have high levels. They are carving gold with a knife in both levels”.

## **2.2 Purpose**

The primary purpose of this paper is to try to conclude the level of efficiency when consumer prices are set in the Swedish grocery market - the level of market efficiency. Secondly, the purpose is to identify at which levels in the value chain potential market inefficiencies occur.

There are many studies of monopoly power, and fewer on monopsony power<sup>7</sup>. A large number of the studies that have been made on the subject have been made on natural monopolies that either recently have been, or are about to be, privatized such as electricity and telecommunications. Few have been made on the grocery market.

## **3. Theory, Definitions and Limitations**

In this section I will define key concepts and describe and discuss limitations to the further study.

### **3.1 Market**

One definition of a market is “a market is a collection of buyers and sellers that, through their actual or potential interactions, determine the price of a product or set of products.”<sup>8</sup>

In this paper I will look at the Swedish grocery market, and will exclude market forms with other consumer interfaces than the grocery store. Products sold by the Swedish grocery retailers are also distributed through other markets, for instance door-to-door and in bazaars, yet I will exclude these market forms from the study. The foremost reason for excluding other market forms is that the vast majority, 98.3% in the top 5 retailers alone, of sales to consumers go through the typical grocery store<sup>9</sup>. There is, however, a risk with the numbers as all alternative market forms are not included in the universe reported by Fri Köpenskap. In addition, it is important to define which alternatives suppliers have to traditional retailer distribution in Sweden. This gives the level of substitution possibility for the suppliers which

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<sup>7</sup> A search of the BIBSYS system yields 23,929 hits for the key words monopoly (19,778), monopol (310), oligopoly (3806), and oligopol (35). A similar search yields only 884 hits for the key words monopsony (772), monopsoni (3), oligopsony (109), and oligopsoni (0). The search covers the databases BIBSYS, Scirus, NORART, PubMed, Directory of open access journals (DOAJ), and Nora.

<sup>8</sup> Microeconomics, Robert S. Pindyck and Daniel L. Rubinfeld, Prentice Hall, 2000 (5<sup>th</sup> edition).

<sup>9</sup> Fri Köpenskap magazine sales statistics (annual paper copy, and [www.fri-kopenskap.se](http://www.fri-kopenskap.se)).

can be expected to have a large influence on their negotiation power towards the retailers. A definition of relevant markets is thus needed, which will be covered in section 5.

### 3.2 Perfect market<sup>10</sup>

The theoretical perfect market is a market where no buyer or seller has enough market power to influence the price. The outcome is that supply meets demand in a point where all resources are used efficiently and at a price that is completely efficient – the market price.

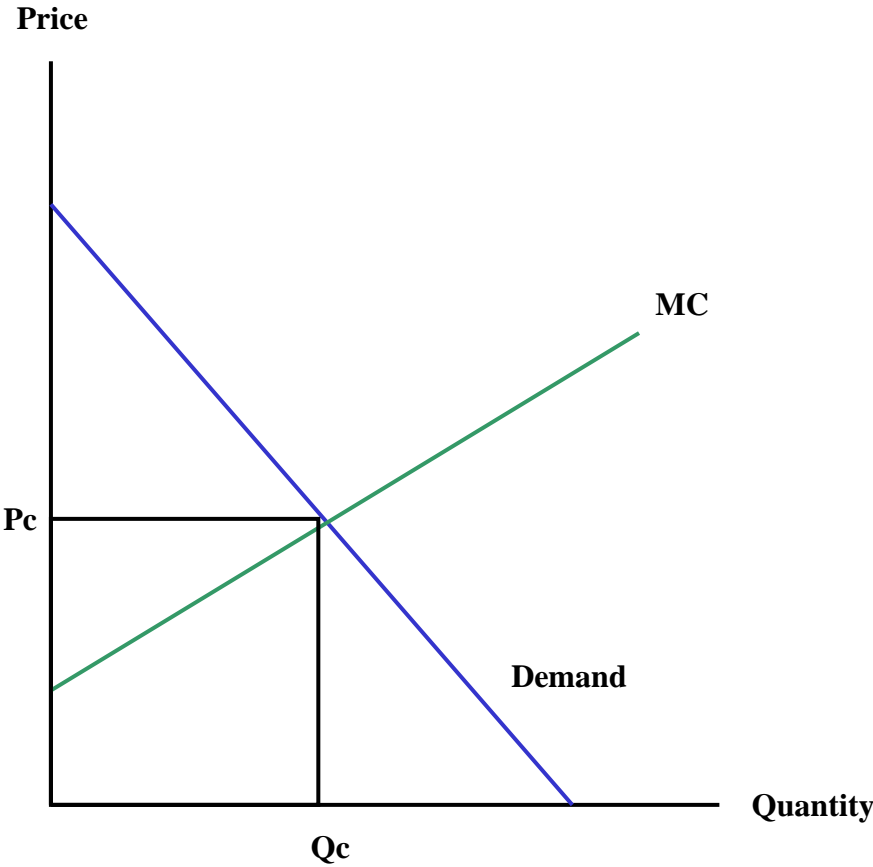


Table 1: Perfect market

In a perfect market all firms are defined as price takers. The profit maximizing equilibrium for the producers will thus be found in a point where the quantity produced ( $Q_c$ ) is produced at a cost where the marginal cost (MC) of producing one more item is equal to the market price ( $P_c$ ). The marginal cost will be equal to the selling price and profit will thus be equal to zero.

<sup>10</sup> Based on 1) Microeconomics, Robert S. Pindyck and Daniel L. Rubinfeld, Prentice Hall, 2000 (5<sup>th</sup> edition), 2) Varian, Hal R., "Intermediate microeconomics: a modern approach", 2nd Edition, W.W. Norton & Company, 1990, 3) Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988, and 4) [www.wikipedia.com](http://www.wikipedia.com).



The utility optimizing individuals get offered the maximum quantity the producing firms can produce given they have to cover marginal cost. There is thus no economic efficiency loss.

In addition to the behavioral assumptions that consumers aim to maximize utility and producers profits, there are six assumptions that must be fulfilled on the seller side (supply) for a perfect market to occur:

1. Each seller is small relative to the market
2. Homogeneity; the products are perfect substitutes
3. Both buyers and sellers are well informed about all sellers' prices
4. Sellers act independently of each other
5. Firms can leave and enter the industry freely
6. All firms have equal access to technology and resources, and the technology and resources can be moved freely, thus there can be no technological advantages in product or production, and no economies of scale

In addition there are four assumptions on the buyer side (demand):

1. Many buyers
2. Buyers must be well-informed
3. Buyers must be small relative to the market
4. Buyers must act independently of each other

### **3.3 Imperfect market**

When the conditions and assumptions required for a perfect market are not met, the market is imperfect. One definition is: "Markets where either buyers or sellers take into account their ability to affect market prices are imperfectly competitive"<sup>11</sup>. There are several forms of imperfect markets which will be defined below.

#### **3.3.1 Monopoly**

One definition of monopoly power is that "a seller has monopoly power (or market power) if it can raise the price of its product by restricting its own output"<sup>12</sup>. One definition of monopoly is that "a monopoly exists when a specific individual or enterprise has sufficient

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<sup>11</sup> Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988.

<sup>12</sup> Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988

control over a particular product or service to determine significantly the terms on which other individuals shall have access to it”<sup>13</sup>. “A pure monopoly is an industry in which there is only one supplier of a product for which there are no close substitutes and in which it is very difficult or impossible for another firm to coexist”<sup>14</sup>. Monopolies are thus characterized by a lack of economic competition for the good or service that they provide and a lack of viable substitute goods.

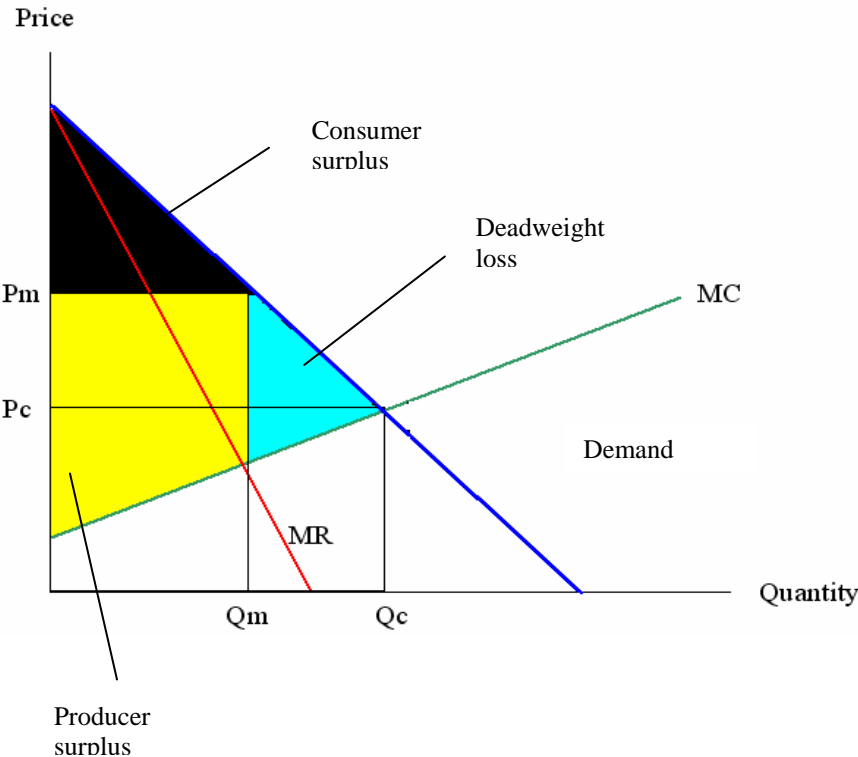


Table 2: Monopoly

The monopolist has the power to influence the quantity it supplies, which is the total quantity supplied in the market, and the price it sells at. A profit maximizing monopolist would thus not produce a quantity ( $Q_c$ ) where price ( $P_c$ ) is equal to marginal cost ( $MC$ ), and profit equals zero as in a perfect market. Choosing to increase supply by one unit the monopolist would have to charge a lower price not only for this extra unit, but for all units sold, and it would

<sup>13</sup> [www.wikipedia.com](http://www.wikipedia.com) based on Milton Friedman: " Monopoly and the Social Responsibility of Business and Labor", The University of Chicago Press, 2002.  
<sup>14</sup> [www.wikipedia.com](http://www.wikipedia.com) based on Blinder, Alan S; William J Baumol and Colton L Gale: " Microeconomics: Principles and Policy", Thomson South-Western, 2001.

thus sell at lower marginal revenue (MR)<sup>15</sup>. Following this, the monopolist would choose to produce a quantity (Q<sub>m</sub>) where its marginal revenue (MR) equals its marginal cost (MC), and sell it at the price (P<sub>m</sub>). The monopolist would thus produce a lower output at a higher unit price than in the perfect market situation<sup>16</sup>. It would choose a quantity (Q<sub>m</sub>) lower than (Q<sub>c</sub>) which it would sell at a price (P<sub>m</sub>) which is higher than (P<sub>c</sub>).

In a perfect market the profit for the producing firms would be zero as price would be equal to marginal cost. When the monopolist produces a lower quantity and sells at a higher price than in a perfect market situation they make excess economic profits, often called the “producer surplus” (marked in yellow in Table 2 above). In addition to the excess profits made vs. the perfect market situation, the higher price and lower quantity comes at a loss of economic efficiency, often called the “deadweight loss” (marked in blue in Table 2 above). The “deadweight loss” is an economic loss as the area represents quantities sold at prices for which utility maximizing people would have wanted to buy it. Yet they are not able to as the monopolist has chosen a lower quantity at a higher price.

Thus, for a seller to exert monopoly power over the price in a market there can be only one seller (or a few sellers large enough to exert power on price setting as in an oligopoly below), and there cannot be substitute products the buyer can easily and cost-efficiently switch to. The monopolist (and oligopolist) affects the price because they can decide the quantity supplied in the market place.

### **3.3.1.1 Successive monopolies**

As this paper is on the grocery market where producers typically sell to retailers who in turn sell to consumers, it is of interest to touch upon a scenario of successive monopolies: A situation where the producer has monopoly power over the retailer which in turn has monopoly power over the consumers. In such a situation both supplier and retailer would choose to maximize profits where (MR) equals (MC), and thus sell a quantity lower than the utility maximizing one, at a price higher than marginal cost. In such a situation the consumer could end up paying for two successive excess profits, and there could be two successive efficiency losses (two “deadweight losses”).

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<sup>15</sup> Varian, Hal R., “Intermediate microeconomics: a modern approach”, 2nd Edition, W.W. Norton & Company, 1990.

<sup>16</sup> Varian, Hal R., “Intermediate microeconomics: a modern approach”, 2nd Edition, W.W. Norton & Company, 1990.

### 3.3.2 Monopsony

The monopsony is the inverted monopoly. It is thus a market form with only one buyer, facing many sellers. The term monopsony was first introduced by Joan Robinson in 1933<sup>17</sup>.

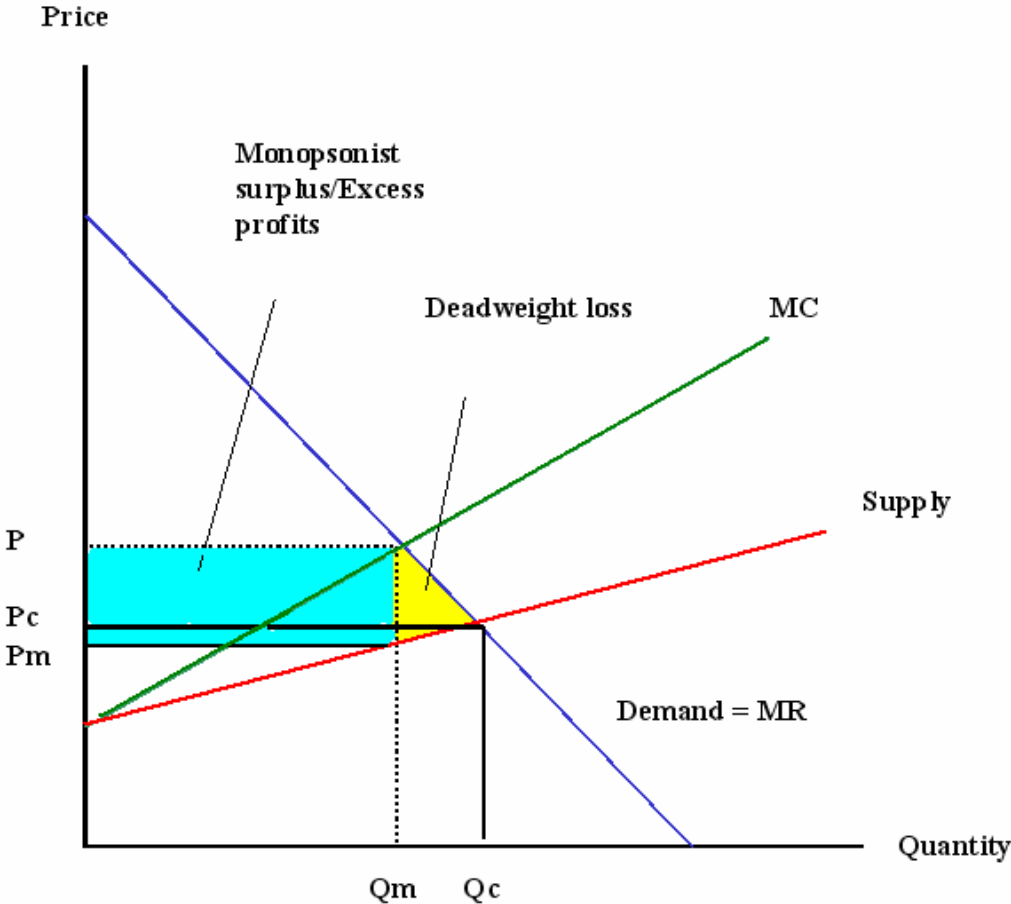


Table 3: Monopsony

“The analysis of a monopsonist is similar to that of a monopolist.”<sup>18</sup> As the only buyer in the market place the monopsonist has the power to decide the total quantity bought in the market – the Demand curve. The monopsonist will not choose the quantity ( $Q_c$ ) at price ( $P_c$ ) that would have been the equilibrium point in a perfect market. Rather, the profit maximizing monopsonist would choose the quantity ( $Q_m$ ) where its marginal cost (MC) is equal to marginal revenue (MR). The price is determined by the supply curve and the monopsonistic equilibrium point would thus give the price ( $P_m$ ) which is lower than the price ( $P_c$ ) in a perfect market.

<sup>17</sup> [www.wikipedia.com](http://www.wikipedia.com) based on among others Robinson, J.: “The Economics of Imperfect Competition”, 1933.  
<sup>18</sup> Varian, Hal R., ”Intermediate microeconomics: a modern approach”, 2nd Edition, W.W. Norton & Company, 1990.

Just like the monopolist the monopsonist would also make excess profits (marked in blue in Table 3 above). The monopsonist will not have to pay the price (P) from the point where Demand equals marginal cost (MC), but rather the lower price (Pm) given by the supply curve at the quantity (Qm). The area between price (P), price (Pm) and the quantity (Qm) gives the excess profits. Also, just like with monopolies, there is a “deadweight loss” connected to the market inefficiency of monopsonies (marked in yellow in Table 3 above).

For a buyer to exert Monopsony power over the price there can be only one buyer (or a few large enough to exert power over the price as in the oligopsony below). The monopsonist (and oligopsonist) affects the price because they can decide the quantity demanded in the market place.

### **3.3.3 Oligopoly and Oligopsony**

When there is not a pure monopoly or monopsony situation with only one party representing the supply/demand side, but a few parties that are still large and powerful enough to exert power over the price setting, the market forms are called oligopoly (supply side) and oligopsony (demand side).

## **3.4 Price**

Taking on the task of building an accurate supply and demand model for the Swedish grocery market would at least require access to producers', suppliers' and retailers' Profit/Loss sheets, and quantitative consumer and industry market studies. Adding the complexity of approximating the consumers' preferences within each category to determine product homogeneity and consumers' utility curves, and the sheer number of categories, make it an impractical way to analyze this market.

An alternative approach is to use the model and analyze the prices that do exist in the market – the (Pm) in the actual equilibrium points. The price in the equilibrium point is a result of the existing demand and supply curves in the market place, be that under perfect or imperfect market conditions, and can thus be used to benchmark vs. similar markets to indicate the level of efficiency. This is the approach I have chosen for this paper.

### **3.5 Herfindahl-Hirschman index**

The Herfindahl-Hirschman index is a measure used to identify the level of competition within an industry. Unlike an observable measure such as market share, the Herfindahl-Hirschman index accounts for the relative size of all firms operating in an industry. The index is calculated as the sum of the squares of the market shares of each firm operating in the industry. An industry with a perfect monopolist would thus have a Herfindahl-Hirschman index of 1, whereas a market close to perfection with a vast number of producers would have an index close to zero.

The Herfindahl-Hirschman index is used by competitive authorities and legislators in for instance the U.S. and the EU as a measure of competition. The U.S. has set an absolute Herfindahl-Hirschman index limit where mergers are not allowed if the industry has an index above 0.18. The EU on the other hand focus more on the change to the index following a merger.

## **4. Consumer price**

As I have argued above supply and demand are very difficult to measure and quantify for the Swedish grocery market, and I will use price as the variable to study.

Thus, the first place to check for indications of market imperfection in the Swedish grocery market is to look at the prices consumers actually pay. ACNielsen has performed a European price study where they compare consumer prices in 15 European countries. I will use this study to compare Swedish prices to relevant benchmark countries with similar grocery market structures. The next step I will make is to benchmark the grocery price development in the country with other goods, by comparing the Consumer Price Index for groceries with the other sub-groups of the CPI. Finally, I will analyze a study published by the Swedish organization for retirees (Pensionärernas Riksorganisation) to determine the regional spread in grocery prices and the drivers behind it.

## **4.1 ACNielsen European Price Study**

The ACNielsen Euro price study was made across 15 European countries (the EU15) reporting the price spread between the countries and within each country of a pre-identified basket of 160 grocery products that could be found in all the countries. The prices were normal shelf prices and not discount prices. VAT was excluded to ensure comparable data. The study has weaknesses:

1. Tax differences other than VAT have not been excluded, which may impact the price differences between the countries.
2. The basket of products was compiled of international brands with the adhering weakness that National brands, that are often locally produced at local production costs, were not included. Another weakness with the product selection is that the actual consumption pattern in each country was not taken into account, which may also vary between the countries.
3. The prices were not indexed for the level of income in the country.

### **4.1.1 Sweden has the lowest grocery prices in the Nordic region**

ACNielsen's Euro price barometer<sup>19</sup> concludes that there has been a significant price convergence in Europe from 2002 to 2005, with 71% difference between the highest and lowest priced country in 2002 and 50% in 2005. ACNielsen concludes the key factor for the convergence to the Euro. Norway is the most expensive country in Europe with a price index of 127.2 compared to the cheapest country Germany with a price index of 84.7. Sweden is placed as the seventh most expensive out of the 15 countries with a price index of 101.9. Compared to its Nordic neighbors Sweden has low prices with a price index of 101.9 vs. Norway 127.2, Denmark 119.8, and Finland 111.7 (Table 4 below copied from the ACNielsen published report).

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<sup>19</sup> ACNielsen Breaking News September 2005: Euro price barometer. Study of the consumer price of "160 European international brand products within and across 15 European markets."



Table 4: ACNielsen Euro price index

Frank Martell, CEO of ACNielsen Europe states in the report: “Among Europe’s larger markets stagnating growth and flat consumer demand combined with an increasing competitive retailing industry, are forcing prices down”. In other words a certain price decrease should be expected in at least the larger markets over the reported time period.

Martell mentions market specific price drivers that exist in each market, which could explain price differences: “Of course there are specific market factors which affect prices in each country such as taxes, geographical location and transport costs as well as retailers’ real estate costs – but the trend in the past three years and into the near future, is further price convergence, though perhaps at a slower rate”. The “specific market factors” Martell mentions can be easily recognized as significant cost drivers and thus expected price drivers in the four most expensive countries in the report: Norway, Denmark, Finland, and Switzerland. All four countries have relatively small populations, high direct and/or indirect taxes, high employee costs (a factor not mentioned by Martell except implicitly via “taxes”) and, with the exception of Denmark, must be expected to carry high logistics cost per capita<sup>20</sup>. The Swedish grocery market is more similar to these four countries than to the other markets on the list, and should thus have been expected to have a similar price level. Yet, Sweden has lower prices than these four countries, which could be an indication that the Swedish grocery prices are quite efficient.

<sup>20</sup> Both within the countries which are geographically large per capita and/or have long transportation routes to due to mountains, valleys, and fjords.



In addition to Martell’s “specific market factors” and personnel costs the level of spendable income could also play a role to determine the price level in a country. High spendable income levels could leave room for higher prices, as consumers have more money available to spend, and their willingness to pay may be higher. In a report from the Nordic competition authorities GDP per capita is used as a measure for spendable income and compared to total CPI in the EU15 countries. The comparison shows that the levels of the two measures are highly correlated in all countries except Sweden and Finland. A positive correlation is to be expected following economic theory as the willingness to pay is likely to vary with spendable income. Sweden and Finland however, are “in relative terms mean-income and high-price countries”<sup>21</sup>. A similar comparison performed on the CPI grocery sub-group would have been preferable, but total CPI can at least be used as an indication.

**4.1.2 Sweden highest price variance in Europe**

Even though Swedish groceries have low prices compared to the other Nordic countries, the country has the highest variance between highest priced and lowest priced store in Europe (Table 5 below copied from the ACNielsen published report). A high price variance means a low degree of competition, and vice versa, as increased competition is expected to trigger price responses and thus price convergence in the market.

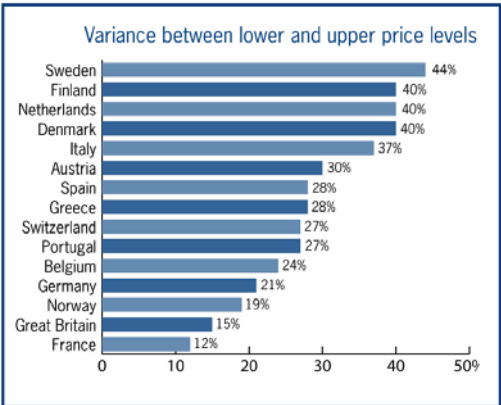


Table 5: ACNielsen Euro price range

In the report ACNielsen shows that the price range in Sweden has declined from 52% in 2003 to 44% in 2005 due to increased competition in the country. Even though the price variance has declined Sweden still has a price spread of 44% in 2005, leaving it the least competitive

<sup>21</sup> Report from the Nordic competition authorities No 1/2005: “Nordic Food Markets – a taste for competition”.

country in Europe. This means there is room for tougher competition in the country. Potentially the entry of a large international retailer would spur competition in Sweden further as it has done in the past in Great Britain. The price spread in Great Britain decreased from 37% in 2003 to 15% in 2005, making it the country with the second highest competitive level in Europe. Wal-Mart's purchase of Asda in 1999, with store conversion finalized in October 2001<sup>22</sup>, and the competitive climate it triggered, must be seen as the key driver behind this.

The price range, the difference between lower and upper price levels, is used in the ACNielsen study as the sole measure for competition. Using price range as an indicator of competitive level in a market place is at best a first approach. Using it as the only measure is a clear risk, as the measure has weaknesses: A hypothetical situation with a perfectly monopolistic retailer in a country the monopolist could choose to set the price range to zero, yet the level of competition would also be zero, and the measure would lead to a false conclusion. The measure could also give less than strong results in a situation with strong competition with the losing retailers compensating lost volume by price increases. In such a situation the range would increase and report low competitive levels when reality is that competition has increased. Asplund and Friberg's study (covered in section 4.3.1) supports my argument against using price range as the sole measure for competition with their finding that smaller stores tend to exit the market rather than adjust to new and lower price levels when big stores enter their local market<sup>23</sup>. In such a situation there would be less competition after the smaller stores have exited (following which the big stores could increase prices) whereas price range would have decreased reporting increased competition.

Following ACNielsen's use of price range as a benchmark for competitive level, Sweden is the least competitive grocery market in Europe, even though there has been some improvement between 2003 and 2005. The measure has weaknesses, and conclusions should not be drawn from this measure alone.

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<sup>22</sup> [www.Asda.com](http://www.Asda.com). History section.

<sup>23</sup> Asplund, Marcus; Friberg, Richard: "Food Prices and Market Structure in Sweden", *Scandinavian Journal of Economics*, 2002. Table 4, column 1.

### **4.1.3 ACNielsen European price study – Conclusion**

Swedish grocery prices are higher than the European average and median, yet significantly lower than in its Nordic neighbors and Switzerland – countries that are similar in terms of population, tax levels, employee costs, and expected logistics costs (scattered geographical population within the country and distance to manufacturing sites). In other words there is an indication that the Swedish grocery market is competitive, and prices are efficient.

The level of competition between Swedish retailers is the lowest in Europe measured by the high spread in price within the country. If we choose to use this measure, it would be a clear indication of market inefficiency, and should be considered as a price driver. Yet the measure has clear weaknesses, and no conclusions should be made on this measure alone.

The conclusion is that Sweden has lower grocery prices than what could be expected. Yet, the lower correlation between absolute price level and spendable income in Sweden vs. the other European countries (except Finland) could be an implication (albeit weak) that further price decreases from the 2005 price levels are probable.

### **4.2 Consumer price index**

The consumer price index in Sweden<sup>24</sup> increased by 11.4 points in the period from 2000 to 2007. For comparison the Norwegian CPI increased by 12.4 points over the same period, and the Danish by 14.2 points. Sweden has thus experienced a lower price increase since the year 2000 than both Norway and Denmark. The price development has been lower than in the other Scandinavian countries, and combined with the finding in section 4.1.1 that Sweden has the lowest absolute prices of the same countries, it seems that Swedish grocery prices are quite efficient.

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<sup>24</sup> Statistiska Centralbyrån publishes annual statistics on [www.scb.se](http://www.scb.se).

<b>CPI Sweden 2000-2007</b>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Consumer price index	100	102	105	107	107	108	109	111
Post and telecommunications	100	100	99	97	93	87	82	79
Groceries	100	103	106	107	106	105	106	108
Alcohol/Tobacco	100	101	102	104	104	105	106	114
Living	100	104	107	111	112	112	116	121
Restaurants and accommodation	100	103	107	110	112	115	118	122
Health and medical	100	105	109	112	116	119	119	123

Table 6: Consumer Price Index Sweden 2000-2007

Only two of the six different sub-groups Statistics Sweden (Statistiska Centralbyrån) uses have been below the total CPI over the time period; Post and telecommunications and Groceries.

The Post and telecommunications sub-group has in fact shown a 21 percentage points decrease in price over the time period. The explanation for this can be found in that the sub-group has moved from mainly consisting of governmental natural monopolies to competitive industries<sup>25</sup>.

The Groceries sub-group is the second and final sub-group which is below the total CPI level. This means that the prices for Groceries in Sweden have held the total price development down over the period from 2000 to 2007. This fact is a strong indicator that the price development for groceries in Sweden has been efficient in the time period. Yet, the starting point, i.e. the grocery price level in the year 2000 may have been inefficient, so CPI cannot be used to conclude on the absolute price efficiency, only whether the development has been efficient. We had indications in section 4.1.1 that the absolute level was efficient, and combining these two findings indicate that Swedish grocery prices are quite efficient.

<sup>25</sup> Berge, Laila Kristin: SNF rapport nr. 13/01. "Prisdiskriminering i Oligopol – En teoretisk gjennomgang og eksempler fra telemarkedet". Stiftelsen for samfunns- og næringslivsforskning, Bergen, juli 2001.

Large privatizations have happened over the time period. Specifically, Telia was introduced on the Stockholm Stock Exchange in June 2000, after having been converted to a public company in 1993 with the Swedish government as sole share owner. Companies such as Orange, Tele 2, and 3 to mention some, have all entered the Swedish market over the time period. The phenomenon is not a Swedish one; most European telecom markets have gone through the same increase in competition and following price development. The Swedish postal service got a competitor with the foundation of the City Mail Company in 1991. City Mail has grown from a slow start to an approximate 43% coverage of households and companies in 2007. In sum there has been a significant increase in competition for the sub-group Post and telecommunications over the time period both in Sweden and many other European countries, so it is not surprising to find this sub-group at a level below aggregated CPI.

Sub-categories impact on Consumer Price Index in Sweden 2000-2007

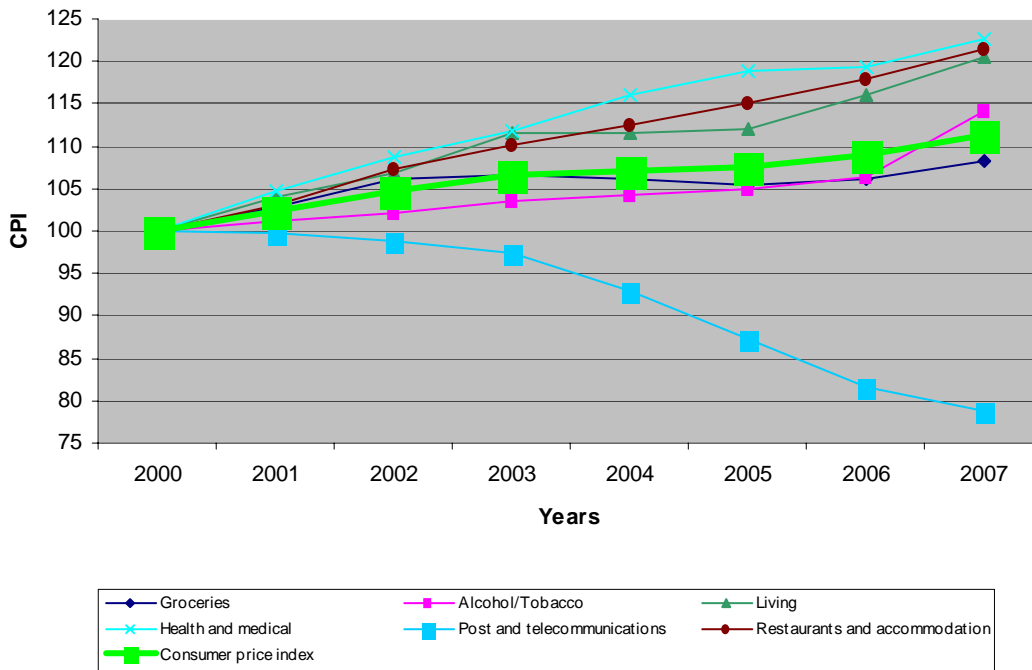


Table 7: Graph CPI Sweden 2000-2007 sub-categories

On the other side of the scale, sub-groups that have driven the total price level up, we find that the cost of Health and medical has had the highest increase at +23%, the cost of Restaurants and accommodation the second highest at +22%, and the cost of Living the third highest at +21%. Alcohol and tobacco is highly driven by tax levels, and is thus not a valid benchmark. Its development has been fairly in line with total CPI which means we can fairly safely use total CPI for comparison.

The three price driving sub-groups have increased between 13 and 15 points more than groceries, or an average annualized price increase between 1.8% and 2%-points higher than groceries.

With only one sub-group, driven by increased competition due to de-regulation, showing lower price increase than aggregated CPI over the period, and the remaining three sub-groups at more than twice as high annual average price increase levels as the grocery sub-group, the conclusion of analyzing the Consumer Price Index must be that the price development in the Swedish grocery market over the period 2000 to 2007 has been efficient.

### **4.3 PRO price study**

The Swedish National association for retirees (Pensionärernas Riksorganisation - PRO) has since 1991 performed an annual price study of a pre-specified grocery basket. Importantly, the prices recorded were normal shelf prices, and not feature prices, “weekly specials” or similar offers. The 2007 study contained 60 “important base items” and was performed in 1,153 stores (the 1991 study contained 20 items and was performed in approximately 1,000 stores)<sup>26</sup>. The basket of 60 items is an important difference to both the ACNielsen study and the CPI groceries sub-group, and differences should therefore be expected when comparing the data sets.

The PRO price study largely supports the findings from the ACNielsen price study in terms of absolute price. The study shows a decline in nominal total basket price of –4.52% from 2004 to 2007<sup>27</sup>, with a spread from the largest price decrease –26.56% for Asparagus soup, to the largest increase +26.15% for fresh white cabbage. The PRO study is in line with the CPI groceries from 2006 to 2007, where both show an increase of approximately 2%. For the period 2004 to 2007 however CPI shows an increase of 2% while PRO shows a decrease of –4.56%.

The PRO price study also supports the findings in the ACNielsen price study in terms of price spread. The price spread within different Swedish geographies is large for the same items. From the lowest spread on a frozen-ready-to-eat item (“Felix Krögarpytt 720g”) of 3.5% to the highest spread on fresh white cabbage (“Vit kål 1:a sortering, ej kravmärkt”) of 59.3%. The average spread was 15% and the median 11%.

The ACNielsen price spread is calculated between the cheapest and most expensive store. The PRO study on the other hand measures the average prices of all stores within each geographical region of a set basket and of each item in that basket. This is what I have in turn used to calculate spread on the PRO data. The PRO data should be expected to give a much lower spread, as the largest spread should be expected to be found between discount stores and upscale supermarkets, and the PRO study reports only an average of all stores within a geographical region. To find a price spread in the PRO study of up to 59.3% only due to

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<sup>26</sup> [www.pro.se](http://www.pro.se)

<sup>27</sup> Published reports that can be compared include the years 2004 to 2007, unfortunately the years 2000 to 2004 are not included, so a comparison for the full period measured for CPI is not possible.

regional variance is thus very high. Just as for countries, each region will face the “specific market factors”; taxes, geographical location and transportation costs, real estate costs, and salaries. The regional differences within a country between the “specific market factors” should be expected to be smaller than between different countries. The observed regional spread could thus be an indication of regional inefficiencies in competition. However, it could also be a sign of market efficiency if it is in fact regional demand curves that varies with regional spending power and meets regional supply curves in regional efficient equilibrium points.

The PRO study shows that there is a consistent price difference between different Swedish regions. This could be a sign that the grocery prices have stabilized at a level according to spendable income, the willingness to pay in each region, which would be an indication that the market is in fact efficient. To investigate this I have compared the average basket price from the PRO study with different measures of willingness to pay for each region. The correlation between average wealth per capita and the average basket price in the region is not significant (a correlation coefficient of 0.104). Neither is the correlation between regional GDP per capita (the measure used by the Nordic competition authorities in their “Nordic Food Markets” report) and the basket price in the region significant (a correlation coefficient of 0.101). There is however a weak correlation between the average salary per capita and the basket price in the region (a correlation coefficient of 0.304)<sup>28</sup>. Salaries are the most liquid of the three measures of spending power, and thus the best measure for willingness to pay in the region. The correlation supports that spending power, and thus willingness to pay, play a role to determine the price level in the Swedish regions, yet the data is not conclusive. It is not even ruled out that the “specific market factors” on a regional level play a bigger role than spending power in determining regional prices. Asplund and Friberg (see section 4.3.1 below) found in their study that most of the price variation in the Swedish grocery market came from other factors than market structure, and that most could be explained by store-specific factors. This on the one hand supports that “specific market factors” could play a larger role than regional spending power. Asplund and Friberg did however calculate in their pooled data set (“OLS regression where all observations have been pooled”) that income had a positive correlation with grocery prices in Sweden (regression significant at the 5% level)<sup>29</sup>, which

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<sup>28</sup> Data extracted from [www.pro.se](http://www.pro.se), and Statistics Sweden (Statistiska Centralbyrån) [www.scb.se](http://www.scb.se).

<sup>29</sup> Asplund, Marcus; Friberg, Richard: “Food Prices and Market Structure in Sweden”, *Scandinavian Journal of Economics*, 2002. Table 4, column 1.

supports my argument that regional income affects regional prices. In their chosen random effects data set Asplund and Friberg found income to be positive but insignificant.

<b>Sweden 2006</b>	<b><u>Avg. basket price</u></b> <b><u>(PRO)</u></b>	<b><u>Avg. salaries per</u></b> <b><u>capita (SCB)</u></b>	<b><u>Avg. wealth per</u></b> <b><u>capita (SCB)</u></b>	<b><u>Regional GDP</u></b> <b><u>per capita</u></b>
Stockholm	1513.34	250.5	4723.6	425
Uppsala	1528.97	219.9	4018.4	261
Södermanland	1512.32	210.1	3925.6	240
Östergötland	1514.21	206.8	3802.1	257
Jönköping	1509.86	210.6	4014.2	267
Kronoberg	1524.98	206.6	3608.3	267
Kalmar	1517.87	198.5	3416	254
Skåne	1525.28	203.5	3939.7	268
Värmland	1528.68	200.6	3461.6	247
Örebro	1513.00	206.8	3689.9	262
Västmanland	1509.34	213.1	3579.8	259
Dalarna	1537.45	204.9	3247.5	278
Gävleborg	1499.77	206.3	3316.6	255
Jämtland	1521.70	196.8	3246.5	263
Halland	1528.66	215.7	3873.1	254
Gotland	1458.71	184.8	3452.5	237
Blekinge	1495.57	206.2	3452.3	274
Västerbotten	1518.41	205.1	3387.7	262
Norrbottn	1512.31	209.6	3240.4	290
Correlation with avg. basket price	1.000	0.304	0.104	0.101

Table 8: Regional average basket price vs. regional spending power

### **4.3.1 Asplund and Friberg: “Food prices and market structure in Sweden”**

Marcus Asplund and Richard Friberg have published a paper where they examine the impact of market structure on food prices in Sweden. They use the PRO raw data (which is not public and thus not available to use for my paper) which enabled them to analyze prices both at the National, regional, and local level. They combined the price data with store concentration at each level, and with other potential factors that could influence price such as chain affiliation, income levels, the presence of big stores, and type of region (rural vs. urban to account for differences in costs of running a retail operation). They used Herfindahl-Hirschfeld indexes to determine market power at the store, chain and regional levels.

Asplund and Friberg found in their study that “higher local concentration of stores, higher regional wholesaler concentration and a lower market share of large stores, are all correlated



with higher prices”. A store monopoly at the local level would lead to 3.1% higher prices and a regional chain monopoly would lead to 10.7% higher prices than near perfect competition. They found that the “relation between market structure variables and food prices is weak, and effects are small in percentage terms”. Yet, they also point out that the size of the market and the importance of food to the household budget implies that “even though the price effects of concentration are small in food retailing, they may have non-trivial welfare implications”.

Asplund and Friberg’s study is solid, and the only critique I can make is the same they make themselves: They had to use dummy variables for the retailers’ transportation and real estate costs as data was not available on these variables.

An interesting build to their study could be to identify purchasing prices for the different retailers (e.g. by using cost of acquired goods as reported in the retailers’ annual reports as in section 6.4), to see if monopsony power plays a role in price setting. Identifying purchase prices would enable retailer margin to be added as a variable on the National, regional, and store levels, in the regression model applied by Asplund and Friberg, which in turn potentially could yield interesting findings.

## **5. Market definition - Buyer/seller relationships<sup>30</sup>**

In this section I will define the relevant market. I define “range of products” as groceries. It is of importance to define which market relationships are economically significant in the Swedish grocery market. Another important point is that the suppliers can only substitute distribution within the defined market, and it is thus important to clarify which alternatives they have to traditional retailer distribution. As we will see they do not have much alternative to the distribution offered by the retailers.

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<sup>30</sup> “Market definition – Determination of the buyers, sellers, and range of products that should be included in a particular market.” Microeconomics, Robert S. Pindyck and Daniel L. Rubinfeld, Prentice Hall, 2000 (5<sup>th</sup> edition).

In total I have identified nine potential market relationships between buyers and sellers of groceries in Sweden, which are described in Table 9 below. The four relationships marked in red are irrelevant for the context of the Swedish grocery market, the three marked in yellow have low relevance, and the two marked in green are highly relevant.

		<u>Selling</u>		
		Consumer	Retailer	Supplier
<u>Buying</u>	Consumer	1	2	3
	Retailer	4	5	6
	Supplier	7	8	9

Table 9: Buyer and seller relationships

### 5.1 Irrelevant relationships

#### 5.1.1 Retailer buying from Consumer (relationship 4)

Retailers usually do not use consumers as suppliers of products. Retailers do buy services from consumers, usually in the form of employment, yet this is not relevant given that the product range is defined as groceries.

#### 5.1.2 Retailer buying from and selling to Retailer (relationship 5)

Retailers do buy products from other retailers in certain instances. The most common form is when retailers co-operate on wholesale operations in a certain region. Typically this occurs in rural and scarcely populated regions where efficiencies can be found by joining forces and de-duplicating the physical distribution chain. Also, following store acquisitions part of the deal may be that the store continues to buy from the same wholesaler for a period of time, even if this wholesaler after the change of store ownership technically belongs to a competitor<sup>31</sup>. These instances must be seen as exceptions from the usual business operations by the retailers. Economies of scale is one of the areas where each retailer can create a competitive edge, and each retailer would thus be incentivized to maximize the volume handled within each proprietary logistics system.

<sup>31</sup> Fri Köpenskap 13/11-07. "Bergendahls om Daglivs: Glada att få sälja varor". Following COOP Sweden's purchase of the Vi Daglivs store in Stockholm in 2007 the store would continue to procure goods from its old wholesaler Dagab for two years.

### **5.1.3 Supplier buying from Consumer (relationship 7)**

Just like with retailers, suppliers usually only buy services from consumers in the form of employment. The relationship is thus irrelevant given the defined range of products.

### **5.1.4 Supplier buying from Retailer (relationship 8)**

Suppliers do buy from the retailers. Not products intended to be sold to the consumer as this would be a reversal of the value chain, but weekly features, display space in the stores, automatic distribution of goods to the stores, and many other services. The output the retailer sells to the supplier is not within the defined range of products. The services are part of the total price the retailers pay the suppliers for their goods though, and can thus be relevant as a form of price deduction in section 5.3.2.

## **5.2 Low relevance relationships**

### **5.2.1 Consumer buying from and selling to Consumer (relationship 1)**

Consumers buy goods and services from other consumers in Sweden as in other countries. The increasing use of the internet fuels this further as new market places become easily accessible, easy to use, and come with low transaction costs. Typically, websites such as [www.blocket.se](http://www.blocket.se) and [www.finn.no](http://www.finn.no) offer most types of products available; e.g. houses, furniture, cars, tickets, CDs, watches, boats, cutlery, computers, printers, etc. Yet, there are very little groceries for sale on either web site<sup>32</sup>. Following the small size of grocery trade on this market it is irrelevant for this study.

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<sup>32</sup> Search for the key words on [www.blocket.se](http://www.blocket.se) and [www.finn.no](http://www.finn.no) on the 1<sup>st</sup> of May 2008

Another consumer-to-consumer market that exists is multi-level-marketing (MLM). MLM Sweden lists 17 MLM companies operating in the country (table below)<sup>33</sup>. Looking at the type of products they sell, 13 of them are relevant as competitors to the traditional grocery retailers (the turnover of these will be covered in section 5.2.2).

<u>Company name</u>	<u>Type of product</u>	<u>Relevant to groceries</u>
1 Ambylife Sverige AB	FMCG	Yes
2 Amway Scandinavia, filial Sverige	FMCG	Yes
3 Forever Living Products AB	Health & Vitamins	Yes
4 Generations of Health AB	Health & Vitamins	Yes
5 Herbalife Sweden AB	Health & Vitamins	Yes
6 Herios AB	Books	Yes
7 LR International Sverige AB	Cosmetics	Yes
8 Madame Chic Kosmetika AB	Cosmetics	Yes
9 Nature's Own AB	Health & Vitamins	Yes
10 Oriflame Cosmetics AB	Cosmetics	Yes
11 Seven Nox AB	Telecom, Health & Vit.	Yes
12 Tahitian Noni International Sweden AB	Health & Vitamins	Yes
13 Golden Neo-Life Diamite International	Health & Vitamins	Yes
14 Best 4 you AB	Telephony	No
15 Inredning och design i Göteborg KB	Furniture	No
16 MGC Multi Games Challenge AB	Games	No
17 ACN Communications Sweden AB	Telephony	No

Table 10: MLM companies operating in Sweden

### 5.2.2 Consumer buying from Supplier (relationship 3)

With technology facilitating consumers to buy easily at low transaction costs from other consumers it would seem likely that suppliers would offer consumers the same choice, and offer consumers to buy products directly from them. After checking the internet sites of a number of suppliers it seems this is most often not possible. There is a group of suppliers that mainly sells directly to consumers, such as Dell Computers, but products that can be bought in a store are usually not offered directly from the supplier. The only exceptions I could find were the Apple store and the Nokia store, where consumers could buy the full Apple and Nokia assortment they could also find in a store directly from the supplier. Most other

<sup>33</sup> [www.mlm-sweden.com](http://www.mlm-sweden.com).

electronics suppliers refer to a list of stores on their websites<sup>34</sup>. Most suppliers of groceries do not even refer to retailers<sup>35</sup>. Electronics is a focus area for the grocery retailers, and in this area they will face steeper competition from direct supplier-to-consumer sales than they are used to from other product categories. The turnover of electronics in the grocery stores is a fraction of the total turnover, so the relevance is low.

According to the industry organization for direct selling companies in Sweden (Direkthandeln's Förening – DF Sverige), there are 60 companies that distribute their products solely on a direct-to-consumer basis. The 11 largest of the 17 MLM companies mentioned in section 5.2.1 are members of the DF Sverige organization. The total turnover for the 60 member companies is “just below Sek 3 billion”, according to DF Sverige<sup>36</sup>. The direct-to-consumer trade (when including MLM which can also be seen as consumer-to-consumer) is thus a sizable and relevant industry. Yet, as it only represents a total turnover of 1.8% of the traditional grocery retailers’ turnover, the relevance to the grocery market is low.

### **5.2.3 Supplier buying from and selling to Supplier (relationship 9)**

Suppliers obviously have suppliers of their own in the likes of raw materials, utilities, etc. In the context of consumption ready products, however, it is unusual for a supplier to buy from another supplier. The role of the supplier in a traditional grocery value chain is to supply the retailers who in turn sell to consumers.

There are instances when suppliers buy from other suppliers, yet this will often take the form of a market agent or distributor, which in effect will make the company operating in the market place the relevant supplier in that market place. One example is Unilever using Lilleborg as their distributor for its products in Norway<sup>37</sup>. For a study of the Norwegian market Lilleborg would be the relevant supplier and not Unilever.

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<sup>34</sup> Web search performed 5/5-08: Sonyericsson.se, philips.se, nordic.lge.com, volvocars.com/se, <http://personbilar.volkswagen.se>.

<sup>35</sup> Web search 5/5-08: arla.se, scan.se, libero.se, cocacola.se, wella.se.

<sup>36</sup> [www.direkthandeln.org](http://www.direkthandeln.org).

<sup>37</sup> Orkla annual report 2004.

The relationship exists as there are suppliers in Sweden that use other companies to sell and distribute. It is not common as it adds an extra level to the value chain and incurs extra costs. It is thus of low relevance to the Swedish grocery market.

### **5.3 Highly relevant relationships**

#### **5.3.1 Consumer buying from Retailer (relationship 2)**

The relationship of Consumers buying from retailers is a prevalent relationship in the Swedish grocery market. The total net consumer turnover of the Swedish grocery market in 2006 was SEK 162,533 million, a growth of 6.7% from the year before<sup>38</sup>. Only approximately 15% of the growth is likely to have come from price increases as the Grocery sub-group in the Consumer Price Index increased by 1%-point between 2005 and 2006. 85% of the growth is thus likely to have come from growth in consumption.

On average, approximately 1.99 million consumers per day shop in a Swedish grocery store. This means that more than 40% of all households spend time in a grocery store each and every day. Calculating backwards from a net turnover of SEK 162.5 billion this means that the average gross shopping basket per visit contains goods sold at SEK 223<sup>39</sup>. The size of the Swedish grocery retail, and the amount of store visits made by Swedish households, makes it the prevalent grocery shopping interface for consumers, and a highly relevant relationship in our context.

#### **5.3.2 Retailer buying from Supplier (relationship 6)**

With 14% of goods sold in the Swedish grocery market being Private Labels (PL), 86% of goods sold at a consumer value of SEK 138 billion are supplied by traditional

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<sup>38</sup> Delfi, DLF, Fri Köpenskap (2007): "Daglivarukartan 2006". (Annual market overview published by Fri Köpenskap trade magazine in co-operation with Delfi and Dagligvaruleverantörernas Förening).

<sup>39</sup> Report from the Nordic competition authorities No 1/2005: "Nordic Food Markets – a taste for competition". Calculated from table 3.4 with the assumption that >4 is 5,5 gives 2,92 visits per household per week, 6 opening days per week annual average, 4,1 million households, 162bn turnover, assuming 2/3 of turnover is sold with 12% VAT (food).

producers/suppliers<sup>40</sup>. The size of the relationship makes it a highly relevant relationship in the Swedish grocery market.

One could argue that the Private Labels are also supplied by producers/suppliers as PLs are seldom physically produced by the retailer itself. However, the fact that the retailer owns the proprietary rights to the product and brand means that the business relationship takes the form of a production service bought from the producer of the PL, rather than that of a traditional supplier/retailer relationship.

#### **5.4 Substitutes to retailer distribution**

The supplier-to-retailer-to-consumer value chain constitutes the prevalent market form in the Swedish grocery market. One of the assumptions that rule out market power in a market is that products and services are perfectly substitutable. The ease of which a grocery supplier can substitute the distribution provided by a grocery retailer is thus an important factor to determine efficiency in the market place. What options will a supplier have if they for instance end up in a conflict with one of the large grocery retailers?

1. The first option is to switch to other grocery retailers than the one they are in conflict with. For most brands and suppliers this is not an option as their products are most likely already distributed by all grocery retailers in the market. All brands and suppliers strive to be National and to have 100% distribution to build economies of scale. Other grocery retailers are thus assumed not to be a viable option for the supplier to substitute distribution lost from one grocery retailer.
2. The second option is to look for alternative retailers through which to distribute the supplier's grocery products, such as electro stores, furniture stores, DIY stores, or clothing stores. The first barrier the supplier would face would be to convince the alternative retailers to move into a new and non-core business. The alternative retailers have had the option to start distributing groceries open to them, yet have (with a few exceptions like the IKEA forecourts) chosen not to. Secondly, if successfully convincing the alternative retailers to distribute its products, the grocery supplier

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<sup>40</sup> ACNielsen Global services September 2005 report and ACNielsen press release on the same report October 2005: "The power of private label 2005 – A review of growth trends around the world". Search on acnielsen.se 7/5-08 using the key word Private Label.

would have to build up a new physical distribution network. Finally, if successful even there they would still face the task of convincing consumers to change their habits and shop their groceries outside of grocery stores. All three tasks will require efforts and costs. Alternative retailers seem not to be a viable option for the suppliers to substitute the distribution offered by the grocery retailers.

3. A third option would be to sell products directly to consumers. As I argued in section 5.2.2, the direct-to-consumer market is virtually non-existent for groceries. The option has been open for the suppliers, yet they have chosen not to enter. Their lack of action I assume to be a sign that they have ruled out the option themselves based on payout expectancy. Direct-to-consumer distribution is assumed not to be a viable option for the suppliers to substitute the distribution offered by the grocery retailers.
4. A fourth option could be to distribute via one of the existing MLM companies. This would add layers to the value chain as both the MLM company and the consumer agents selling the product would require a financial gain. The MLM market is as we have seen of significant size, yet the MLM companies are very small compared to even the smallest grocery retailers. MLM is not a viable option for the suppliers to substitute the distribution offered by the grocery retailers.

## 6. Market situations

In this section I will look into the five potential market situations described in section 1 and apply the theory of monopoly and monopsony power to the situations. I will apply the Herfindahl-Hirschman index as a measure for the level of competition where applicable.

Building on the definitions of monopoly and monopsony, and the assumptions behind the perfect market, we can extract four determining factors that will help us determine whether market power is being exerted over price<sup>41</sup>:

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<sup>41</sup> Building on Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988, and Varian, Hal R., "Intermediate microeconomics: a modern approach", 2nd Edition, W.W. Norton & Company, 1990, and Microeconomics, Robert S. Pindyck and Daniel L. Rubinfeld, Prentice Hall, 2000 (5<sup>th</sup> edition).



1. Whether there are few enough and large enough buyers/sellers to enable them a position where they could exert power over price.
2. Whether they are actually able to exert that power.
3. The level of ease and cost to find and switch to a substitute. If cheaper substitutes of the same perceived quality are easy to find (homogeneous products and information symmetry), and switching does not incur higher costs than the benefit of switching, the buyer/seller is likely to switch to the substitute.
4. The degree to which buyers act independently of each other (and ditto for the sellers).

### **6.1 Situation 1 – Suppliers exert Monopoly power over retailers**

The grocery suppliers operating in Sweden sell products at a net consumer value of Sek 138 billion, 86% of the total market turnover (the remaining 14% consist of Private Labels).

According to the industry organization The Grocery Manufacturers of Sweden (Dagligvaruleverantörernas Förening - DLF) “most of the brands you find in your grocery store come from the approximately 160 companies that are members of DLF”<sup>42</sup>. A study of their membership list, combined with store visits, show that their statement may be right<sup>43</sup> - only very few fresh foods products and specialty products come from suppliers that are not members of the DLF.

Applying the four determining factors, the first question to look at is whether there are few enough and large enough buyers/sellers to enable them a position where they could exert power over price, i.e. monopoly power over the retailers. I have looked into two product categories to answer this question; shampoo, and male blades and razors.

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<sup>42</sup> [www.dlf.se](http://www.dlf.se). “Om DLF” (about DLF) section.

<sup>43</sup> Field trip to Willys Arninge and ICA Nära Rösjöhallen 7/5-08, comparing the membership list with the products on shelf in the shampoo and male blades and razors sections.

### **6.1.1 The shampoo category**

In the shampoo category in Sweden there were nine different supplier companies<sup>44</sup> in addition to the Private Labels in 2006. Procter & Gamble was the largest supplier with a supplier market share in value of 39.6%<sup>45</sup> spread on two brands (Head & Shoulders 29.9%, and Wella 9.7%). The second largest supplier was L'Oréal with a supplier market share of 19.3% spread on three brands (El'Vital 10.8%, Fructis 5.8%, and Respons 2.7%). The third largest was Unilever with a supplier market share of 14.7% spread on four brands (Sunsilk 7.7%, Dove 4.9%, two other brands owned by Unilever aggregate to 2.3%). The remaining five companies hold between 12.3% and 1.0% value share and are thus too small to be in a position to exert monopoly price power over the retailers.

The Herfindahl-Hirschman index for the Swedish shampoo market at supplier level in 2006 is 0.2382. This is at a level where the U.S. competitive authorities would most likely not allow any of the firms to merge, as it is higher than the “<0.18 threshold” used in the U.S. On a brand level the index would be 0.1337, and below the U.S. threshold. With nine suppliers, 14 brands, and a low Herfindahl-Hirschman index at least on a brand level the indication is that the Swedish shampoo market is quite fragmented.

The conclusion is that the shampoo category in the grocery market is likely to be too fragmented for a supplying company to exert monopoly pricing power over the retailers.

### **6.1.2 The male blades and razors category**

In the male blades and razors category there were three different supplier companies in addition to the Private Labels. Procter & Gamble, with the Gillette brand, was by far the largest supplier in the category with a market share of 83.4% in value. The second largest was BIC with a market share of 6.2%, and the third and final supplier was Wilkinson Sword with a market share of 0.6%. Procter & Gamble's Gillette brand held a market share large enough that it could be in a position where it was able to exert monopoly power over the retailers.

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<sup>44</sup> Unilever, L'Oréal, P&G, Henkel, Cederroth, Schwartzkopf, Hardford, Sara Lee, and Lornamed. Sara Lee and Lornamed via distributors, and the other companies via their own organizations.

<sup>45</sup> All market shares ACNielsen past 12 months ending end January 2007.

The Herfindahl-Hirschman index for the male blades and razors market in Sweden in 2006 was 0.6994, which is roughly 3 times higher than the shampoo market. The Herfindahl-Hirschman index supports that suppliers in this market may be in position to exert monopoly power.

The conclusion from the two categories is that the shampoo category is probably too fragmented for any supplier to be in a position to be able to exert monopoly power, while Gillette may be large enough to be in a position to exert monopoly power in the male blades and razors category.

Still, the question is open whether Gillette is able to do so without the retailers switching to a substitute.

In the shampoo category the price spread between the shampoo brands was from 7.96 öre per ml to 11.6 öre per ml, a spread of 45.7%, which was neither higher than other categories in the same store nor significantly higher than the price spread we saw in the ACNielsen price study where the spread of the same product between different stores could vary by 44%. If any of the shampoo brands exert monopoly price power over the retailers it does not seem to have been passed over to the consumer prices. In such a fragmented category it is unlikely that the retailers have swallowed a high price by decreasing their own margins. Further, none of the shampoo brands had disproportional shelf space in the stores visited; each variant had two to four facings each, which otherwise could have been a sign of the suppliers exerting monopoly power over the retailers.

In the male blades and razors category the price spread is of little help as BIC only operates in the disposable segment, and Wilkinson is so small at 0.6% market share that a consumer discount per usage would be expected. BIC and Wilkinson had better shelf space than Gillette for comparable products, so no support for Gillette exerting power.

There are further strong indications that the suppliers which might be in position to exert monopoly power are not able to do so. It should be bad for business, even for retailers with such a high market share as ICA, not to offer consumers the product they usually spend more than 80 out of every 100 SEK bill on in a category. Still, ICA removed all products supplied by the Gillette Company (pre-merger with P&G) from their stores in 2005 as a result of Gillette

wanting to “increase instead of lowering prices”<sup>46</sup>. An ICA purchasing manager commented to a newspaper “Gillette has a price strategy that does not harmonize with ours. They want to increase their prices, we want to decrease ours. That does not go hand in hand.”<sup>47</sup> The Gillette products were partly put back in distribution on the ICA shelves a little more than a year later.

Gillette is not the only brand that has been removed from distribution by one or more retailers during negotiations in the time period. Other examples are Kellogg’s corn flakes which were removed from shelf by COOP Sweden, and Pampers diapers which were removed from shelf by Norgesgruppen in Norway<sup>48</sup>.

The argument that even a brand with a market share above 80% from a large international supplier like Procter & Gamble is not able to exert market power may seem surprising. There are several arguments supporting this point of view:

1. Lack of options to substitute the distribution offered by the grocery retailers, as discussed in section 5.4.
2. Relative size. Retailers in Sweden are much larger than the suppliers, and no supplier has a large share of any retailer’s business. Arla Foods AB is by far the largest grocery supplier in Sweden with a net turnover of SEK 9.8 billion in 2007. Assuming 75% is sold through the grocery retailers (remaining 25% to service retailers, hotels, restaurants, catering, schools, hospitals, etc.), and assuming Arla has a market share in ICA in line with total market, Arla would represent 8.1% of ICA’s total business. ICA would on the other hand with the same assumptions represent 37.4% of Arla’s business. In a potential conflict with Arla on for instance orange juice, ICA could choose to substitute Arla with among others Norrlandsmejerier, Valio, or Tine. Arla on the other hand would find it impossible to substitute the loss of ICA distribution elsewhere. The shift in power balance to the retailers and the need for strategic change this leads to from the suppliers is the topic of a book called “Retailization”<sup>49</sup> which came out in 2006. The book is built on several global retail studies by among others

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<sup>46</sup> Affärsvärlden 26/4-05: ”De hårda blir ännu hårdare”

<sup>47</sup> Svenska Dagbladet 24/2-05: ”ICA boycotts Gillette”

<sup>48</sup> Dagens Näringsliv 8/1-05: ”Hyllekunstnerne”, and Svenska Dagbladet 24/2-05: ”ICA boycotts Gillette”

<sup>49</sup> Thomassen, Lars; Lincoln, Keith; Aconis, Anthony: ”Retailization – Brand survival in the age of retailer power”, Kogan Page Limited., 2006.

ACNielsen, and reading it you find numerous examples of relative size: Tesco has 30% market share in the U.K. vs. Nescafé less than 1% market share in the U.K. Procter & Gamble is the largest grocery supplier in the World with app. USD 60 billion annual turnover vs. the largest retailer Wal-Mart with USD 285 billion.

3. Ability to scale up negotiation power. In the Gillette case ICA removed not only the Gillette brand but all the brands from the supplying company; Gillette, Venus, Duracell and Braun. They scaled up their negotiation power from one brand to the full supplier portfolio aiming to resolve the supplier's "increase instead of lowering prices". In negotiations between grocery suppliers and retailers the tactic of expanding a disagreement beyond the brand in question is reserved for the retailers. In theory the tactic could be used as leverage for suppliers when a retailer removes one of their brands from shelf. For instance in the hypothetical Arla/ICA case above, if ICA removes Arla orange juice Arla could refuse to sell any of its brands to ICA to put pressure on them. ICA would then have to substitute a large number of items which would require effort and costs, and most likely lost sales as consumers would not find the brands they usually buy. The tactic would be a potentially effective negotiation tool for the supplier, though even more effective in the hands of the retailer due to relative size. Suppliers are, however, forbidden by competitive law in Sweden to refuse selling a product to anyone who wants to buy it. The law thus rules out the tactic from real life supplier application, and as there is no similar law prohibiting retailers from removing any brand they want from distribution, the power balance is shifted to the retailers. ICA could actively choose to substitute the full Arla portfolio, 37.4% of Arla's Swedish sales. Arla on the other hand would be bound by law to deliver all products ordered by ICA, even including the hypothetical conflict area of orange juice. No case when the suppliers have refused to sell is known to have happened in the Swedish grocery market, while retailers as we have seen have removed brands in the past.

The conclusion is that categories exist in the Swedish grocery market where suppliers are large enough to be in a position to exert monopoly power over price. The total power balance however seems to make them unable to do so. It seems that if they try the retailers will substitute them out of distribution, while they themselves do not have viable alternatives to the grocery retailer distribution. The conclusion is supported by findings in a report from the

Nordic competition authorities which concludes that the “strength of the suppliers has, however, to a large extent been counterbalanced by the growing power of the large retailing groups.”<sup>50</sup>

The third determining factor is substitution. For the suppliers to substitute retailer distribution they would have to switch to alternative channels to reach the consumers, such as other retailers, internet sales, MLM, bazaar sales, telesales, or door-to-door. As I argued in section 5.4 and above in this section, the size of each of the alternative channels is so small it cannot possibly offset grocery retailer distribution. The total turnover of direct-to-consumer in Sweden (“almost Sek 3bn”) is not even a quarter that of the fourth largest Swedish retailer (Bergendahls with a turnover of 13bn).

The fourth determining factor is the degree to which the sellers act independently of each other. Not acting independently would easily put them at risk of cartel or collusion behavior. There have not been any such cases or investigations (at least public ones) during the time period. It is likely that the European Commission would fine such behavior in Sweden with a minimum of one half year’s turnover in the country<sup>51</sup>, which would make such acts not only unethical, which I assume in itself would restrain most companies, but even unprofitable for the unethical company: The unethical company would need to believe it had less than 5% chance to get caught for an expectancy model to pay out, and that is without taking into account the negative consumer and trade partner reactions if they did get caught. I assume there is no collusion between suppliers in Sweden.

The conclusion is that there is low probability that a supplier company is exerting monopoly power over the price paid by retailers in Sweden.

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<sup>50</sup> Report from the Nordic competition authorities No 1/2005: “Nordic Food Markets – a taste for competition”.

<sup>51</sup> Official Journal of the European Union: “Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of regulation No 1/2003, 1/9-06.

## 6.2 Situation 2 – Retailers exert Monopoly power over consumers

Three large retailers hold an aggregated 87.9% of the Swedish grocery market, four hold 96.1% and six virtually 100% of the market (graph below)<sup>52</sup>.

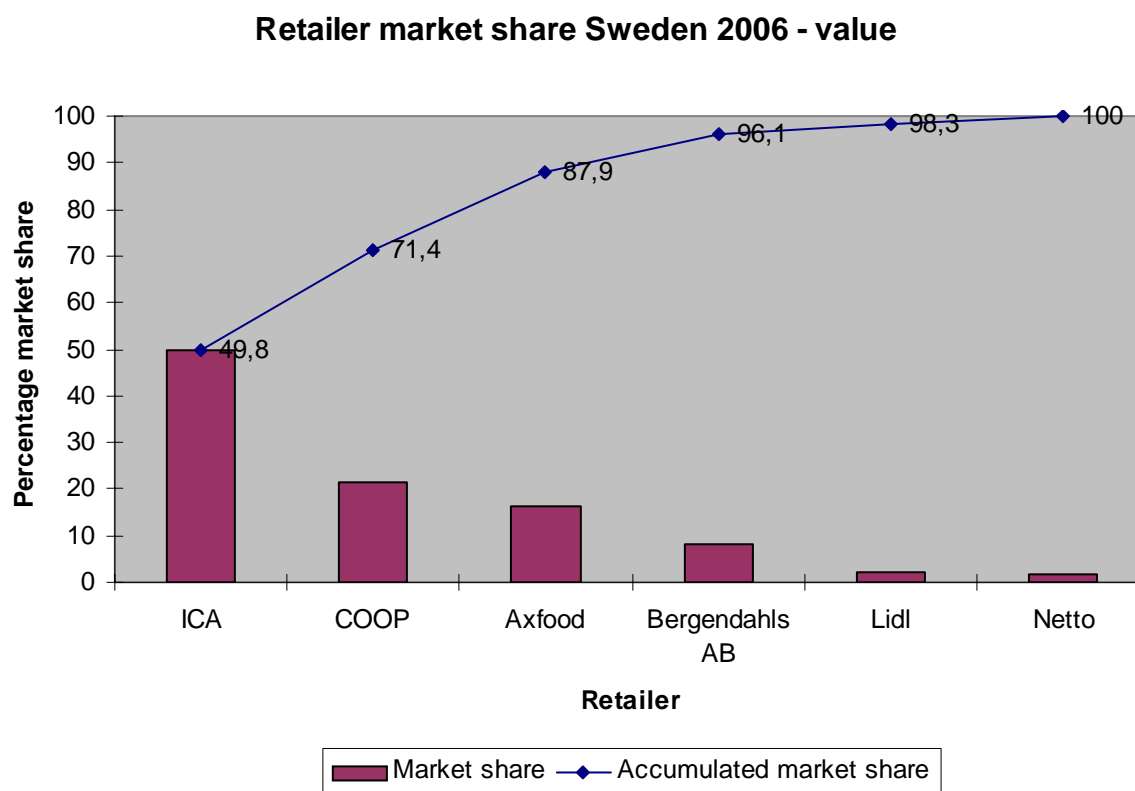


Table 11: Graph market shares Swedish grocery retailers

In a European perspective the Swedish situation is not unique – with top 5 retailers aggregated market share in Denmark at 89%, Switzerland at 86%, France at 81%, and Belgium at 80%<sup>53</sup>, yet Norway and Sweden are at the very high end with Sweden at 98.3% and Norway at 98.0%<sup>54</sup>.

<sup>52</sup> Delfi, DLF, Fri Köpenskap (2007): “Daglivarukartan 2006”. (Annual market overview published by Fri Köpenskap trade magazine in co-operation with Delfi and Dagligvaruleverantörernas Förening).

<sup>53</sup> ACNielsen Global services September 2005 report and ACNielsen press release on the same report October 2005: “The power of private label 2005 – A review of growth trends around the world”. Search on [www.acnielsen.se](http://www.acnielsen.se) 7/5-08 using the key word Private Label

<sup>54</sup> Dagligvarefasiten 2007, published by Dagligvarehandelen magazine in co-operation with ACNielsen. Found at [www.dagligvarehandelen.no](http://www.dagligvarehandelen.no).

Again, the first question to answer is whether there are few enough and large enough retailers to enable them a position where they could exert monopoly power over price. The largest retailer by far in Sweden is ICA AB with 49.8% market share in value in 2006. Due to its size ICA AB could be large enough to exert monopoly power over price towards consumers. In fact, the Swedish competitive authorities have had ongoing cases with ICA concerning a potentially dominant market position in Sweden since the early 1990s<sup>55</sup>. The last chapter on the matter so far was closed in 2006, when the competitive authorities (Konkurrensverket) decided to close down their investigation of ICA, as ICA “representatives from the store owners are no longer taking part when ICA Sverige AB work out the stores’ price setting aid”<sup>56</sup>.

The Herfindahl-Hirschman index for the Swedish grocery retail market in 2007 was 0.3297<sup>57</sup> on the group or owner level (ICA, COOP, Axfood, Bergendahls, Vi, Netto, Lidl), almost twice as high as the U.S. merger threshold of 0.18. The Herfindahl-Hirschman index implies that the market is concentrated and implies retailers could be in a position where they are able to exert market power.

Yet, the large market shares held by the retailers was at the ownership level. For our purpose the important view is the view of consumers, and consumers do not shop at the ICA group but rather at a store branded with one of four ICA banners; ICA Maxi (hypermarket), ICA Kvantum (Large supermarket), ICA Supermarket (supermarket), or ICA Nära (local store). An effect of the large market share and large number of stores ICA has is that it is difficult for the four banners to avoid competing with each other:

1. It would be difficult to place stores far enough apart from each other to geographically segment the market. It would potentially be possible for one of the banners, for instance ICA Maxi, to place all their stores in separate local markets to avoid competing with its own stores. This as they control the franchise licensing, and potentially also could build in control of the store property in the franchise contracts.

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<sup>55</sup> [www.ica-historien.se](http://www.ica-historien.se). ”ICA och konkurrensrätten”, article by Peter Dettman, CEO of ICA Förbundet and responsible for ICA’s handling of the competitive authorities since the early 1990s.

<sup>56</sup> Konkurrensnytt no 6, 2006, “ICA upphör med prissamarbete”, archived on [www.konkurrensverket.se](http://www.konkurrensverket.se).

<sup>57</sup> Dagligvarefasiten 2007: ICA 49.8% market share (value), COOP 21.6, Axfood 16.5, Bergendahls/Vi 8.2, Lidl 2.2, Netto 1.7.



To avoid competing with stores also from the other three banners would be difficult. In addition, the stores are already placed on the locations they are, and physically moving the stores via a geographical segmentation model would mean ICA would have to give up store locations, which are likely to be taken by their competitors.

2. The banners are already segmented towards different consumer needs<sup>58</sup>, i.e. they serve different purposes for consumers. Thus a geographical segmentation, even if it could potentially enable higher prices due to decreased competition, would not necessarily grow financial results as such a move could counter the segmentation already in place.
3. Each banner has separate banner managements measured on the results of their own entity, i.e. they are incentivized to compete vs. everyone else in the market place including other ICA banners.

Similar banner structures and consumer segmentation models are used by all the top four Swedish retailers, so the argument is valid for 96.1% of Swedish grocery turnover.

ICA (and parts of COOP and Axfood) is organized as a franchise operation, meaning that each store owner is responsible and directly incentivized by the financial results of his/her store. This means that from a consumer perspective the stores competing for their attention and spending compete with all other stores around them. If you look at the Swedish retailers from the ownership angle you find that 5 owners hold 98.3% market share<sup>59</sup>, with ICA holding approximately half of that. At this level the probability of exerting monopoly power towards consumers is there. Yet, if you look at the retailers at the next level – banner entities with their own management - you find that the probability goes down drastically as the number of market operators more than double to 12<sup>60</sup>. Finally, at the store level – the actual consumer interface – there are at least 1,718 entities (stores and vertically integrated banners) with financial ownership over their own bottom lines that compete with each other<sup>61</sup>.

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<sup>58</sup> [www.ica.se](http://www.ica.se). Section "Våra olika butiker" (Our different stores).

<sup>59</sup> ICA, COOP, Axfood, Bergendahls, Vi.

<sup>60</sup> ICA Maxi (hypermarket), ICA Kvantum (Large supermarket), ICA Supermarket (supermarket), and ICA Nära (local store), COOP Forum (hypermarket), COOP Extra (large supermarket) COOP Konsum (supermarket), COOP Nära (local store), Vi (supermarket), Bergendahls (mix of store formats), Willy:s, Hemköp.

<sup>61</sup> 1718 entities: approximately 1500 ICA franchise stores, approximately 80 Hemköp franchise stores, approximately 130 COOP franchise stores, plus 8 banners. Source: [www.ica.se](http://www.ica.se), [www.axfood.se](http://www.axfood.se), [www.coop.se](http://www.coop.se).

The Herfindahl-Hirschman index decreases sharply at the banner level: From 0.3297 at the owner level to 0.1183<sup>62</sup> at the banner level, far below the U.S. merger threshold. Market shares are not available at the store level, however no store has more than 1% market share which means the Herfindahl-Hirschman index would be very small. This is an indication that competition is quite efficient at the banner level, and even more so at the store level.

There is still a need to determine which level is the right level to look at though, and Asplund and Friberg's study supports that store level is the right one, as they found that "there is competition between stores, irrespective of chain affiliation"<sup>63</sup>.

The conclusion is that the Swedish grocery market is much more fragmented than meets the eye, and that the number of competing sellers the consumer has to choose from is high. Potentially so high that retailers are unlikely to be large enough to be in a position to exert monopoly power over consumer prices in Sweden.

The second determining factor is whether the retailers are in fact exerting power. In section 4 above I argued that consumer grocery prices are quite efficient in Sweden, both at absolute level and when looking at development over time. Combined with the indication that retailers are unlikely to be large enough to be in position to exert monopoly power, the conclusion is that there is low probability that retailers are exerting monopoly power over consumer prices in Sweden.

The third and fourth determining factors become irrelevant given the findings above, but could become interesting if the determining factors one and two change in the future, so I will briefly touch upon them.

Retailers have shown through action that they are both able and willing to substitute products from suppliers - even brands commanding very high market shares.

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<sup>62</sup> Dagligvarefasiten 2007: ICA Maxi 9.9% market share (value), ICA Kvantum 13.7, ICA Supermarket 18.2, ICA Nära 8.0, COOP Forum 7.2, COOP Supermarket 14.5, Bergendahls 4.8, Vi 3.3, Willy:s 10.3, Hemköp 6.1, Lidl 2.2, Netto 1.7.

<sup>63</sup> Asplund, Marcus; Friberg, Richard: "Food Prices and Market Structure in Sweden", Scandinavian Journal of Economics, 2002.

Just like with the suppliers above, there have been no cases or investigations (at least not public ones) on collusion between Swedish retailers. The retailers would also face the European Commission if adopting such behavior, and the assumption that they act independently of each other should therefore hold also for the retailers.

### **6.3 Situation 3 – Both retailers and suppliers exert monopoly power**

There could be a situation where suppliers exert monopoly power over the price to retailers, and the retailers in turn exert monopoly power over the price to consumers. The efficiency loss of such a situation would depend on the cost structure of the retailer and supplier, and on the objective of the retailer and supplier. The efficiency loss could be the highest possible where the consumer prices end up at the highest level, but would not necessarily end up at this point.

The cost structure could be such that the retailer and/or supplier have significant scale benefits, causing the profit maximizing equilibrium point to be found at a point where a lower price drives higher volume which in turn drives lower costs due to scale. Examples of such economies of scale could be production, logistics and marketing costs for the supplier, and logistics, marketing and store costs for the retailer.

Also, the supplier's and retailer's objectives for a specific product or group of products could affect the profit maximizing equilibrium points they choose. There could be situations where they find that several equilibrium points maximize profits, and they would have to choose one of them. In such a case the objective of the category would play an important role: Higher volumes at lower prices could be chosen by the supplier to build market power upstream or downstream; for instance if the product share raw materials with other products in the portfolio, higher raw material volumes could build market power upstream. Or the product could be important for the retailers for instance to build price image towards consumers, so supplying it at lower prices the supplier could build market power downstream. Accordingly, price image could lead the retailers to choose a higher volume and lower price equilibrium point. Also, higher volume from the supplier on one product could lead to lower prices for the retailer also for Private Labels provided by the same supplier in the same product category.

My arguments in sections 6.1 and 6.2 above are that there is a low probability that either suppliers or retailers exert monopoly power in the Swedish grocery market, and my argument is thus that the probability that both successively exert monopoly power is also low.

#### **6.4 Situation 4 – Retailers exert Monopsony power over suppliers**

Five retailers hold 98.3% of the Swedish grocery market at the owner level. It is thus logical that negotiations with the retailers' suppliers are undertaken at this level. Interestingly, the buyer/seller relationship tends to be moved upwards by the retailers to include higher and higher amounts of product, with the clear intention of creating negotiation power towards the suppliers. The COOPs in Sweden, Norway and Denmark formed COOP Norden in 2002 to lift negotiations to a Nordic level<sup>64</sup>, and ICA operates with a single buying organization covering both Sweden and Norway<sup>65</sup>.

The first determining factor, whether there are few enough and large enough retailers to enable a position where they could exert monopsony power over price from their suppliers, seems to be fulfilled.

The second determining factor is whether they are able to exert that power in real life. If we look for international examples Harper's Magazine ran an article in July 2006 called "Breaking the Chain: The antitrust case against Wal-Mart" which discusses Wal-Mart's monopsony power over its suppliers in the US. Author Barry C. Lynn argues that Wal-Mart with more than 30% of market share in the US has gained enough power, and is using this power, to dictate purchasing price, terms of delivery, terms of payment, product content, information about the prices Wal-Mart's competitors pay, the cost of raw material and production, and even support in Wal-Mart's political struggles. According to Lynn "a small retailer can expect to pay upward of 10 percent more than a powerful firm for the same basket of items". If correct, this could be an example of first and/or second-degree price discrimination from an oligopsonist. Lynn's key point is that Wal-Mart has driven prices from their suppliers to such a low level that it is unhealthy for the American economy. He explains

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<sup>64</sup> [www.coop.se](http://www.coop.se). At first COOP Norden was a merger of the COOPs in Sweden, Norway, and Denmark, before the the company was split up in 2007, and transformed into COOP Trading, a buying organization for the COOPs in the three countries.

<sup>65</sup> [www.ica.se](http://www.ica.se). Organization section.

the unhealthiness aspect by his statement that “of Wal-Mart's top ten suppliers in 1994, four have sought bankruptcy protection”<sup>66</sup>.

The retailers in Sweden are definitely large enough to exert monopsony power over their suppliers, especially ICA with their 49.8% market share, but also COOP with 21.6%, and Axfood with 16.5%. Adding the fact that the volume negotiated by both ICA's and COOP's buying organizations goes beyond the National volume underlines the point. Previous action from the retailers like the removal from distribution of Gillette by ICA Sweden, Kellogg's by COOP Sweden, and Pampers by Norgesgruppen in Norway, when prices have been judged as not low enough, serves as indications they are not only in a position to exert monopsony power, but also willing and able to do so. The first two determining factors thus seem fulfilled. An even stronger indication would come from analyzing P/L statements, which I have done in the following section.

#### **6.4.1 Analyzing Axfood's P/L statement**

One way to check whether the retailers are in fact exerting the monopsony power they have is via their P/L-sheets, and see how the top-line sales, prices for acquired goods and profits change over time. I will use cash-flow generated each year as the measure for profit, as I view it as a better measure for economic profit created in a given year than the P/L sheet profit line. Studying the Swedish retailers' P/L-sheets is not a straight forward task due to their owner structures:

- ICA AB is owned 60% by Royal Ahold N.V. and 40% by Hakon Invest, and even though Hakon Invest is listed on the OMX Nordic Exchange, ICA AB does not meet the same demands for information sharing as a listed company. ICA combines their Swedish, Norwegian, and Baltic operations on the cost side of their P/L which makes it impossible to isolate Swedish costs. Further, they have changed the countries included in the aggregated numbers during the past 3 years, which makes it impossible to compare to the time period used for this study (2000-2006).

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<sup>66</sup> Harper's Magazine July 2006: "Breaking the Chain: The antitrust case against Wal-Mart", Barry C. Lynn.

- COOP is owned by smaller co-operatives across the country of which some have joined COOP Sweden during the time period. COOP Sweden has also been part of COOP Norden between 2002 and 2007 which further hampers comparison to our chosen time period.
- Axfood was formed in the year 2000, and is listed on the OMX Nordic Exchange with the adhering demands to share information with the stock market. Axfood has posted Annual Reports for the year 2000 through 2007 on their website which makes them the perfect retailer to study for the purposes of this paper.

Axfood has had a strong cash flow development from the start in 2000, growing free cash-flow from 1.5% of turnover to a stable +4% from 2004 through 2007 (Table 12 below).

<b><u>Axfood (million Sek)</u></b>	<b><u>2000</u></b>	<b><u>2001</u></b>	<b><u>2002</u></b>	<b><u>2003</u></b>	<b><u>2004</u></b>	<b><u>2005</u></b>	<b><u>2006</u></b>	<b><u>2007</u></b>
Turnover	30230	32428	33115	33616	33826	28086	28808	29189
Cash flow from core business	445	1046	1104	1105	1359	1170	1160	1166
Cash flow in % of turnover	1.5%	3.2%	3.3%	3.3%	4.0%	4.2%	4.0%	4.0%

Table 12: Axfood turnover and cash-flow 2000-2007

The cash flow growth may have come from increased operating efficiency, top-line sales growth (from increased volume sales and/or price increases), or lower purchase prices. As we can see in Table 12 above top-line growth has not been a driver. Operating efficiency has potentially been a driver, but as the post “Cost of acquired goods” has represented approximately 91% of Axfood’s total costs during the period it is logical to focus here. As can be seen in Table 13 below, Axfood has reduced its purchase prices by 3%-points from the year 2000.

<b><u>Axfood (million Sek)</u></b>	<b><u>2000</u></b>	<b><u>2001</u></b>	<b><u>2002</u></b>	<b><u>2003</u></b>	<b><u>2004</u></b>	<b><u>2005</u></b>	<b><u>2006</u></b>	<b><u>2007</u></b>
Turnover	30230	32428	33115	33616	33826	28086	28808	29189
Cost of acquired goods	-26872	-28425	-28612	-29721	-29748	-24172	-24760	-25119
Goods in % of turnover	88.9%	87.7%	86.4%	88.4%	87.9%	86.1%	85.9%	86.1%
Index vs. 2000	100	0.99	0.97	0.99	0.99	0.97	0.97	0.97

Table 13: Axfood turnover and cost of acquired goods 2000-2007

At the same time the CPI groceries sub-group has increased by 8.3%-points. Assuming Axfood’s consumer price development has been in line with the CPI groceries sub-group it would mean their margin potential has increased by 11.5%-points during the period (see Table 14 below).

**CPI groceries Sweden vs. cost of acquired goods Axfood  
2000-2007**

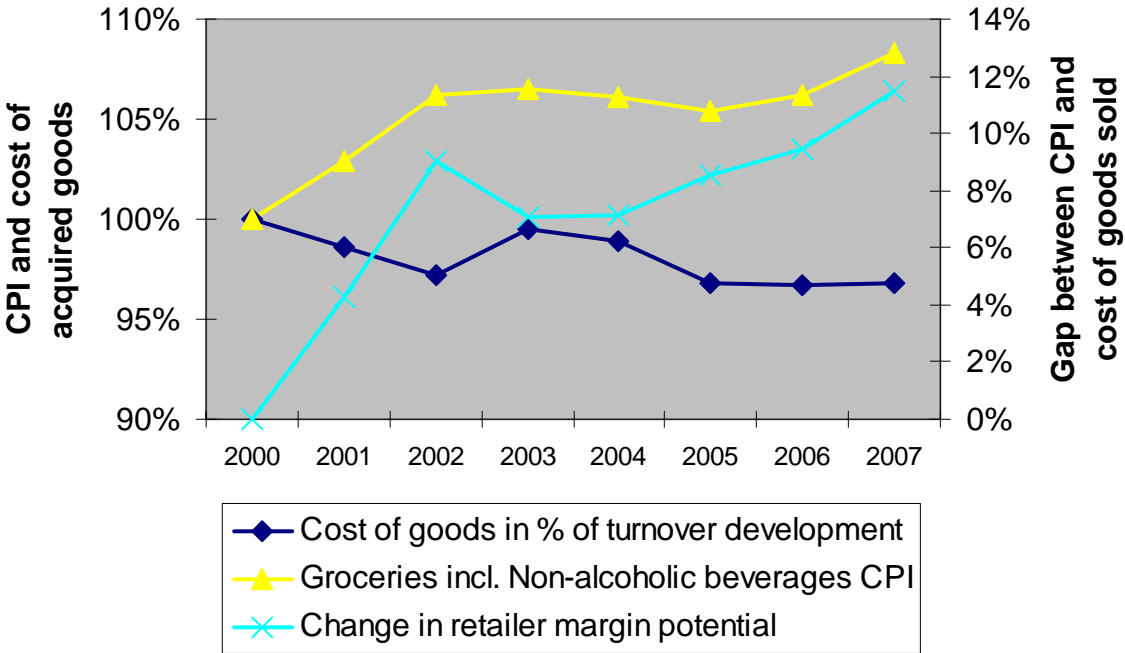
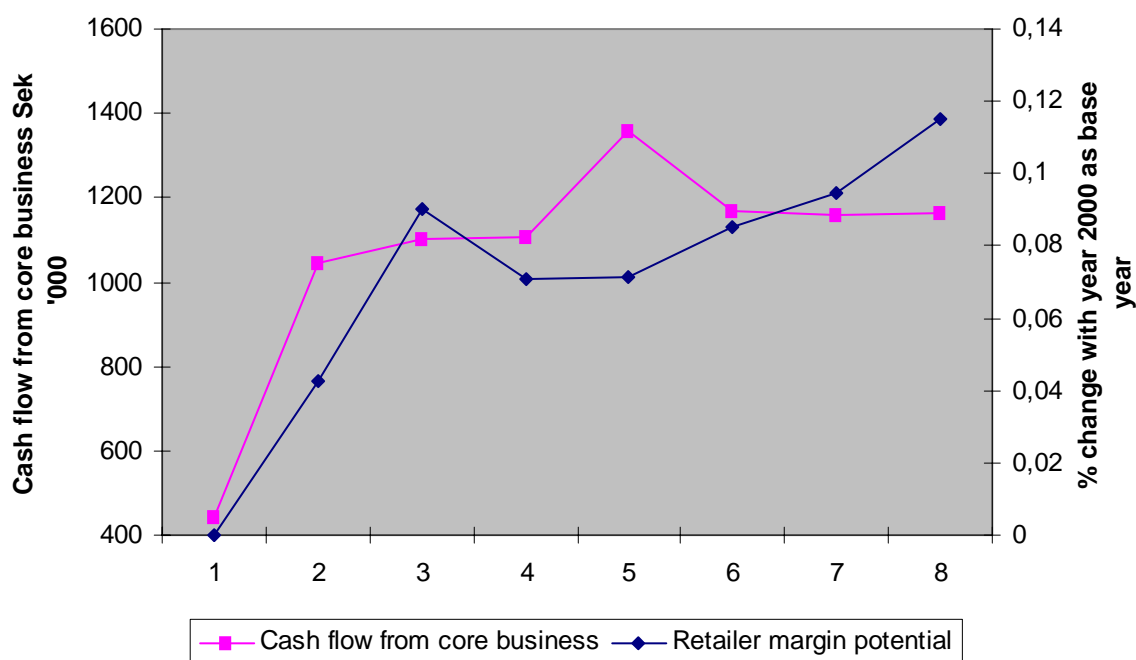


Table 14: Axfood change in margin potential 2000-2007

Drawing a graph of Axfood’s change in margin potential shows an almost identical shape to the graph of their cash-flow development (Table 15 below), and thus it seems Axfood has materialized on the potential. The correlation coefficient between the two series of numbers is 0.80 which supports the argument. Cause and effect between margin and cash-flow is obvious, yet there is uncertainty connected to the assumption that Axfood’s consumer price development has been in line with the National average represented by the CPI groceries sub-group. Axfood claims to be the driver of lower prices among the Swedish retailers, with the slogan “Sweden’s cheapest food basket” for their Willy:s banner.

### Margin potential (CPI vs. cost of acquired goods) and cash flow



**Table 15:** Axfood margin potential and absolute cash-flow 2000-2007

Comparing cash-flow in percent of turnover instead of absolute cash-flow with the retailer margin potential, as in Table 16 below, gives an even stronger correlation – a correlation coefficient of 0.87.

<b>Axfood (% using 2000 as base year)</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Change in retailer margin potential	0.0%	4.3%	9.0%	7.1%	7.1%	8.5%	9.5%	11.5%
Cash-flow in % of turnover	1.5%	3.2%	3.3%	3.3%	4.0%	4.2%	4.0%	4.0%

**Table 16:** Axfood margin potential and percentage cash-flow 2000-2007

Axfood has more than doubled their cash-flow between 2000 and 2007, and the key driver behind it has been lower purchase prices. The level of cash-flow increase indicates that they have partly shared the lower purchase prices with consumers through lower consumer prices.



Without knowing the price and cost structure and their development in Axfood, the best calculation I can make is that between 17% and 78% has been shared with consumers<sup>67</sup>.

The conclusion is that Axfood is likely to have exerted monopsony power over its suppliers in the time period to get lower purchase prices, and have invested part of the excess economic profit to grow their own cash-flow and part of it to fund lower consumer prices.

### **6.5 Situation 5 – Efficient price setting in the market**

I have found several indications that the Swedish grocery market is quite efficient. The key findings in this paper are that:

1. The prices for groceries in Sweden are the lowest in the Nordic region and lower than what could be expected compared to similar countries. Consumers are likely to pay quite efficient prices for groceries.
2. The price increases for groceries between the years 2000 and 2007 have been lower than the total price development in the country, indicating an efficient price development in the time period.
3. The lower correlation between spendable income and price level in Sweden vs. the other European countries (except Finland) is a weak indication that prices may decrease from the 2005 level.
4. There is a weak positive correlation between regional grocery prices and regional spending power. This could be a sign that local equilibriums are formed according to regional willingness to pay, which in case could be interpreted as an indication of market efficiency.
5. It is unlikely that the grocery retailers have exerted monopoly price power over the Swedish consumers in the time period.

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<sup>67</sup> 2.5%-points increase in cash-flow in % of turnover compared to either 3%-points better purchase prices or 11.5%-points improved margin potential depending on assumptions.

6. It is unlikely that the grocery suppliers have exerted monopoly price power over the grocery retailers in the time period.
  - a. The suppliers do not have viable substitutes to the distribution offered by the grocery retailers.
  - b. Categories exist where suppliers are large enough to be in a position to exert monopoly price power over the retailers.
  - c. Suppliers seem unable to actually exert monopoly power due to 1) a lack of viable options to the distribution offered by the grocery retailers, 2) the relative size and importance of the business being much higher to the supplier than to the retailer, and 3) a lack of ability to scale up negotiation power.
  
7. It is likely that the grocery retailers have exerted monopsony power over their suppliers in Sweden, and that they have partly shared the excess economic profits made with the consumers.

## 7. Overview of tables

Table 1: Perfect market.

Source: Based on Varian, Hal R., "Intermediate microeconomics: a modern approach", 2nd Edition, W.W. Norton & Company, 1990. Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988. [www.wikipedia.com](http://www.wikipedia.com).

Table 2: Monopoly

Source: Based on Varian, Hal R., "Intermediate microeconomics: a modern approach", 2nd Edition, W.W. Norton & Company, 1990. Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988. [www.wikipedia.com](http://www.wikipedia.com).

Table 3: Monopsony

Source: Based on Varian, Hal R., "Intermediate microeconomics: a modern approach", 2nd Edition, W.W. Norton & Company, 1990. Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988. [www.wikipedia.com](http://www.wikipedia.com).

Table 4: ACNielsen Euro price index

Source: ACNielsen Breaking News September 2005: "Euro price barometer".

Table 5: ACNielsen Euro price range

Source: ACNielsen Breaking News September 2005: "Euro price barometer".

Table 6: Consumer Price Index Sweden 2000-2007

Source: Data extracted from Statistics Sweden (Statistiska Centralbyrån).

Table 7: Graph CPI Sweden 2000-2007 sub-categories

Source: Data extracted from Statistics Sweden (Statistiska Centralbyrån).

Table 8: Regional average basket price vs. regional spending power

Source: Data extracted from the Swedish National association for retirees (Pensionärernas Riksorganisation, PRO), and from Statistics Sweden (Statistiska Centralbyrån).

Table 9: Buyer and seller relationships

Source: Hypothetical model made by the author.

Table 10: MLM companies operating in Sweden

Source: MLM Sweden (industry organization).

Table 11: Graph market shares Swedish grocery retailers

Source: Data extracted from “Dagligvarefasiten 2007”, Dagligvarehandelen Newspaper.

Table 12: Axfood turnover and cash-flow 2000-2007

Source: Axfood annual reports for the years 2000 through 2007, published on [www.axfood.se](http://www.axfood.se).

Table 13: Axfood turnover and cost of acquired goods 2000-2007

Source: Axfood annual reports for the years 2000 through 2007, published on [www.axfood.se](http://www.axfood.se).

Table 14: Axfood change in margin potential 2000-2007

Source: Axfood annual reports for the years 2000 through 2007, published on [www.axfood.se](http://www.axfood.se), and Consumer Price Index data extracted from Statistics Sweden (Statistiska Centralbyrån).

Table 15: Axfood margin potential and absolute cash-flow 2000-2007

Source: Axfood annual reports for the years 2000 through 2007, published on [www.axfood.se](http://www.axfood.se), and Consumer Price Index data extracted from Statistics Sweden (Statistiska Centralbyrån).

Table 16: Axfood margin potential and percentage cash-flow 2000-2007

Source: Axfood annual reports for the years 2000 through 2007, published on [www.axfood.se](http://www.axfood.se), and Consumer Price Index data extracted from Statistics Sweden (Statistiska Centralbyrån).

## 8. References

- Asplund, Marcus; Friberg, Richard: "Food Prices and Market Structure in Sweden", Scandinavian Journal of Economics, 2002.
- Report from the Nordic competition authorities No 1/2005: "Nordic Food Markets – a taste for competition".
- Varian, Hal R., "Intermediate microeconomics: a modern approach", 2nd Edition, W.W. Norton & Company, 1990.
- Fischer, Stanley; Dornbusch, Rudiger; Schmalensee, Richard: "Economics", 2nd Edition, McGraw-Hill, 1988.
- Pindyck, Robert S.; Rubinfeld, Daniel L.: Microeconomics, Prentice Hall, (5<sup>th</sup> edition), 2000
- Nordfält, Jens: "Marknadsföring i butik – Om forskning och branschkunskap i detaljhandeln", Liber AB, 2007
- Thomassen, Lars; Lincoln, Keith; Aconis, Anthony: "Retailization – Brand survival in the age of retailer power", Kogan Page Limited., 2006.
- Berge, Laila Kristin: SNF rapport nr. 13/01. "Prisdiskriminering i Oligopol – En teoretisk gjennomgang og eksempler fra telemarkedet". Stiftelsen for samfunns- og næringslivsforskning, Bergen, juli 2001.
- "Dagligvarefasiten 2007", Dagligvarehandelen Newspaper, 2007.
- Harper's Magazine July 2006: "Breaking the Chain: The antitrust case against Wal-Mart", Barry C. Lynn, 2006.
- Konkurrensnytt no 6, 2006, "ICA upphör med prissamarbete", 2006.
- ACNielsen Global services September 2005 report and ACNielsen press release on the same report October 2005: "The power of private label 2005 – A review of growth trends around the world", 2005.
- ACNielsen Breaking News September 2005: "Euro price barometer".

## **8.1 Web-sites used**

[www.scb.se](http://www.scb.se)  
[www.ssb.no](http://www.ssb.no)  
[www.pro.se](http://www.pro.se)  
[www.dst.dk](http://www.dst.dk)  
[www.ica.se](http://www.ica.se)  
[www.ica-historien.se](http://www.ica-historien.se)  
[www.nhh.no](http://www.nhh.no)  
[www.coop.se](http://www.coop.se)  
[www.axfood.se](http://www.axfood.se)  
[www.dn.no](http://www.dn.no)  
[www.dn.se](http://www.dn.se)  
[www.wikipedia.org](http://www.wikipedia.org)  
[www.acnielsen.se](http://www.acnielsen.se)  
[www.konkurrensverket.se](http://www.konkurrensverket.se)  
[www.fri-kopenskap.se](http://www.fri-kopenskap.se)  
[www.google.se](http://www.google.se)  
[www.wto.org](http://www.wto.org)  
[www.dlf.se](http://www.dlf.se)  
[www.ecr.se](http://www.ecr.se)  
[www.li.se](http://www.li.se)  
[www.butikstrender.com](http://www.butikstrender.com)  
[www.dagenshandel.se](http://www.dagenshandel.se)  
[www.market.se](http://www.market.se)  
[www.asda.com](http://www.asda.com)  
[www.affarsvarlden.se](http://www.affarsvarlden.se)  
[www.e-24.se](http://www.e-24.se)  
[www.svd.se](http://www.svd.se)  
[www.Sonyericsson.se](http://www.Sonyericsson.se)  
[www.philips.se](http://www.philips.se)  
[www.nordic.lge.com](http://www.nordic.lge.com)  
[www.volvocars.com/se](http://www.volvocars.com/se)  
<http://personbilar.volkswagen.se>  
[www.arla.se](http://www.arla.se)  
[www.scan.se](http://www.scan.se)  
[www.libero.se](http://www.libero.se)  
[www.cocacola.se](http://www.cocacola.se)  
[www.wella.se](http://www.wella.se)  
[www.blocket.se](http://www.blocket.se)  
[www.finn.no](http://www.finn.no)  
<http://ec.europa.eu>