JÖNKÖPING UNIVERSITY
International Business School

Premium Private Label Market Growth on the expense of National Brands

A study on the Swedish premium private label market shares and its characteristics.

MASTER THESIS WITHIN: *Economics*

NUMBER OF CREDITS: *30 ECTS*

PROGRAMME OF STUDY: *Economics, Master programme*

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JÖNKÖPING May 2019

Master Thesis in Economics

Title: Premium Private Label Market Growth on the expense of National Brands: A study on the Swedish premium private label market shares and its characteristics.

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Date: May, 2019

Key terms: Premium Private Label, National Brand, Retail Market Share, Sweden, Organic Market Share

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Abstract

The market share of premium private label goods within the fast-moving consumer goods sector is growing globally. In Sweden, these market shares are relatively small, but new products are continuously introduced in different food categories. I study the effects of income, demand for organic products, the aggregated market share of different private label tiers, as well as the number of varieties available, on the market share of premium private label. Linear regression is used on cross-sectional data from 2018 regarding several retail categories and geographical divisions. I find some significant positive effects of food categories such as coffee and poultry. I also find evidence that there is a significant positive effect of the organic products market share, as well as the aggregated private label market shares. On the contrary, I find a significant negative effect of the number of varieties present, and I find no evidence of the effect of income on the premium private label share.

Acknowledgements

Thank you, *Michael Olsson*, for great guidance and constructive criticism throughout this project.

Thank you, *Anna Ekström* and *Jonas Blomqvist* from Nielsen, for giving me the opportunity to carry out this study.

1. Introduction

The market for fast moving consumer goods (FMCG) is characterized by large sales volumes, low product margins, high stock turnover as well as extensive distribution networks. The goods are commonly sold through retailer stores, and the six largest retailer chains in Sweden, Ica, Coop, Axfood, Bergendahls, Lidl and Netto accounts for about 89 percent of the total market sales (DLF, Delfi Marknadspartner, HUI Research, 2018). Around the 1970's some FMCG retailers developed into national chains, with stores in several cities. Some retailers, like the French Carrefour opened stores in other countries. The stores were mainly selling manufacturer brands, also known as national brands (NB), such as Coca-cola, Kellog's or Heinz, but some retailers started selling their own brands, private labels (PL), most often under their retailer name. Some reasons explaining why retailers choose to introduce PL products are: 1) The ability to free ride on product development efforts of NB manufacturers, 2) Macroeconomic recessions creating demand for lower-priced products, 3) Retailers earning higher gross margins on private label, 4) Retailers seeking returns on their investments in store-reputation (Mills, 1995).

When the first PL products were introduced in the late 70's, the consumers' perception was that these goods were generic substitutes to NB, with much lower quality, but also at a lower price. The consumer's negative perception changed notably in the 80's and 90's when high-quality PL products were becoming more common (Ward, Shimshack, Perloff, & Harris, 2002). While there are still many PL brands of basic goods with the lowest accepted quality today, there are situations in which consumers prefer PL brands over NB. One example is the Canadian retailer Loblaw's cookies winning over the previous market leader, Chips Ahoy! (Kumar & Steenkamp, 2007). The development of PL products over the years is evident, and Laaksonen (1994) presents four generations of PL. The first generation of generic goods with low quality and basic function at about 20 percent lower price than the brand with the highest market share (the brand leader). The second generation at medium quality, still perceived as lower quality than leading NB, priced about 10-20 percent below the brand leader. The third generation is often referred to as *me-too* brands, closely imitating leading NB with packaging and quality, priced about five to ten percent below the brand leader. The fourth generation is the

value-adding tier, aspiring to reach higher quality than leading NB, often at the same or higher price than their close competitor, this generation is generally called premium PL.

One of the reasons of PL success is the ability to reach a broad consumer segment. While the first PL sold were focusing on the generic strategy, today many retailers host several own brands, each targeting a niche consumer group. For example, the largest Swedish FMCG retailer, Ica, has 50 percent of the market and they supply ten own PL brands who are present in most FMCG categories. The brands are presented in Table 1.

Table 1. Ica's private label brands

Ica Basic	"...Our least expensive products: simple packaging, large volumes and good everyday quality keeps the price low."
Ica	"...Affordable, good products for all occasions. Controlled to live up to our high demands on taste and quality."
Ica I love eco	"...Our broad ecological brand for food and other products produced in balance with nature."
Ica Gott liv	"...Our product line of goods for those who wants to live healthier. It should be tasty and easy to eat healthy!"
Ica Skona	"...Our environmentally conscious choice for laundry, cleaning and paper. Merciful towards the nature, but merciless towards dirt."
Ica I samarbete med Apotek Hjärtat	"In collaboration with Apotek Hjärtat (pharmacy) we have introduced a fully ecological care of body selection. Discover this assortment!"
Ica Garden	"...A broad selection of gardening-products that are affordable with good function and neat design."
Ica Cook & Eat	"...Our affordable tools for the kitchen: kitchenware, towels, frying pans, pots and much more."
Ica Home	"...Our broadest selection of products for an enjoyable home. Here you will find anything from napkins and cloths to bed sheet and towels."
ICA Selection	"Discover our specially selected products, produced with first-class raw-materials, by suppliers who never compromise on taste and quality."

(Ica, 2019)

The global analytics company Nielsen released a report in 2018 presenting global statistics on consumers perception of PL. Comparing over the world, PL has grown most in Europe. In 2016, the EU had a PL value share of 31 percent, compared to the

global share of 16 percent. Spain, UK and Germany have some of the highest rates of PL, with 42, 41 and 36 percent respectively. The global average of consumers agreeing that "*PL are good alternative of NB"* is 65 percent, and 71 percent agree that "*PL quality has improved over time".* The average of both claims in the EU is 75 and 74 percent, respectively.

Several studies on PL has been done globally, regarding market prices, consumer behavior and market shares. In the U.S., Ward et al. (2002) find that an increase in the market share of PL goods corresponds to an increase in the price of NB goods. In Sweden, Anselmsson & Johansson (2009) find no evidence that consumers who are quality-conscious should be less willing to buy PL than NB. In the U.K, Geyskens, Gielens & Gijsbrechts (2010) find that introducing new PL products may cause cannibalization on the PL already available. This means that the new products take market shares from other tiers of PL within the same retailer rather than from NB, which should be the main goal for retailers. Steenkamp, Geyskens, Gielens & Koll (2004) describes different factors explaining why PL has been able to grow stronger in some countries but not others. Three of these factors are: C*ultural power distance* – the grade of distinction between social and economic classes, *Retail concentration* – the degree to which sales of FMCG are concentrated in a few retailers, and *Uncertainty avoidance* – the extent to which consumers would avoid ambiguous situations of buying products of unknown quality. The authors also describe category factors, why PL products might have a larger share of the market in goods categories such as kitchen paper, while at the same time not being able to sell much PL in categories such as beer. These factors include: *Quality gap* – between NB and PL, *Brand trust* – consumer confidence in NB products in that they deliver what they promise, and *Category share of budget* – the share of the consumer's total budget spent on the category, amongst other factors. The most recent Swedish study was made by HUI Research in 2015, focusing on the driving force behind the FMCG retailer's investment in developing PL, and how this affects market prices, the supply of NB and innovation pace. In that report the authors find evidence that: 1) The price of low-tier PL positively affects the demand for other brands, 2) Increased presence of low-tier PL decreases the overall assortment of goods in the category, 3) The price difference between NB and low-tier PL is decreasing while the same difference between NB and standard PL is only marginally

decreasing. They also conclude that one limitation of their study was their decision not to measure the impact of premium PL products.

Since most FMCG categories today provide PL brands, the strategy for many retailers is to provide better PL goods, expanding their premium PL selection. This makes it crucial to understand where and what factors affect the demand for premium PL. In Sweden, no studies have been done regarding the regional differences of premium PL growth. The purpose of this study is to investigate why premium PL has taken larger market shares in some food categories and regions than others within Sweden. Four research questions are taken in consideration: 1) Does the income of individuals have a positive effect on the premium PL market share? 2) Does the sales volume of organic products have a positive effect on the share of premium PL? 3) Does the aggregated market share of different tiers of PL have a positive effect on the market share of premium PL? 4) Does the number of brands available in a category have a negative effect on the market share of premium PL?

2. Literature review, theory and hypotheses

In this section I present three factors that may affect the market share of premium PL, consumer income, the demand for organic goods and the cannibalization effect of PL. I also present the monopolistically competitive market that retailers face, and explain the application of Krugman's model of international trade on this case. In the last section I present the hypotheses.

2.1 Consumer income relation to premium private label

As PL traditionally has consisted of generic or standard products, the market share of PL has showed a positive correlation to economic recessions, where the market share of the cheap products has increased as a result of a suffering economy, and decreased when the economy is doing well (Quelch & Harding, 1996). This can be explained by claiming that PL are inferior goods that are excluded when consumers can afford higher quality, higher priced products. While generic PL products most definitely are inferior goods, standard and premium PL have characteristics of normal goods. Geyskens et al. (2010) find that when premium PL is introduced to the market, it will take market shares from both standard and generic PL, which implies characteristics of normal

goods. Kumar & Steenkamp (2007) give an example of how the American retailer Target displays their premium PL line, Archer Farm, together with other premium NB instead of close to their own lower tier PL, in order to avoid cannibalization on their own PL tiers. Normal goods increase in demand as consumer's income rises, however it is unclear how the market share of premium PL is affected when consumers have increased income. Consumers with sufficient budget to purchase premium goods might as well trade to NB of high quality instead of going to premium PL. The authors explain that even if consumers do not perceive any quality difference between NB and PL, they will not accept paying the same price for PL as they would for NB. They also explain that the price premium of NB in these cases can be around 37 percent. The rational consumer will maximize her utility given her budget constraint, which suggests that consumers in a region with higher income would collectively purchase more premium PL than premium NB, as they can achieve a higher level of utility from consuming several units of premium PL. However, the authors note that it is important to consider that NB in general provide consumers with utility of brand imagery in a way that PL often does not capture.

As an example of how retailers deal with this, the Swedish PL brand Ica I love eco has been introduced to strengthen the brand image of the retailer brand, in order to close this gap towards NB by capturing consumers who want to identify with healthy and organic products. Steenkamp et al. (2004) describe uncertainty avoidance of consumers as an important factor of whether or not PL is successful, and this could also affect consumers with increased income. If a consumer who has an increased budget is likely to doubt the quality of premium PL she might as well purchase NB instead, since these often are more familiar.

In my model, I account for the income of individuals in the region by using an index measuring the value of the total sales divided by the average total sales for all regions in that category. A higher index value represents higher income in the region.

2.2 Organic private label

According to Spyra (2017) retailers are acknowledging that apart from having price and quality as highest priority on their goods, they should also focus on adding values for customers of solving various social problems. Today, environmental care is more

important than ever to individuals, especially in Sweden. One way for individuals to make a positive impact on the environment in their daily lives is to be cautious about how their food is produced.

Jonas & Roosen (2005) gives an example from Germany where retailers develop organic PL brands in an attempt to develop premium brands, which will provide more value to customers as well as creating higher profit margins for the retailers. In Sweden, the second largest retailer, Coop, supply their Änglamark PL as an ecological premium PL present in many FMCG categories. The authors also explain that the entry barriers for manufacturers who want to produce new products is especially high for organic producers, as these are often limited to small quantities as a result of their extraordinary production process. Instead of creating their own NB these organic manufacturers could focus on producing PL for retailers, who will take on transaction costs such as advertisement, positioning on shelves and larger scale distribution. The retailer has full determination rights over shelf allocation, advertisements within stores and an extensive distribution network of stores over the countries. As their transaction costs are much lower than for organic producers, they are likely to make use of these opportunities if they can project a sufficient demand.

Since any firm will add a markup on their products with regards to their cost, organic PL has the potential to be cheaper for the consumer compared to organic NB, as those are troubled with double markups from both the manufacturer and retailer (Bergès-Sennou, Bontems, & Réquillart, 2007). If organic premium PL products are cheaper than the organic NB products, the premium PL shares should be larger in a region with higher demand for organic goods.

2.3 Cannibalization of PL

Geyskens et al. (2010) research the effects of introducing different tiers of PL and how it influences brand choice. The authors study the cannibalization effects, which means the extent to which new tiers of PL take market shares of incumbent PL tiers. Retailers do not appreciate cannibalization, instead they would like the new tiers of PL introduced to only take market shares from NB. They find evidence that if an economy line (generic tier) of PL is introduced, the incumbent standard (me-too tier) PL will suffer from substitution of consumers. However, when the Premium PL is introduced it

will cannibalize on both economy and standard tiers of PL that are already in the market. Comparing the effect on NB when new tiers of PL are introduced, they find that when generic PL goods are introduced the NB goods of mainstream quality win market shares. But in the case of introducing premium PL goods, the premium NB brands does not win market shares.

In my regression model I use a variable that shows the portion of total sales in a category corresponding to the aggregated market share of all tiers of PL. In accordance to the article, I expect that a category that has a high total share of PL sales also holds a relatively high share of premium PL. This could also be backed up by simple probability modelling, if the sum of all PL sales in market *A* is larger than the sum of PL sales in market *B*, there is a higher probability that each of the tiers of PL in market *A* also are larger than their counterparts in market *B*. However, a larger aggregated share of PL sales in market *A* could also correspond to a much higher share of generic PL, and a lower share of premium PL compared to market *B*.

2.4 Monopolistic competition and private label

The retail sector is a market where monopolistic competition is common. One brand can hold a majority of the market within a category while enjoying some monopolistic power over the fringe brands competing for the residual demand. One example is within the ketchup category, where the Swedish brand Felix traditionally has held around 50 percent of the market, with their largest competitor being the international brand Heinz at about 30 percent. The competitive fringe then captures smaller market shares, where some competitors have shares of 8.9, 4.7 and 3.8 percent (SVD Näringsliv, 2004).

One advantage of the category leaders is the relatively high entry costs for new firms. In any retailer store it is easy to distinguish famous brands that take up most of the shelf space. The retailer will allocate the shelf space to products with regards to their profitability, they can either sell the best spots to the highest bidder, or claim it for their own PL products. This implies a relatively high cost to smaller manufacturers who might have to offer lower wholesale prices to be able to make their product attractive to the retailer. Manufacturers with increasing marginal cost of production will then have to limit their quantities and are forced to a small market share. In contrast, larger NB manufacturers who enjoy economies of scale and constant marginal costs can offer

larger margins to retailers. Dobson (1998) suggests that if there are downward sloping cost curves the incumbent firms may realize economies of scale that are unachievable for a new entrant who produces a small volume.

Historically, the retailers have acted as an intermediary between consumers and manufacturers, but their introduction of PL products creates a new dynamic, where the retailers become a competing force amongst NB. Just as the incumbent NB enjoys economies of scale and their competitive advantage as a result of their size, the retail chains with own PL lines can dedicate a lot of shelf space to their own products without incurring extra costs. In this situation the retailer becomes a powerful competitor to NB who can control both the market and their product (Hultman, Opoku, Salehi-Sangari, Oghazi, & Thong Bui, 2008). Moreover, retailers have exceptional knowledge of their competitors and strategies within the different categories.

Steenkamp et al. (2004) explain that retailers with economies of scale and scope can use their distribution chain to develop powerful PL strategies, as long as they are large enough to exercise their market power. Retailers can use their PL as a tool to compete not only with NB, but also with other retailers. Instead of the regular competition where most retailers offer the same NB, introducing PL means adding a line of products that are not sold amongst competing retailers. A successful PL brand increases store loyalty as consumers who prefer the PL product will not be able to find it in competing retailer stores. Dawes & Nenycz-Thiel (2013) claims that as many retailers use their name as the brand for their PL, this increases their differentiation to other retailers. They also explain that retailers who want to increase their store loyalty through PL should focus on producing good quality products with high prices, instead of the older generic PL that consumers can substitute with any other retailer PL with the same quality and price. Many retailers who have previously depended on NB to draw customers might find it more appealing to launch and promote premium PLs as well, in order to capture more of the market for all of their PL tiers and to become more profitable (Dhar & Hoch, 1997).

With knowledge about the positive effects that retailers can enjoy if they offer premium PL goods, I consider the differences between a retailer with a lot of direct competitors and one that does not. In a regional area where there are many different retailers available one can suppose that there is tougher competition and that the value of

differentiating products and assortment with premium PL is very high. On the other hand, in a region where relatively few retailers are present, such as in the northernmost parts of Sweden, the focus on differentiating might not be as important. Individuals in that region might not switch retailer because of transactions costs such as tedious commutes to other retailers.

2.5 Modelling the number of varieties

The framework for the model presented in this section can be found in for example Krugman, Obstfeld, & Melitz (2015). A detailed walkthrough of the math used in this section can be found in the appendix.

In his model of international trade, Krugman shows a monopolistically competitive market characterized by a large number of identical firms facing identical functions of total costs, demand and marginal revenue. The market of the model contains heterogeneous preferences amongst consumers, differentiated products as well as economies of scale for the producers. The model uses a case of Chamberlinian monopolistic competition, so that all firms are profit maximizers, but free entry of firms drive long term profits to zero. As we have homogenous firms who share identical functions of cost and demand, we assume that all firms will charge the same price and thus get an equal share of the market, so that $Q_i/S = 1/n$. After this assumption, we can set up the average cost function according to equation 1. The average cost function is positively affected by the number of firms, n, fixed costs, F, and the marginal cost c. At the same time, it is negatively affected by the total volume sold in the market, S.

$$AC = \frac{nF}{S} + c \tag{1}$$

The demand facing any firm in this market is derived by equation 2, where P is the individual firm's price, P_{avg} is the average price of products in the market and Q_i is the quantity sold by one firm. The variable b represents the effect of the price difference between an individual firm's price and the average market price on the individual firm's quantity.

$$Q_i = S[\frac{1}{n} - b(P - P_{avg})] \tag{2}$$

Equation 2 assumes that the total volume sold in the market is a fixed number that is unaffected by market prices. The number of firms in the model, as well as a positive price difference, namely an individual price higher than the average price, both correspond to a negative change in the market share of a firm. On the contrary, a lower price than the average will lead to a larger market share for the individual firm. The market volume is thus never affected by prices, although the allocation of market shares shift as a result of price changes. If we take the average price as an exogenous factor, and calculate the marginal revenue based on the demand of equation 2, we can equate it to the marginal cost, c, to find the profit maximizing supply function of one firm. Equation 3 shows that the price of one individual firm is dependent on the marginal cost of production, the number of firms present in the market as well as the variable b, indicating the demand for an individual firm's product over the average product.

$$P = c + \frac{1}{nb} \tag{3}$$

Through this framework it is also possible to find the equilibrium number of firms in the market, n^*. By acknowledging that the Chamberlinian approach assumes that the long run profits in the market are zero, setting the function of price equal to the average cost in equation 1 and then solving for n we obtain equation 4.

$$n^* = \sqrt{\frac{S}{Fb}} \tag{4}$$

The equilibrium number of firms according to equation 4 is positively correlated to the total volume sold in the market, and negatively correlated to the fixed cost of firms and the demand coefficient b.

After obtaining this framework we can simulate the entrance of PL products into a market that previously consisted of only NB. Instead of using n as an indicator of firms in the market, I exchange it for the number of varieties available, namely the brands in the category. Since the PL tiers have unique characteristics stemming from the producer being the retailer, their appearance in the market must raise the total volume sold in any category. However, once the PL tier has been introduced to the market, total volume becomes static again. With the introduction of PL, the following pattern will occur:

1) according to equation 3, an increase in the number of varieties available will lead to a decrease in the price for each variety. 2) The total volume sold in the market, S, increase as a new type of product is introduced. 3) Looking at equation 4, as the total volume has increased, the equilibrium number of varieties will also increase.

This scenario is displayed in figure 1, where function AC_0 represents equation 1, the average cost of brands before the introduction of PL. Function AC_1 represents the average cost after the introduction, with an increased S. The P curve represents equation 3. On the vertical axis of figure one, we have the average cost and therefore also the price of all firms. On the horizontal axis is the number of brands. P_1, AC_1 and P_2, AC_2 are the average cost and prices of firms in each scenario and we can see how the equilibrium number of brands increase with the introduction of PL. Looking at equation 1, an increase in S will lead to a relative flatter slope of the function. This is due to the relative lower quantity for each firm, and thus lower average costs if n would be constant when the new type of product is introduced. However, we conclude that there is a new equilibrium number of firms, n_2.

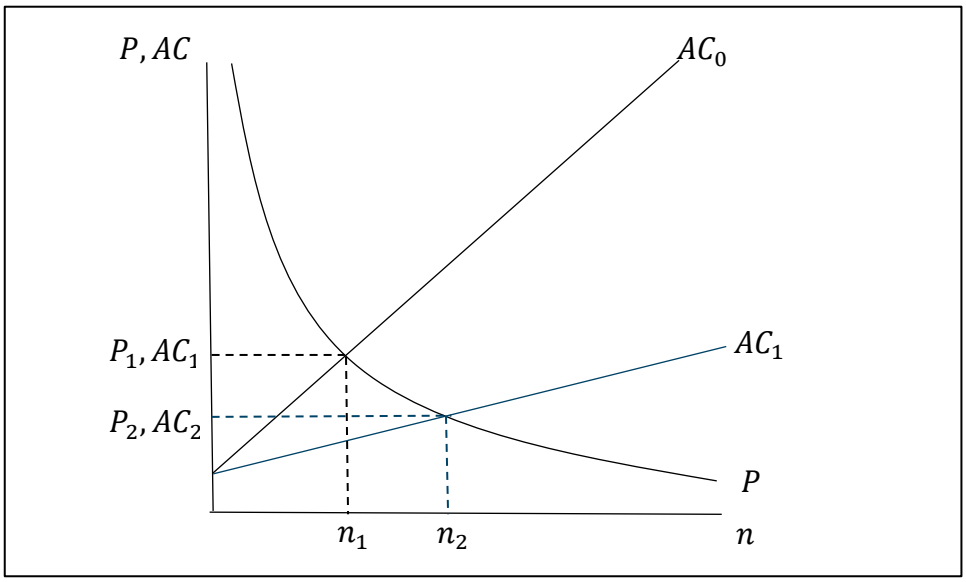

Figure 1. *The equilibrium number of varieties before and after the introduction of PL.*

After the introduction, the total volume sold will be divided between the NB and PL products so that δS_0 is the NB share of the initial market value, S_0, and $(1-\delta)S_0 + \Delta S$ is the PL share of the market where: $0 < \delta < 1$. The added change in total volume sold, ΔS, corresponds to the new volume added as a result of the new product type. In this

example, NB gets a lower market share since $\delta S_0 < S_0$. If we were to introduce several other tiers of PL, we can expect to see a similar pattern after the introduction.

If we visualize a market with a large portion of premium PL, we can expect the average price of the market to be higher than in the previous example of only NB. Premium goods are per definition more costly to produce and have higher prices, which correspond to a lower number of equilibrium firms. When conducting the regression, I expect the number of varieties in the market to be negatively correlated to the market share of premium PL.

In this general model the firms are identical to make it easier to interpret effects. However, in practice, different firms may have different production costs and other factors affecting the demand for specific varieties and market equilibrium.

2.6 Hypotheses

In order to see how premium PL takes market shares, and which factors might affect the size of the shares, four hypotheses are developed:

1. The income of individuals has a positive effect on the market share of premium PL.
2. The market share of organic products has a positive effect on the market share of premium PL.
3. The aggregated market share of different tiers of PL has a positive effect on the market share of premium PL.
4. The number of brands available in a category has a negative effect on the market share of premium PL.

3. Variables and Data

The cross-sectional data used in this paper is provided by global consumer analytics agency Nielsen who collects and refines retailer data on consumer habits. The Nielsen Company publishes several reports on consumer trends to the public every year and they occur frequently in collaborations with researchers. As an example, they provided HUI Research with data for their study in 2015.

In Sweden, Nielsen tracks about 89 percent of the total FMCG sales (DLF et al., 2018). For my study, data regarding the sales volume for 16 randomly selected FMCG categories with premium PL shares higher than 0.5 percent during 2018 is used. The data shows differences in the market share of different kinds of brands, namely NB, premium PL, standard PL and generic PL. It also shows how much of the total quantity sold is organic products. This makes it possible to construct the independent variables used in the model. The data is divided into nine geographical regions, originated from the NUTS 2 regions of Sweden, which is the EU standard for regions used for statistical analysis. A map showing this geographical division over Sweden can be found in the appendix, figure A1.

3.1 The dependent variable

The dependent variable is obtained by dividing the sales of premium PL products with the total sales in the category, see equation 5.

$$Y = \frac{PPL\ sales}{Total\ sales} \tag{5}$$

Table 2 shows the maximum, minimum and mean values of premium PL shares over the nine regions. We can see that there are two categories that does not have any market share of premium PL goods, ready to eat meals, and animal food. These two, together with the ice cream, and soda categories are excluded from the data set due to their limited share of premium PL.

A detailed table with the values of each region is available in the appendix, table A2. However, all categories have their maximum premium PL market shares in the capital region Stockholm, except for Poultry that has its highest share in Sydöstra Svealand. When it comes to minimum values, Norra Norrland, the most northern part of Sweden, holds the lowest value in nine categories. Södra Götaland has the lowest market shares in six categories. The categories that has the highest premium PL market shares are; Eggs, Poultry and Canned Vegetables.

Table 2. Descriptive data over premium PL share over regions

Category	Max	Min	Mean
Milk	5.0	0.5	2.4
Hard cheese	1.2	0.4	0.6
Packaged meat	7.6	1.9	3.5
Charcuterie	1.6	0.6	0.9
Sausage	4.0	1.2	1.8
Soda	0.3	0.2	0.2
Coffee	5.3	2.9	3.8
Snack	3.4	1.5	2.3
Canned vegetables	9.8	5.7	6.7
Edible fats	1.4	0.2	0.7
Cream products	3.5	0.5	1.9
Ready to eat meals	0.0	0.0	0.0
Poultry	16.4	5.2	11.3
Fish	4.2	1.9	2.6
Ice cream	0.3	0.1	0.2
Cooking cheese	3.2	1.8	2.2
Yoghurt	1.0	0.6	0.8
Eggs	20.8	6.3	10.8
Animal food	0.0	0.0	0.0
Seasoning	2.7	1.7	2.1

Percent
Number of observations = 144

3.2 The independent variables

The first independent variable, S, functions as an index to see if the total volume sold in a region is higher or lower than average. As shown in equation 6 we get the variable by taking the regional total value of a category divided by the average total value of all regions within a category.

$$S = \frac{Total\ sales\ in\ one\ region}{Average\ Total\ sales\ over\ all\ regions} \quad (6)$$

The variable is added to reflect the money spent on FMCG goods, as an alternative to adding disposable income as an explanatory variable. One benefit of using the sales volume is that we obtain differences between categories in a region, while a variable of the disposable income of a region have the same value across different categories.

The variable for the market share of organic products, O, shows how much of the total sales in each category is represented by sales of ecological products. The derivation of the variable is presented in equation 7.

$$O = \frac{Ecological\ sales}{Total\ sales} \quad (7)$$

The aggregated PL share shows how much of the total sales in a category are represented by PL brands of any tier. Since the data consists information about the value share of three tiers of PL, as well as the NB share within a category, the variable PL can be obtained by dividing the sum of all tiers of PL sales with the total sales within the category, according to equation 8.

$$P = \frac{Aggregated\ PL\ sales}{Total\ sales} \quad (8)$$

The last variable in the model is the number of varieties available in a category, N. I count any product under the same brand as a new variety as consumers choose not only between actual brands, but also between differentiations within a brand. The dataset covers thousands of varieties in each category, and many of them sell very small quantities in different regions. In order to limit the number of varieties available I only count those who are present in over 60 percent of the observed retailers in each region. For example, if the variety *X* is available in 70 percent of all of the retailer stores in Stockholm, then it is included in the N for its category in Stockholm. Meanwhile, if the same variety is only present in 30 percent of all of the retailer stores in Västra Götaland, then it is not included in the variable N in the Västra Götaland region for the same category. A negative aspect of this is that I might avoid the effect of smaller regional brands that could distinguish regional differences.

3.3 Dummy variables

In order to account for some effects from different regions and categories I construct four dummies for the following regions: Stockholm, Södra Götaland, Västra Götaland and Västra Svealand. I also construct ten dummies for ten categories, a few are selected since they have a high average premium PL share, and some are selected on the recommendation of Nielsen staff.

3.4 Descriptive statistics

Table 3 contains the mean values for the main independent variables, in addition to the information on the dependent variable. The index variable S, shows the differences in sales volumes over regions. The maximum value 4.058 indicates a value share of four times the average, showing that consumers in the Stockholm region collectively purchase about four times the average regional volume in the category canned vegetables. In contrast, Norra Norrland has an index value of 0.866 in the same category, indicating that those has a value share below the average.

Regarding the organic market shares, the maximum value is 34 percent for eggs in the Stockholm region and the minimum value is 0.5 percent for sausages in the Norra Norrland region.

The aggregated PL share has the strongest value at 68.6 percent for the packaged meat in Sydöstra Svealand, a neighboring region to Stockholm. There is a total of 31 data points in which aggregated PL has over half the market share in a category and region, of a total of 144 observations. The lowest market share of PL is for the snack category in Södra Götaland at only 4.7 percent.

The mean number of varieties is around 23 which indicates that on average, in any category, there are 23 varieties that are available in at least 60 percent of the retailers in the region. The high value at 94 is the number of varieties of cooking cheese available in Uppsala, and there are 23 data points that indicate that no firm have 60 percent coverage in their regional retailers. The dummy variables only take on values of zero and one. If the data point is connected to either the region or the category of any dummy it takes on the value 1, otherwise zero. For this reason, the smallest value observed is zero, and the largest value is one for all of these variables. Their mean value, standard deviation and skewness are identical for the same sort of dummies, because the data is balanced. This means that there are exactly the same number of observations for every dummy, namely nine regional data points for each category, and 16 categorical data points for every region.

Table 3. Descriptive statistics

Variable		Min.	Max.	Mean	Median	Std Dev	Skewness
Y	*Premium PL*	0.002	0.208	0.034	0.021	0.036	2.152
S	*Total volume index*	0.266	4.058	1.055	0.863	0.655	1.373
O	*Organic market share*	0.005	0.348	0.072	0.054	0.062	1.457
P	*Aggregated PL share*	0.047	0.686	0.323	0.297	0.171	0.155
N	*Number of varieties*	0	94	23.42	21	21.095	1.254
$D1$	*Stockholm*	0	1	0.113	0	0.317	2.450
$D2$	*Södra Götaland*	0	1	0.113	0	0.317	2.450
$D3$	*Västra Götaland*	0	1	0.113	0	0.317	2.450
$D4$	*Västra Svealand*	0	1	0.113	0	0.317	2.450
A	*Milk*	0	1	0.063	0	0.245	3.584
B	*Packaged Meat*	0	1	0.063	0	0.245	3.584
$C1$	*Coffee*	0	1	0.063	0	0.245	3.584
D	*Snack*	0	1	0.063	0	0.245	3.584
E	*Canned vegetables*	0	1	0.063	0	0.245	3.584
F	*Poultry*	0	1	0.063	0	0.245	3.584
G	*Fish*	0	1	0.063	0	0.245	3.584
H	*Cooking cheese*	0	1	0.063	0	0.245	3.584
I	*Eggs*	0	1	0.063	0	0.245	3.584
J	*Seasoning*	0	1	0.063	0	0.245	3.584

Number of observations = 144

3.5 Correlation Analysis

Based on the data of the independent variables I compute a correlation matrix. Table 4 shows the correlations of all independent variables on the four main independent variables, but the full correlation matrix can be found in the appendix, table A1.

In the correlation matrix we find six variables that show signs of positive correlation, since they have correlation values of over 0.5 (Hill, Griffiths, & Lim, 2008). The variables that correlate are: 1) Stockholm, $D1$, and the total volume index S at 0.553, 2) Eggs, I, and the organic goods market share, O, at 0.62, 3) Cooking cheese, H, and the number of varieties available N at the highest correlation, 0.71. This indicates that if the number of varieties increase by one unit, then the cooking cheese variable increase by 0.71 units. From the last section, we know that cooking cheese is the category that has the highest number of varieties over all observations, and we also know that Stockholm

is the region that has the highest values for the total value index. The egg category was the one that held the highest market share of organic products.

In order to avoid multicollinearity, that several independent variables explain the same effect on the dependent variable, I conduct two separate regression models. One model will contain all independent variables presented in this section, and in the second one I exclude the dummy variables for Stockholm $D1$, eggs, I, and cooking cheese, H.

Table 4. Correlation matrix of the independent

Variable	S	O	P	N
S	1			
O	0.27	1		
P	0.08	0.03	1	
N	0.01	0.00	-0.32	1
$D1$	0.55	0.24	0.02	0.05
$D2$	0.12	-0.03	-0.05	0.06
$D3$	0.47	0.07	-0.03	0.00
$D4$	-0.11	-0.05	0.05	-0.03
A	-0.02	0.35	-0.12	0.01
B	-0.02	-0.11	0.40	-0.29
$C1$	-0.02	-0.21	-0.20	0.11
D	-0.02	0.17	-0.37	0.31
E	0.34	0.26	0.30	-0.06
F	-0.02	-0.20	0.00	-0.29
G	-0.02	-0.17	0.34	-0.24
H	-0.02	-0.12	0.25	0.71
I	-0.02	0.62	0.23	-0.29
J	-0.02	0.07	-0.21	0.09

Number of observations = 144

4. Method and Results

One of the main approaches of applied research is statistical and econometric analysis (Bhattarai, 2015). Gathering unbiased data and interpreting several independent variables in order to explain the effect on one dependent variable in a regression model is a common practice within any research field, and has been used in several of the articles on retail and PL (Anselmsson & Johansson, 2009; Geyskens et al., 2010). I use a linear multiple regression model in order to estimate the intercept and slope parameters that best fit the data on FMCG goods in different categories. The model is estimated through the ordinary least square's method since the data of the independent variables has a linear relationship with the dependent variable.

In order to evaluate the effects of the total volume sold in a category, the organic market shares, the PL share and the number of varieties, as well as some regional and categorical effects on the premium PL market share, I create two regression models that are run separately. The second regression model is a variation of equation 9, where the dummies $D1$, H, and I, has been dropped, displayed in equation 10.

$$Y_i = \alpha_0 + \beta_1 S_{i+} \beta_2 O_i + \beta_3 P_i + \beta_4 N_i + \alpha_1 D1_i + \alpha_2 D2_i + \alpha_3 D3_i + \alpha_4 D4_i + \alpha_5 A_i + \alpha_6 B_i + \alpha_7 C_i + \alpha_8 D_i + \alpha_9 E_i + \alpha_{10} F_i + \alpha_{11} G_i + \alpha_{12} H_i + \alpha_{13} I_i + \alpha_{14} J_i + \varepsilon_i \quad (9)$$

$$Y_i = \alpha_0 + \beta_1 S_{i+} \beta_2 O_i + \beta_3 P_i + \beta_4 N_i + \alpha_1 D2_i + \alpha_2 D3_i + \alpha_3 D4_i + \alpha_4 A_i + \alpha_5 B_i + \alpha_6 C_i + \alpha_7 D_i + \alpha_8 E_i + \alpha_9 F_i + \alpha_{10} G_i + \alpha_{11} J_i + \varepsilon_i \quad (10)$$

In order to verify the hypotheses from section 2.6, I test the significance of the probability values obtained from the regressions. The four null hypotheses below indicate expected positive signs from the first three independent variables. The fourth variable, the number of varieties, is expected to have a negative sign.

1. $H_0: \beta_1 > 0$
2. $H_0: \beta_2 > 0$
3. $H_0: \beta_3 > 0$
4. $H_0: \beta_4 < 0$

When the p-value of one coefficient is lower than the chosen significance level, usually 5 or 1 percent, the null hypothesis is not rejected. If so, we can conclude that an accepted hypothesis proves an effect on the premium PL share. The phenomenon of heteroscedasticity is likely to occur in cross sectional data with large differences between smaller and larger values in the variables. It creates no bias in the coefficient estimates, although they create p-values that are smaller than they should be, and thus makes it easier to falsely accept null hypotheses. When testing for heteroscedasticity in the data set, I find moderate heteroscedasticity. In order to account for this, I choose to test the hypotheses on the lowest significance level, one percent.

4.1 Regression Analysis

In table 5 we find the coefficients and standard errors of both models. In the first regression, seven independent variables are significant at a one percent significance level. Amongst these are: organic products market share, O, and the aggregated PL market share, P. They have positive effects of 0.2453 and 0.0495 respectively. The number of varieties available, N, is significant at a five percent significance level, but the impact on the dependent variable is very small. It indicates that every variety added to the sample negatively affects the premium PL share by 0.0004. Seven out of ten category dummies show a significant effect on the dependent variable, most notably the effect of poultry, F. Poultry has a positive effect of 0.0938 on the premium PL share, at a one percent significance level. Regarding the regional dummies, only Stockholm, $D1$, has a significant positive effect, 0.0167, on premium PL.

Table 5. Regression output

	Full model			Limited model		
Variable	Coefficient		Std error	Coefficient		Std error
C	-0.0032		0.0066	-0.0214	***	0.0042
S	-0.0026		0.0034	0.0027		0.0022
O	0.2453	***	0.0498	0.3609	***	0.0227
P	0.0495	***	0.0130	0.0852	***	0.0099
N	-0.0004	**	0.0002	-0.0003	***	0.0001
D1	0.0167	***	0.0063	-		-
D2	0.0001		0.0040	-0.0037		0.0036
D3	0.0041		0.0054	-0.0049		0.0041
D4	0.0015		0.0034	-0.0005		0.0035
A	-0.0120	*	0.0071	-0.0270	***	0.0055
B	-0.0018		0.0064	-0.0117	**	0.0058
C1	0.0407	***	0.0051	0.0424	***	0.0048
D	0.0150	***	0.0056	0.0074		0.0056
E	0.0218	***	0.0079	-0.0039		0.0054
F	0.0938	***	0.0055	0.0957	***	0.0051
G	-0.0035		0.0057	-0.0109	*	0.0056
H	0.0243	*	0.0136	-		-
I	0.0321	**	0.0126	-		-
J	0.0061		0.0046	0.0006		0.0048
R^2			0.9010			0.8830
Adj R^2			0.8870			0.8690

Number of observations = 144
* = Significant at 10%
** = Significant at 5%
*** = Significant at 1%

I present the variance inflation factor (VIF) values for the same regression in table 6. The VIF values give an insight into potential multicollinearity, and variables that show values above five should be considered. As discussed in section 3.5, we predicted multicollinearity from the full regression, and we can see high values of all six variables that were considered. We can conclude that out of the three pairs of collinear variables, two pairs have values above five. Just as in section 3.5, the highest correlating variables, H and N have the highest values of 10.79 and 16.25 respectively. Also the variable for eggs, I, and O, has high values of 9.25 and 9.28. The correlation between the variables S and $D1$ shows moderately high VIF values but they are both below 5. We can conclude that this regression contains multicollinearity, so we drop these three dummy variables for the next regression.

Table 6. Variance inflation factor

	Centered VIF	
Variable	Full regression	Limited regression
C	NA	NA
S	4.92	1.69
O	9.28	1.67
P	4.87	2.43
N	16.25	1.61
$D1$	3.65	-
$D2$	1.57	1.11
$D3$	2.91	1.43
$D4$	1.12	1.05
A	2.33	1.21
B	2.38	1.72
$C1$	1.52	1.15
D	1.85	1.58
E	3.61	1.48
F	1.79	1.31
G	1.88	1.59
H	10.79	-
I	9.25	-
J	1.26	1.17

Looking at the section for the limited regression of table five, we can see that two of the dummies that are present in both regressions now have lost significance, D and E. However, the intercept coefficient, C, is now significant at a one percent level, and

shows an intercept of almost zero. The variable S, the index of the total value, is not significant in either of the models. The sign changes from negative to positive and the hypothesis that the income of individuals have a positive effect on the premium PL share is rejected. The highest impact on the dependent variable comes from the organic market share, with a positive effect of 0.3609, even higher than in the previous regression. I do not reject the hypothesis that the demand for organic products positively affects the premium PL share. This corresponds to the literature explaining that retailers differentiate and create value by making their premium products organic. The effect of the aggregated PL share is also positive and significant. The coefficient of 0.0852 indicates a small positive effect on the premium PL share, and the hypothesis that the aggregated market share of all PL tiers have a positive effect on the premium PL share is not rejected. We can also conclude that the variable for the number of available varieties is now significant at a one percent level, compared to the five percent in the initial regression. Despite the low impact of -0.0003, we do not reject the hypothesis that the number of varieties available negatively affects the premium PL share.

All of the three regional dummies in the limited model has negative signs, indicating that the presence in the regions has a negative impact on the premium PL share. However, these results are not significant and should be interpreted carefully. Out of the five significant category dummies, the one for milk, A, packaged meat, B, and fish, G, shows negative signs, indicating that these categories have relative lower shares of premium PL. Comparing to the descriptive statistics in section 3.4 we know that packaged meat has the highest value for the aggregated PL market share, which could conclude that the aggregated market share in this category is largely set up by either generic or standard products. The last two significant dummies are for coffee, $C1$, and poultry, F. They have positive effects on the dependent variable of 0.0424 and 0.0957.

The VIF values for the independent variables of the second regression all have values under 2.5, which indicates that the risk of multicollinearity is lower in this model. The R^2 values of the first model is slightly higher, 0.901 compared to 0.883, indicating that the first models independent variables explain about 90 percent of the variations in the dependent variable. The reason for the decrease in R^2 is that adding independent variables makes it possible to explain more of the variation, and as we remove independent variables it is thus natural to get a slight decrease in R^2.

5. Discussion and suggestions for further studies

The purpose of this study has been to investigate why premium PL has taken larger market shares in some food categories and regions than others within Sweden.

In this study I find evidence that the organic demand positively affects the market share of premium PL, and I agree with Jonas and Roosen (2005) who state that retailers in pursuit of achieving higher profit margins will drive the organic market share up as they expand their premium PL into this segment. By doing so, they gain an important differentiation aspect, and they can offer lower prices on organic goods compared to NB. The strong correlation detected between eggs and the organic market share I believe stems from the criticized living standards of chickens in poultry and egg farms. Supplying organically produced eggs is important since many consumers demand relatively good conditions for these animals. I find further evidence that the aggregated PL share of all tiers have a significant, positive effect on the premium PL share. However, it may be according to the probability example from section 2.3. If the result had been a larger coefficient, it could have indicated that premium PL is starting to outgrow the standard and generic shares of PL, but premium PL in Sweden is still small.

Regarding the regional dummies, we found negative signs on the coefficients, however the results are insignificant. The nine large regions that the data is divided into are relatively equal in sales volume, except for the outlier Stockholm. For future studies, a larger sample of regions, for example consisting of the data of 290 municipalities of Sweden could provide more accurate estimates of the differences in PL over regions. Additional category data could also be added to create a larger sample. The negative effect of the milk, packaged meat and fish categories could be due to strong leaders of NB, as explained by my contacts at Nielsen. In Sweden, large dairy companies such as Arla or Falköpings Mejeri have large market shares in different parts of the country. When it comes to the packaged meat and fish category some of the leading NB producers are Scan and Findus, who have created connections to the consumers making it difficult for PL to take market shares. On the contrary, two of the categories show a significant positive relationship to premium PL, coffee and poultry. As with the egg's category, I believe that the retailers may find a demand for ecological poultry that assures that the animals used in production are treated relatively fair. In the coffee

market, there are several strong Swedish NB that captures different regions such as Gevalia, Zoegas, Löfbergs and Classic. Similarly to poultry, the living standards and legitimacy of international farmers of coffee beans that end up in Swedish coffee is an important factor. Retailers could find a residual demand for fair coffee produced as premium PL, likely even organic. Another interesting aspect of the coffee category is its strong cultural status in Sweden. Coffee is extremely important in Swedish individual's lives and providing high quality, premium alternatives may be a strategy of retailers to create strong relations to consumers.

One important thing to notice about the data set in this study is that it does not include any data from the international retailer Lidl. The retailer has only about 4 percent of the FMCG market in Sweden, however, its main business strategy is to supply mostly PL products. Being able to include Lidl would most likely affect the shares of PL and premium PL in the dataset and give better estimates. The variable constructed to mirror the income of individuals, is constructed as an index of the total spending of one region and category over the average total spending over all regions in the same category. This variable was not significant in my models, but the concept of income affecting the market share of premium PL is still very relevant. I would suggest future studies to find a better way to model this variable. Extensive studies on the development of premium PL over time, as well as studies on the effects on prices between premium PL and NB in Sweden would give an interesting insight in the battle between NB and PL. The development of premium PL goods in the society could have two outcomes for consumers. On the one hand, strong competitors in the form of premium PL goods are welcome to compete with incumbent large NB who are difficult to challenge. This could lead to lower market prices and higher quality, an increase in the social benefit as a result of competition. On the other hand, a problem with this competition may be that smaller producers and brands, mostly NB, suffer though conditions that limits the overall competition in the category. It might not be profitable for producers with limited quantities to continue their business in a climate where premium PL takes too large market shares, and with fewer small competing firms, competition becomes limited. This scenario could bring higher costs and lower quality, imposing social costs for the society. Since premium PL still is very young in Sweden, I look forward to see the development and future studies on the subject.

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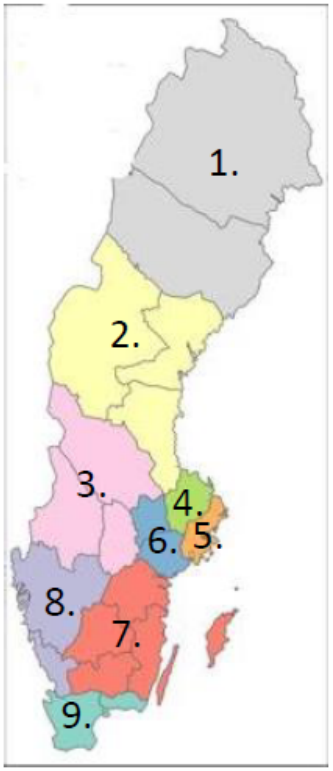
Appendix

Krugman's model of international trade (Krugman, Obstfeld, & Melitz, 2015).

We are starting with a total cost function modelled for economies of scale:	$TC = F + cX$	(A1)
From eq A1 we can derive the average cost function in eq A2.	$AC = \frac{F}{X} + c$	(A2)
After the assumption of homogenous firms, we conclude that the volume X of any firm is equal to S/n, since all have the same prices. Equation A3 is then rewritten as A4.	$AC = \frac{F}{\frac{S}{n}} + c$	(A3)
	$AC = \frac{nF}{S} + c$	(A4)
The marginal cost of production is the derivative of eq A1 with respect to the quantity, X.	$MC = c$	(A5)
We model a simple demand curve in accordance to eq A6, where α is the intercept, and β is the slope of the function. We want to rewrite A6 into the form of A8, with eq A7 being a middle step.	$X = \alpha - \beta P$	(A6)
	$P = \frac{\alpha - X}{\beta}$	(A7)
	$\alpha = X + \beta P$	(A8)
Eq A9, the total revenue, is obtained by multiplying eq A7 with X.	$TR = \frac{\alpha X - X^2}{\beta}$	(A9)
The marginal revenue is obtained by taking the derivative of eq A9 with respect to X.	$MR = \frac{\alpha - 2X}{\beta}$	(A10)
We substitute the α in eq A10 with the function of α in eq A8 to get A11, and simplify it into A12.	$MR = \frac{X + \beta P - 2X}{\beta}$	(A11)
	$MR = p - \frac{X}{\beta}$	(A12)
We assume that the demand facing an individual firm is modelled according to eq A13.	$Q_i = S[\frac{1}{n} - b(P_{i-}P_{avg})]$	(A13)
We rewrite eq A13, and interpret the parenthesis as the intercept, as we take the average price of firms as exogenous. Sb is the slope of the function.	$Q_i = \left(\frac{S}{n} + SbP_{avg}\right) - SbP_i$	(A14)
By comparing eq A6 with eq A12, we can see that in order to find the marginal revenue from the demand function, we remove the alpha (intercept), and create the function as the price minus the quantity over the slope parameter. If we want to obtain the marginal revenue from eq A14, we should then remove the intercept, which is the parenthesis, and create a function of the price minus the quantity over the slope, Sb. This can be found in eq A15.	$MR_i = P_i - \frac{Q_i}{Sb}$	(A15)
The profit maximization condition suggests that marginal revenue is equal to marginal cost, so that eq A15=A5 according to A16. The function is rewritten in A17.	$P_i - \frac{Q_i}{Sb} = c_i$	(A16)
	$P_i = c + \frac{Q_i}{Sb}$	(A17)
Under the assumption that all firms start with equal quantities, as a result of equal cost functions, we know that the individual market share, Q_i/S, equals one divided by the number of firms, n. We rewrite eq A17 according to this.	$P_i = \mathrm{c} + \frac{1}{nb}$	(A18)
Under Chamberlinian monopolistic competition, all firms are profit maximizers, however long run profits equal zero. The long run condition for firms to operate in this market is that their price is equal to the average cost, so that A4=A18. This is displayed in A19. We solve for the optimal number of firms and obtain A20.	$\frac{nF}{S} + \mathrm{c} = \frac{1}{nb} + c$	(A19)
	$n^* = \pm\sqrt{\frac{S}{Fb}}$	(A21)

NIELSEN'S 9 NEW STANDARD REGIONS



NIELSEN NEW STANDARD REGIONS
1. ACN NORRA NORRLAND DVH EX HD
2. ACN SÖDRA NORRLAND DVH EX HD
3. ACN VÄSTRA SVEALAND DVH EX HD
4. ACN UPPSALA LÄN DVH EX HD
5. ACN STOCKHOLM LÄN DVH EX HD
6. ACN SYDÖSTRA SVEALAND DVH EX HD
7. ACN ÖSTRA GÖTALAND DVH EX HD
8. ACN VÄSTRA GÖTALAND DVH EX HD
9. ACN SÖDRA GÖTALAND DVH EX HD

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Figure A1. *The nine standard regions of Sweden.*

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Table A1. Correlation matrix.

Variable	*S*	*O*	*P*	*N*	*D1*	*D2*	*D3*	*D4*	*A*	*B*	*C1*	*D*	*E*	*F*	*G*	*H*	*I*	*J*
S	1																	
O	0.268	1																
P	0.084	0.027	1															
N	0.009	0.004	-0.321	1														
D1	0.553	0.241	0.021	0.046	1													
D2	0.123	-0.026	-0.050	0.059	-0.13	1												
D3	0.466	0.067	-0.028	-0.004	-0.13	-0.13	1											
D4	-0.105	-0.054	0.054	-0.027	-0.13	-0.13	-0.13	1										
A	-0.023	0.349	-0.120	0.012	0.00	0.00	0.00	0.00	1									
B	-0.023	-0.112	0.402	-0.287	0.00	0.00	0.00	0.00	-0.07	1								
C1	-0.023	-0.206	-0.200	0.112	0.00	0.00	0.00	0.00	-0.07	-0.07	1							
D	-0.022	0.171	-0.366	0.311	0.00	0.00	0.00	0.00	-0.07	-0.07	-0.07	1						
E	0.340	0.256	0.296	-0.061	0.00	0.00	0.00	0.00	-0.07	-0.07	-0.07	-0.07	1					
F	-0.023	-0.197	0.004	-0.287	0.00	0.00	0.00	0.00	-0.07	-0.07	-0.07	-0.07	-0.07	1				
G	-0.023	-0.170	0.336	-0.237	0.00	0.00	0.00	0.00	-0.07	-0.07	-0.07	-0.07	-0.07	-0,07	1			
H	-0.023	-0.117	0.252	0.709	0.00	0.00	0.00	0.00	-0.07	-0.07	-0.07	-0.07	-0.07	-0,07	-0.07	1		
I	-0.023	0.619	0.229	-0.290	0.00	0.00	0.00	0.00	-0.07	-0.07	-0.07	-0.07	-0.07	-0,07	-0.07	-0.07	1	
J	-0.023	0.065	-0.210	0.088	0.00	0.00	0.00	0.00	-0.07	-0.07	-0.07	-0.07	-0.07	-0,07	-0.07	-0.07	-0.07	1

Column D1 to J, describing the dummies correlation with each other, was excluded from the correlation matrix presented earlier. The reason for this is, that the balanced data gives the same number of observations of all regional dummies, and all different categories. There are 16 categories, and one category observation for each of the nine regions, giving us a total of 144 observations in the dataset. As the dummy variables take on either the value 0 or 1, their correlation to each other when they are balanced is exactly the same. We can see that there is no correlation between any category dummy on a regional dummy.

Table A2. *Premium private label share for all regions and categories.*

Category	*NORRA NORRLAND*	*STOCKHOLM LÄN*	*SYDÖSTRA SVEALAND*	*SÖDRA GÖTALAND*	*SÖDRA NORRLAND*	*UPPSALA LÄN*	*VÄSTRA GÖTALAND*	*VÄSTRA SVEALAND*	*ÖSTRA GÖTALAND*
Milk	0.5	5.0	2.8	1.3	1.4	2.4	3.1	2.6	2.3
Hard cheese	0.4	1.2	0.5	0.6	0.5	0.5	0.6	0.6	0.5
Packaged meat	1.9	7.6	3.4	3.2	2.6	3.9	4.2	2.5	2.5
Charcuterie	0.6	1.6	0.9	0.7	0.6	0.9	1.0	0.8	0.7
Sausage	1.2	4.0	1.9	1.5	1.3	1.8	1.4	1.3	1.4
Soda	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Coffee	3.5	5.3	3.3	3.9	3.4	4.2	4.0	2.9	4.0
Snacks	2.2	3.4	2.1	1.5	2.2	2.4	2.3	2.1	2.0
Canned vegetables	6.7	9.8	5.8	5.7	6.7	6.6	7.2	6.4	5.8
Edible fats	0.2	1.4	0.7	0.7	0.4	0.6	1.0	0.7	0.7
Cream products	0.5	3.5	1.8	1.3	1.7	2.2	2.4	2.4	1.7
Ready to eat meals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Poultry	12.2	12.8	16.4	5.2	14.5	9.9	9.1	11.9	9.3
Fish	3.0	4.2	2.3	1.9	2.6	2.4	2.7	2.6	1.9
Ice cream	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.2	0.2
Cooking cheese	2.1	3.2	1.9	1.9	2.0	1.8	2.4	2.1	1.9
Yoghurt	0.8	1.0	0.7	0.7	0.9	0.7	0.7	0.9	0.0
Eggs	6.3	20.8	9.2	11.7	7.7	7.9	12.9	11.2	9.3
Animal food	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Seasoning	2.5	2.7	1.8	1.7	2.0	2.0	2.1	20.0	1.8

Percentage

In table A2, the highest share of premium PL for every category is highlighted. The four categories that are excluded from the data set are highlighted in red: Soda, Ready to eat meals, Ice cream and Animal food. These four categories had an average premium PL share less than 0.5 percent.