The economic cycle in the Dutch dairy market

The moderating effect of the economic cycle on the price premium and market share of national brands

by

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1. Introduction

1.1 The topic of the thesis

Internationally the Dutch are a big player in the dairy market. In 2017 the Netherlands, with a production of 14.5 billion kilos of milk, took the fourth place in the world regarding total production right behind Germany, France and the United Kingdom which have considerably larger economies (Ernst & Young LLP, 2017). The Netherlands alone is responsible for almost five percent of dairy production in the world market with only New-Zealand, the United Kingdom and the United States having a larger market share in terms of volume. The Dutch dairy market alone was responsible for 8% of the total trade balance of the Netherlands. Of all the dairy produced in the Netherlands, about 35% will be sold nationally creating a dairy market with a size of 2.3 billion euros in the Netherlands (De Nederlandse Zuivel Organisatie, 2017). Due to the homogeneity of products offered in the Dutch dairy market, it is subject to a high degree of competitiveness. Like other retailer markets, two major parties play the biggest role. First, there are the national brands which carry a particular brand name and are available from multiple different retailers all over a country. Secondly, there are the private labels. Private labels are sold and marketed by a specific retailer or store and not available in other retailer's stores. A global increase in private label market share has further increased competition among the two types of competitors. In 2016 private labels were responsible for 27% of all sales in the Dutch market, with national brands having a 40% market share in the same market (The Nielsen Company LLC, 2018a). In the United States, private labels showed a 2.0% compounded annual growth rate between 2013 and 2017 against a 1.2% compounded annual growth rate for national brands (The Nielsen Company LLC, 2018b). This difference in the compounded annual growth rate shows a general trend in the rise of private labels over national brands. Increasing competitiveness means that national brand manufacturers within a market need to find new ways to compete and use the marketing tools they have at their disposal in the most optimal and effective way.

The market share of national brands is being threatened by private labels. Market share is directly connected to return on investment and therefore profitability according to Buzzell, Gale, and Sultan (1975). To combat the loss of market share for national brand manufacturers this study aims to give national brand manufacturers better insight into the effect the price premium

of their products over Private label has on their market share. By controlling for the impact of the economic cycle, long-term, strategies and insights can be formed based on the outcome of this study. Combing all information together will give manufacturers of national brands a better understanding of how to use pricing as a tool to compete with the growth of private label brands.

1.2 Theoretical background

The following section will provide the conceptual model for this study. Additionally, the variables used in the conceptual model, and the logic behind the relationships will be explained.

1.2.1 Conceptual model

The conceptual model that the study will be based on is shown in figure one. The economic cycle has been put as a moderator between the effect of the price premium between national brands and private labels on the national brand market share.

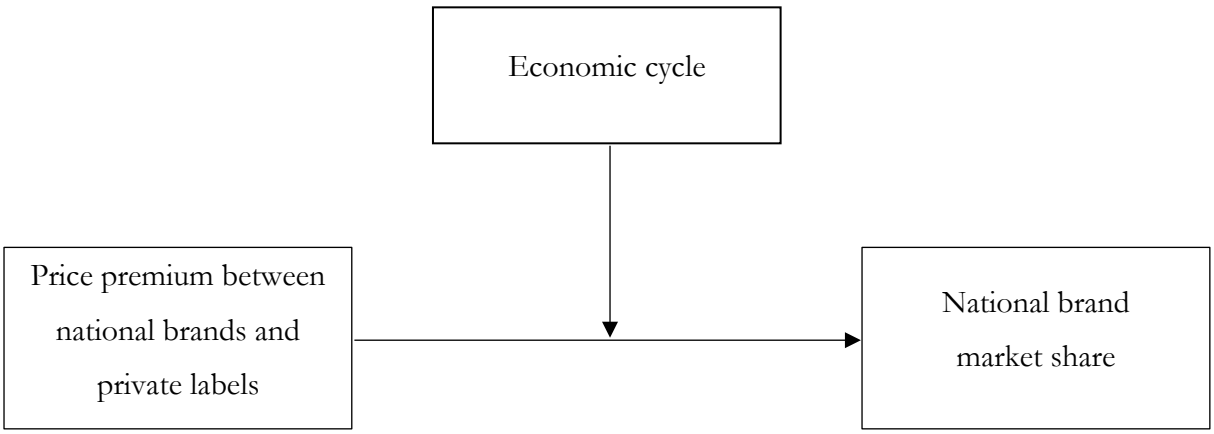

Figure 1. Conceptual model

1.2.2 Variables and relationships

National brand market share

Market share is a marketing measure used to portrait the success of national brands against private labels. The bigger the market share of a specific party, the higher the return of investment for the specific firm will be (Buzzell et al., 1975). Since a firm's financial performance is directly

dependent on the return on investment. It means that for a firm market share is an important measure for success due to its relation with the firm's return on investment. The importance of the measure and the implications it has on return on investment means that it is vital for manufacturers of national brands to defend their market share.

Price premium between national brands and private labels

This variable is the consumer price premium that exists between products with a national brand label and private label. It has been defined as synonymous with a consumers willingness to pay for a specific brand (Sethuraman, 2003). A price premium can exist due to the ability of certain brands to command a price that is higher than those of its competitors (De Chernatony, 2010).

It has been found that the higher the price of a product, the lower its market share will be (Cotterill, Putsis Jr., & Dhar, 2000). Price wars have also been used to win market leadership, suggesting a direct relationship between price premium and market share (Cabral, 2017).

Economic cycle

The economic cycle is the cycle of the gross domestic product (GDP) around its long-term growth trend. Both upward and downwards movement around the long-term growth trend is observed over time periods. A study has shown that the price sensitivity of customers changes based on the economic cycle (Gordon, Goldfarb, & Li, 2013). Price sensitivity is in general countercyclical to the economic cycle according to the results of the study. This suggests a moderating effect of the economic cycle on the relationship between the price premium and market share.

1.3 Research objective

The objective of this research is to provide manufacturers of national brands with insight into if the price premium is viable to be used as a competitive tool towards private labels and if the price premium should be altered throughout the economic cycle.

1.4 Research questions

This section will introduce the focus of this study. The research questions presented will guide this study. Hypothesizes will be formed, which will aim to answer the research questions.

1.4.1 Main research question

To what extent does the economic cycle moderate the relationship between the price premium between national brands and private labels and the market share of national brands?

Gordon et al. (2013) found that the economic cycle generally has a countercyclical effect on price sensitivity. It is vital to know if these findings hold true in a market with homogenous products and to what degree the moderating effect is important in predicting market share. This would allow manufacturers of national brands to better work with the price premium and the economic cycle to increase their market share.

1.4.2 Sub-question

To what extent does a price premium between national brands and private labels affect the market share of national brands?

While a price premium for national brands warrants a higher cost for consumers, the implication of a higher price also brings with it positive annotations. Quality and risk perception is influenced by the price a product is sold for, the total combined effect cost together with the positive connotations of the price premium have on the market share of national labels is researched with this sub-question.

1.5 The scope of the study

This study will focus on the perspective of national brands as becomes evident through the focus of the research objective and research questions posed before.

The provided data set will limit the scope of the study. The data set limits itself to the Dutch dairy market over eight categories, for example; yoghurt, custard, fresh milk, and buttermilk. The extent of that data set will, therefore, limit the scope of this research to the given

constraints. Additionally, the expected relevant variables to this study are the economic cycle, market share of national brands, and prices. All of the data in the data covers two and a half years, from 2012 up until the first year of 2015.

1.6 Scientific relevance

The effect of the economic cycle on the relationship between the price premium and market share has been understudied. Within the subject matter studies have been conducted on the direct effect of the economic cycle on price elasticity (Gordon et al., 2013). Studies have also been conducted on the effect of the price premium, or pricing in general on the market share (Cabral, 2017; Cotterill et al., 2000; Cotterill & Tirtha, 2003). No comprehensive study however has been conducted bringing these three variables together and testing for a moderating effect of the economic cycle on the relationship between the price premium and national brand market share. Especially the strength of a possible relationship is interesting due to the expected price elasticity of the products on the Dutch dairy market being high. This due to the homogeneity of products that characterize the Dutch dairy market. This homogeneity of products allows products to substitute each other allowing consumers to choose for a different product more easily. It is interesting to see if the economic cycle has a significant moderating effect on the direct relationship of price in markets that have high homogeneity and therefore, a higher price elasticity.

Studies have been conducted on the effect of a price premium on private label market share (Ailawadi, Pauwels, & Steenkamp, 2008). Drivers of the private label market share have been researched by Cotterill et al. (2000). Both aforementioned studies focus on either the lens of the retailer or private labels therefore skipping the lens of national brand manufacturers. The perspective of national brands is therefore currently under-represented in research. The generalization of results with a focus on private labels is limited due to private label market share not being the only performance metric for national brands Leaving a gap in research to be studied further (Lamey, Deleersnyder, Steenkamp, & Dekimpe, 2012).

Drivers of the price premium have been researched extensively (Steenkamp, Van Heerde, & Geyskens, 2010). Links have also been made to financial performance (Pauwels & Srinivasan, 2010). However the link of how the effects of the price premium are influenced by the economic cycle and how that in turn affects market share has not been made. The implications of price premium and the effect of the economic cycle on the relationship are therefore underrepresented in current research. Researching the effect of a price premium on the market share of the national

brand would allow for comparison on the effect of price premium between the market share of national brands and private labels. Researching the moderating effect of the economic cycle will allow future research into price premiums and market share to suitably account for the moderating effects of the economic cycle in discussions and interpretation of future research results.

1.7 Managerial relevance

In recent years private labels have become increasingly competitive in the retail market (Kumar & Steenkamp, 2007). As a direct competitor of private labels, manufacturers of national brands need to utilize every marketing tool at their disposal to compete with private labels. Research has shown that the economic conjectures increase private labels market share which is not gained back by national brand manufacturers in the expansion period within the economic cycle (Lamey, Deleersnyder, Dekimpe, & Steenkamp, 2007). This leaves permanent consequences regarding the performance of national brands. This research aims to prove the existence of a moderating effect of the economic cycle on the relationship between the price premium and national brand market share. Understanding the possible moderating effect of the economic cycle could prove useful to managers to adjust their pricing strategy accordingly, with the goal of limiting market share loss in low-conjectures in the economic cycle.

Market share directly influences the return on investment of a firm (Buzzell et al., 1975). Since the return on investment is a key performance measure regarding the success of a business. It is vital that manager optimize their return on investment and therefore their market share. This study complements the study conducted by Buzzell et al. (1975) by examining if the market share can be improved trough usage of the price premium and economic cycle by national brand managers. With research also showing that pricing by national brand manufacturers is currently insensitive to the economic cycle (Lamey et al., 2012). This research will give insight into how to market share reacts to the economic cycle allowing national brand managers to make decisions regarding adapting the price premium based on the economic cycle.

National brand managers have an indirect influence on pricing, due to having the power to suggest retail prices and set wholesale prices for their products. This allows indirect influence to determine which pricing strategy to use. Every pricing strategy has a different effect on consumer decision making and therefore has an impact on sales and therefore market share. Research has looked at the reasons behind different pricing strategies impacting consumer decision making (Faith & Agwu, 2018). This research can add to implementing knowledge

presented in the study conducted by Faith and Agwu (2018) by giving a baseline in the direction and strength of the relationship between the price premium and national brand market share. This would give insight to national brand manufacturers on what the effect of their current pricing strategy is. Having a baseline allows current pricing strategies to be evaluated and possibly altered by manufacturers if the result does not align with the intended outcome set by the national brand manufacturers.

1.8 Structure

Chapter two will provide the theoretical framework of the thesis, introducing key concepts and topics that are relevant for understanding the subject matter and findings. The third chapter will contain the research methods used in the thesis to achieve insight into the research objective and research questions proposed in chapter one. Chapter four will present the results produced by utilizing the methods described in the third chapter of the thesis. Chapter five will discuss the results presented in chapter four. Lastly, chapter six will conclude this study by answering the research questions and drawing conclusions from the findings.

2. Theoretical Framework

2.1 Market share

Market share is defined as the percentage of a market, defined in terms of either units or revenue accounting for by a specific entity (Farris, Reibstein, Pfeifer, & Bendle, 2010). Market share is also being used as a metric to evaluate marketing performance with Farris et al. (2010) stating that 67% of senior marketing manager and executives find market share a useful performance indicator.

Research shows a substantial positive effect of market share on financial performance (Edeling & Himme, 2018). Edeling and Himme (2018) researched the market share–financial performance elasticity which is the percentage change in a financial performance variable given a 1% increase in market share. The meta-analysis conducted by the study found differences based on the customer groups, the location of a firm and the economic cycle. It is proposed by Edeling and Himme (2018) that firms should actively monitor for market share. The study specifically states that a firm dealing in manufactured goods finds a stronger effect of market share on financial performance. Firms that deal in the business to consumer market also find a stronger effect of market share on financial performance. Since this study focuses on a business to consumer market it further proves the relevance of market share within the scope of this study.

Market share increases the financial performance of a firm due to the market share increasing the return on investment of a firm according to Buzzel et al. (1975). Good financial performance for a company implies that it is able to use its assets to generate operating income. Firms aim for the best financial performance to be able to use their assets as efficiently as possible, implying success for the company. Vargo and Lusch (2004) suggest that market share, as a performance measure, should be interpreted as how well a firm is able to predict market dynamics and the needs of the targeted customer. Khantimirov (2017) states that market share should be closely monitored since it reflects the competitive landscape due to it being measured relative to competitors. Since this study focuses on the relationship between private labels and national brands, which are each other's competitors, market share is used to define the relative position of both parties in the market.

2.2 Price premium

A private label product is typically less expensive than national brands, effectively creating a price premium between national brands and private labels (Kumar & Steenkamp, 2007). A study conducted by Dhar and Hoch (1997) which involved 106 retailers in the United States and 34 edible grocery categories found that the mean price premium between national brands and private labels was 40%.

A price premium can exist due to consumers being willing to pay an increased price for national brand products. A consumer's willingness to pay a price premium comes from a perceived quality gap between national brands and private labels (Steenkamp et al., 2010). Consumers generally compare the price and the utility derived from a product. The larger the difference of derived utility, and therefore, the perceived quality gap between national brands and private labels, the larger the price premium consumers are willing to pay.

The size of a perceived quality gap is further influenced by four marketing factors and two manufacturing factors according to Steenkamp et al. (2010). The results of the study conducted by Steenkamp et al. (2010) showed that the marketing factors; product innovation, distinctive packaging, advertising, and the manufacturing factor; difficulty of producing the product, have a positive influence on the perceived quality gap by customers and thus the size of the price premium. On the other hand price promotion, a marketing factor, and private label production by national brand manufacturers, a manufacturing factor have a negative influence on the perceived quality gap and therefore the willingness of the customer to pay for a price premium.

The level of the price premium is relevant in this study due to the number of factors that affect the willingness of consumers to pay, which in turn exercise an indirect influence on the height of the possible price premium. This makes the price premium an indicator of the willingness to pay and therefore, the quality gap. It should be noted that in the absence of pricing mistakes, a price premium reflects the willingness to pay of consumers for different brands (Pauwels & Srinivasa, 2010). The indirect effect of the price premium of national brands over private labels has been further researched by Steenkamp and Geyskens (2014). The study finds a positive relationship between the price premium and a customer's perceived quality gap between products. The quality gap between national brands and private labels in turn is reported by the same study to have an adverse effect on the market share of private labels, the larger the quality gap, the lower the market share of private labels will be.

A price premium brings with it cost pressure towards consumers when subject to pricing mistakes (Pauwels & Srinivasa, 2010). This would counteract the positive effect of the perceived quality gap and therefore the price premium on market share. Consumers choose a product based on maximizing the utility it provides them. A higher price of a product means that the total consumer utility of a products lowers. Therefore if consumer cost increases the utility consumers experience from a product should be higher for consumers to keep choosing the same specific product (Green, 1971). In homogenous markets, like the Dutch dairy market, where products are able to substitute each other a consumer can more easily choose for a different product due to the perceived utility being near equal which places a heavier emphasis on the cost and therefore price aspect of the. The relationship between the price premium and the market share of national brands is therefore expected to be negative.

2.3 Economic cycle

Countries experience fluctuating levels in GDP. While following an overall trend, regular upward and downward trends can be observed in the level of GDP. The regular fluctuations in the GDP of a country are referred to as the economic cycle (Madhani, 2010). The economic cycle consists of four stages. The first two stages are the recovery stage and growth stage, which are jointly called an expansion of the GDP. The other two stages are called the recession stage and the slump stage, which are jointly called a conjecture of the GDP (Madhani, 2010).

The economic cycle, price premium, and the market share of private label brands have been researched by Lamey et al. (2012). Their research describes a counter-cyclical relationship between private label market share and the economic cycle. This means that private label market share increases in conjectures and decreases in expansion periods within the economic cycle. A notable finding by Lamey et al. (2012) is that market share gained by private labels in conjectures is partly permanent, effectively resulting in a loss in market share of competitors of private labels like national brands. This permanent loss comes from pro-cyclical behavior in terms of marketing of national brands compared to private labels. National brand manufacturers are found not to fully understand the usage of a price premium to combat gains of the market share of private labels with Lamey et al. (2012) finding the price premium between national brands and private labels to be insensitive to the economic cycle and therefore underused.

Van Heerde, Gijsenberg, Dekimpe, and Steenkamp (2013) have found evidence that the economic cycle stronger affects long-term pricing impacts. The short-term impact is weaker due to the time it takes before the impact of the economic cycle becomes apparent. Found was that

consumers become less price sensitive when the economic cycle is in an expansion phase. Van Heerde et al. (2013) further found that when the economic cycle is in a conjecture period, the markets get more competitive. Different products types were researched by Van Heerde et al. (2013) in terms of the impact the economic cycle has on their price elasticity. From the categories presented in the study both beverages and food are relevant to the scope of this current study. The found effect the economic cycle has on the price elasticity of the category beverages, 27% negative change, and category food, 14% negative change, is substantial and negative.

2.4 Hypothesizes

The operational model of the study which is based on the previous sections in chapter two is shown in figure 2. The hypothesises based on the operational model and theoretical framework will also be introduced.

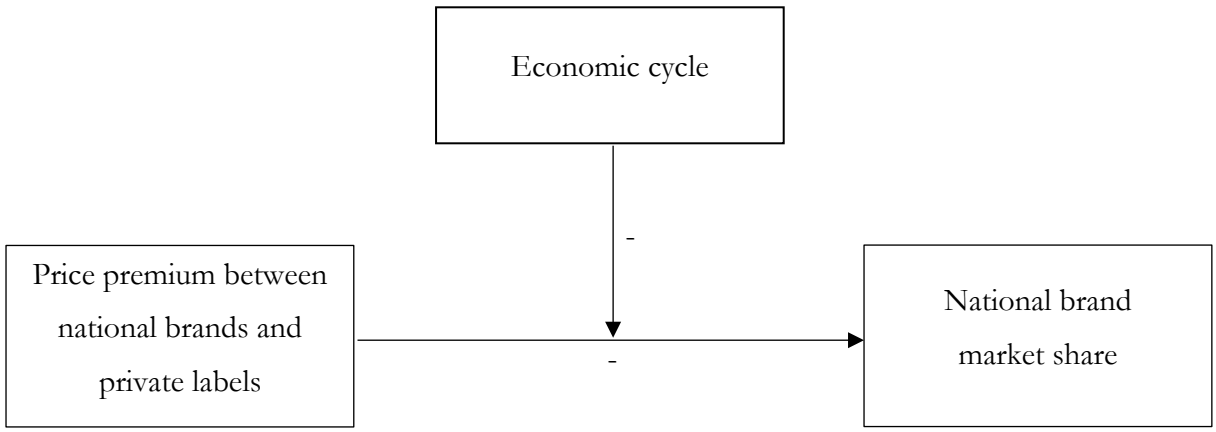

Figure 2. Operational model

2.4.1 Hypothesis 1: sub-question

The price premium is expected to have a negative effect on the market share of national brands. This due to cost pressure on the consumer of buying a more expensive national label brand over a cheaper private label brand having a negative effect on the overall utility of the consumer.

2.4.2 Hypothesis 2: main research question

It is expected that the economic cycle has a negative moderating effect on the relationship between the price premium between national brands and private labels and the market shares of national brands. This due to the price elasticity lowering during a conjecture in the economic cycle (Van Heerde et al., 2013). When price elasticity lowers pricing effectiveness lowers, which lowers the effect of the price premium on the market share of national brands.

3. Methods

3.1 Methodological choice

In order to the test the hypothesizes presented in section 2.2 a hierarchical multiple regression analysis was conducted. A hierarchical multiple regression analysis predicts the outcome of the dependent variable given two or more independent predictor variables. Since a moderator variable is technically another predictor variable two predictor variables are present which is the reason multiple linear regression is the best fit to answer the presented hypothesis.

3.2 Sample

This section will give insight into the sample used in the research. It describes the characteristics of the data sample and the data collection process and sources.

3.2.1 Sampling and data collection

In order to answer the research questions proposed in this study market data over time was needed to follow the trends in market share, economic cycle, and the price premium between national brands and private labels. Since all the variables used in this study are continuous variables real market data is the easiest to gather and best reflects the real current market environment.

Data has been derived from GfK and the Centraal Bureau voor de Statistiek (CBS), which will be introduced below.

Sales volume and pricing data comes from GfK panel data. A group of 10,000 Dutch consumers reported on all purchases they have made in volume and price. With a sample size of 10,000 consumers this sample is large enough to generalize to the full population of the Dutch consumers market. The sample contained a large variety of characteristics in its participants, and has been labeled as a stratified sample. Within this stratified sample characteristics vary widely in terms of age, social class, income and other household characteristics. Regular checks were conducted on if the representation of characteristics within the sample reflected the characteristics of the current population of the Netherlands at the time. If needed adjustments

were made accordingly to best possibly reflect the Dutch population. Data was collected by participants using scanners to scan the barcodes of items that are being purchased. The data collected by GfK is statistically robust however due to the use of a sample of the population is can be concluded that the population is not perfectly represented in the data, which can lead to missing data.

The CBS is a Dutch agency that gathers statistical data on a wide variety of subjects for the Dutch government. CBS collects, handles and also publishes data and statistical analyses. Since this data is used by the Dutch government to base policy changes and decisions on it is safe to assume that data regarding the economic cycle is reliable.

3.2.2 Categorization

The data collected was collected for multiple different categories. Within the dataset seven category exists. The eighth category specialiteiten has not been included in the final hierarchical regression analysis ran in this study the reasoning behind this will be further explained in section 3.4.1. After removal of the category "specialiteiten" the categories that have been retained in the study are shown below in table 1.

Table 1

Categories included in the Analysis

Category	Number of products	Category volume share % of sample
Fresh milk & buttermilk	218	12%
Value added fresh diary drinks	203	11%
Ambient milk * buttermilk	139	8%
Value added ambient dairy drinks	356	19%
Yoghurt	555	30%
Custard	192	10%
Quark	170	9%
Total	1833	100%

3.2.3 Retailers

81.4% of the market share of the Dutch retail market has been covered in this research. With 81.4% of the full-service market being covered, the results of this study can be generalized on the full-service Dutch market. Hard discounters are missing in the data set due to limited information being released by these companies regarding sales volumes. A number of smaller supermarket chains were also excluded from the data set due to efficiency reasons. The time required to collect and prepare the data for these smaller chains would not be in comparison to the significance of their presence in the outcomes of this study. The included retailers are shown below in table 2.

Table 2

Retailers included in the Analysis

Retailers	Total market share 2014	Full service market share 2014	Retailer volume share of sample
Albert Heijn	34.3%	41.1%	49.3%
Jumbo	14.0%	16.9%	18.4%
C1000	5.8%	7.0%	12.7%
PLUS	5.9%	7.1%	7.6%
COOP	2.9%	3.5%	2.6%
Emte	2.7%	3.3%	4.1%
Hoogvliet	2.1%	2.5%	5.3%
Total	67.7%	81.4%	100.0%

3.2.4 Timeframe

The timeframe of this study covers a period from the first quarter of 2012 up to and including quarter two of 2015. Volumes and prices were available on week level and the GDP growth was available on a quarterly basis. Retailer market share was available on a yearly bases.

3.3 Research instrument

The statistical model of moderation to run a hierarchical multiple regression has been illustrated based on a paper published by Hayes (2013) and is shown in figure 3

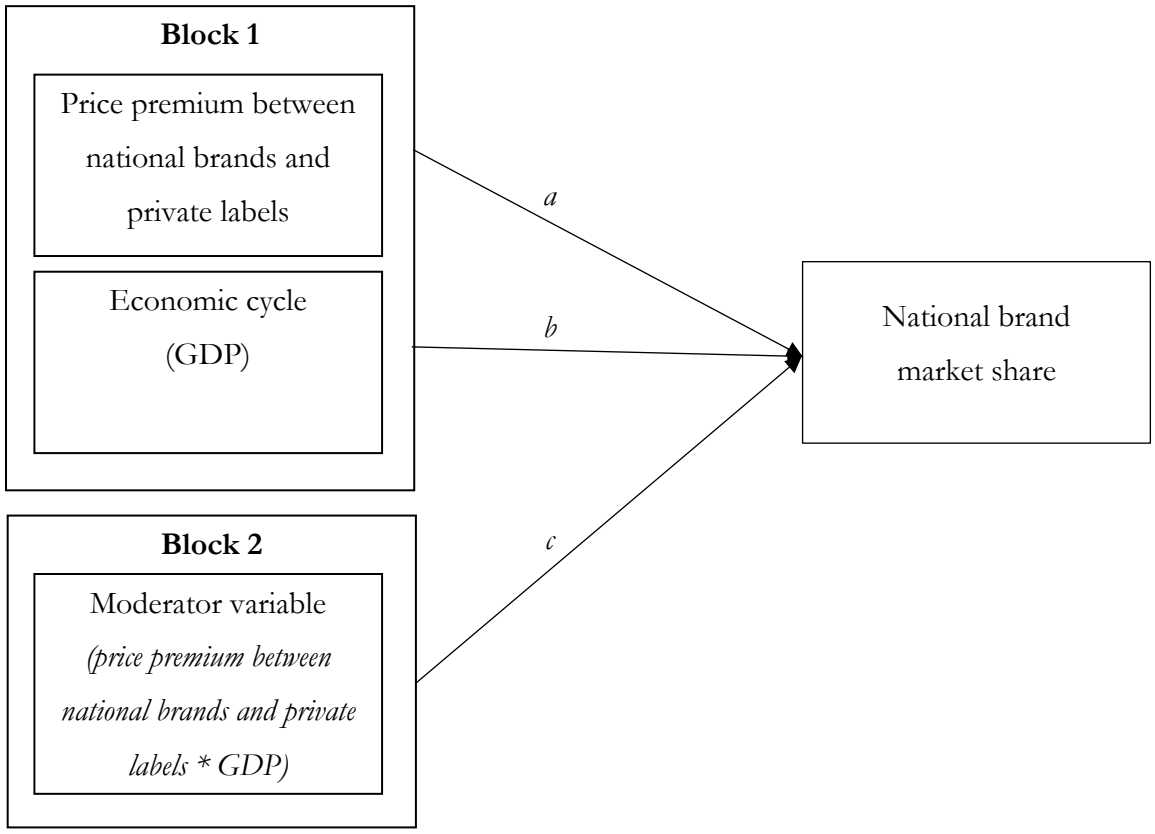

Figure 3. Statistical model

The paths visible in the statistical model are described in table 3. This study tested the expected moderating effect of the economic cycle on the effect between the price premium and market share of national brands.

Table 3

Description of Paths included in the Statistical model

Path	Description
a	The direct effect of the price premium between national brands and private labels on the market share of national brands
b	The direct effect of GDP on the market share of national brands
c	The direct effect of GDP*the price premium between national brands and private labels on the market share of national brands, this is the moderator path.

3.3.1 Operationalization of variables

The following section gives insight into how variables were constructed and how they were operationalized for analysis.

Market share

Market share is the portion of total sale controlled by one company or product. In the case of this study the market share of national brands is being investigated. National brand products have been grouped together and of this group the market share was calculated throughout the timeframe. National brand market share is defined as; the sales volume of national brands divided by the total sales volume in the market (Farris et al., 2010).

The market share variable has undergone a baseline calculation to account for sudden increases in market share due to marketing influences. This due to promotions and innovations potentially causing a sudden and short increase in sales which would undermine the reliability of this study which is focused on the moderating effects of the economic cycle. To calculate the baseline the promotion volume was excluded from the market share, in practice this translates to taking the mean volume of the week before and after the promotion.

As national labels are direct competitors of private labels just the national brand market share is sufficient to make conclusions based on this direct competitiveness. It can be assumed that what is gained in market share by national brands is for a large part taken away from private label market share.

Price premium between national brands and private labels

The price premium between national brands and private labels is the difference in price between typically more expensive national brands and less expensive private labels over identical products. Pauwels and Srinivasan (2010) operationalize the price premium of national brands as the price of national brands minus the price of private labels.

Economic cycle (GDP)

The economic cycle is expressed in quarterly changes in GDP. The GDP of a country is the market value of all goods and services of that specific country within a year. The variable has no baseline in the data set and shows the change in base points per quarter as measured by the CBS. Since the change in value is leading on the effect the economic cycle has on the Dutch dairy market this is sufficient. GDP is operationalized by having the quarterly trend applied to a weekly level.

3.4 Data preparation for hierarchical regression analysis

No data has been transformed since the residuals of the regression show a normal distribution in the Q-Q plot, as presented in appendix A, which has been produced by running the hierarchical regression analysis. Important however is the sorting of variables over time, due to the research focusing on effects over time in terms of the moderating effect of the economic cycle. The product category specialiteiten has been taken out of the sample which will be explained below in section 3.4.1.

3.4.1 Exclusion of the specialiteiten category

The data collected was collected for multiple different categories. Within the dataset eight category existed. The initial eight categories included in this study are shown in table 4.

Table 4

Initial eight Categories present in the Sample

Category	Number of products	Category volume share of sample
Fresh milk & buttermilk	218	10%
Value added fresh diary Drinks	203	9%
Ambient milk * buttermilk	139	6%
Value added ambient dairy drinks	356	16%
Yoghurt	555	26%
Custard	192	9%
Quark	170	8%
Specialties	327	15%
Total	2160	100%

Regression model including all categories

The category specialiteiten has not been included in the final hierarchical regression analysis ran in this study. Due to the inability to check the assumptions of a hierarchical multiple regression analysis before running it, an initial hierarchical linear regression was run including all the categories in the data set. The outcome of this first regression violated at least one assumption as outlined in appendix B. A lack of a linear relation is shown in this partial regression plot. A clear bend in the relation between the dependent and independent variable can be seen surrounding the 0 point of the independent variable. The assumption of linearity has therefore been violated when including all categories in the analysis.

To further investigate the reason for the lack of a linear relationship a grouped scatter plot of the studentized residual and unstandardized predicted value color-coded by category was made as shown in appendix C. In this scatterplot a deviation from the dataset can be seen in the category specialiteiten, which gave reason for removal of the category specialiteiten from the sample. After removal the linearity assumption is not violated any longer as shown in appendix D.

No further analysis has been run separately on the specialiteiten category. This choice has been made because this study was never meant to be comparative in nature and compare different product categories with different expected price elasticities. The smaller sample size of

just the specialiteiten category also has negative implications on the reliability and validity of the outcome of such an analysis.

3.5 Assessment of assumptions

Linearity has been assessed by partial regression plots and a plot of the studentized residuals against the predicted values as shown respectively in appendix C and D. Independence of residuals has been assessed by using the Durbin-Watson statistic which was 1.852 proving independence. Homoscedasticity has been assessed by visual inspection of a scatterplot constructed consisting of the studentized residuals versus unstandardized predicted values as shown in appendix C. No evidence of multicollinearity was found as all reported tolerance values are greater than 0.1 as shown in appendix E (Hair jr., Sarstedt, Hopkins, & Kuppelweiser, 2014). No studentized deleted residuals greater then ±3 standard deviations have been found, no leverage values greater than 0.2 were found and no Cook's distances above 1 have been found, proving the non-existence of outliers. As described before a Q-Q plot was used to asses normality of residuals is shown in appendix A, a diagonal line was observed therefore the assumption of normality has been met.

3.6 Reliability and validity

Due to the usage of actual numbers the data collected is as reliable as its collection method as explained in section 3.2.1.

The lack of GDP data on a weekly level carries implications for the reliability of the study. However GDP is a measure that focusses on long-time effects. GDP is measured that focusses on trends, measuring the trend over a quarter instead of a week yield more significant differences and shows the trend sufficiently. The viability of measuring GDP on a weekly level also plays a role. GDP encompasses a whole country, the amount of work necessary to get to the numbers presented by the CBS would make it difficult to present these numbers on a weekly basis. It should also be noted that the Dutch government defines its policy on the GDP values as published by the CBS and it can therefore be assumed that the data presented is valid and reliable

The lack of transformations of variables ensures data validity in its outcomes and makes interpretation of the outcome straightforward.

3.7 Data analysis

For the analysis IBM SPSS Statistics 26th edition is used. In this software package a hierarchical analysis will be run with block one containing the variables GDP and price premium, and block two containing the moderating variable GDP*price premium.

A paper by Bennett (2000) gives fundament to using hierarchical regression. Bennet (2000) states that a moderating effect should be researched by using hierarchical multiple regression. In the hierarchical multiple regression analysis first the independent variable and moderator variable in a direct relation to the outcome variable are introduced in block one. Block two then introduces the moderating effect by introducing a variable consisting of the independent variable times the moderator variable. Using this method allows seeing the main effect of the independent variables introduced in block one disjointed from the moderating effect. A paper written by Dawson (2014) gives the same reason for using hierarchical regression. Dawson (2014) states that to calculate the effect size for the interaction of the moderator variable on the interaction between the price premium and national brand market share, it is needed to know the R^2 before and after the introduction of the moderator variable. The operational model as presented in figure 3 is constructed according to the literature cited in this section and will be followed in this study.

3.8 Ethical considerations

Since all data has anonymously been collected or is publicly available no ethical considerations have to be made regarding privacy.

4. Results

In this chapter the results of the data analysis method as described in chapter three will be shown. In chapter four a hierarchical regression model will be presented as well as the implications of the results regarding the hypotheses presented in chapter one.

4.1 Model summary

A hierarchical multiple regression was run to determine if in the first block the price premium had a direct effect on the market share of national brands. In the second block was tested if the economic cycle had a moderating effect on the relationship between price premium and national brand market share. See table 5 below for full details on each regression model.

Table 5

Regression on national brand market share Coefficients

	Block 1			Block 2		
Variable	B	β	std. Error	B	β	std. Error
Constant	.569**		.003	.567**		.003
Price premium	-.121**	-.229	.006	-.116**	-.220	.006
GDP	-.001	-.002	.005	.011	.024	.007
Moderator *(GDP*Price premium)*				-.028*	-.038	.001
R^2	.053			.053		
F	242.182**			163.638**		
ΔR^2	.053			.001		
ΔF	242.182**			6.259*		
Adjusted R^2	.052			.053		

*Note. N=8736. * p<0.05, ** p<.001*

The full model of the price premium and moderating effect of the economic cycle to predict national brand market share was statistically significant, $R^2 = .053$; $F(2.8736)$; $p < .001$; adjusted $R^2 = .053$. This shows that the model predicts a little over 5% of the variance in national brand market share.

The addition of the moderator variable; *"GDP * Price premium"* led to a statistically significant increase in R^2 of .001; $F(2.8736) = 163.638$; $p < .001$.

The initial block (block one) found a significant negative direct predictive relation between price premium and the market share of national labels $B = -.121$; $\beta = -.229$; $p < .001$. A non-significant direct predictive effect between GDP and the market share of national brands was also found in block one $B = -.001$; $\beta = -.002$; $p = .849$.

4.2 Direction relationship between price premium and market share

Hypothesis 1 suggests a negative relation between the price premium and national brand market share as shown in path *"a"* in the operational model presented in figure 3. According to the output of the hierarchical multiple regression analysis a significant negative effect has been found of the price premium on the national brand market share ($\beta = -.229$; $p < .001$). This supports the hypothesis which will therefore be accepted.

4.3 The direct relationship between GDP and market share

According to Bennett (2000) a statistical test for a moderator effect should include the direct relationship between the moderator variable and the dependent variable. The direct effect found of the economic cycle on the national brand market share is negative and non-significant ($\beta = -.001$; $p = .849$). Bennett (2000) also argues that a non-significant relation between a predictor variable does not inhibit further testing of the moderator variable.

4.4 Moderating effect of GDP

Hypothesis 2 suggests a negative moderating effect of the economic cycle on the predictive relation of the price premium on national brand market share. The output of the hierarchical multiple regression finds a statistically significant negative effect, albeit it is small ($\beta = -.038$; $p < .05$). The outcome of the study confirms hypothesis two which is therefore accepted. The moderating effect of the economic cycle however is small. The added predictive effect the moderator variable has on the total model is also small ($\Delta R^2 = .001$*)*

5. Discussion

This chapter will cover the discussion of the output of the hierarchical multiple regression analysis and the methodology used in the study.

5.1 General model

The outcome of the general model shows a statistically significant but small R^2 and also statistically significant but small adjusted R^2's. The R^2's and adjusted R^2's found in respectively block one and two are R^2 =.053; adjusted R^2 =.052; and R^2 = .053; adjusted R^2 = .053. The R^2 shows that around 5% of the variance is predicted through the use of price difference and GDP as a moderator variable throughout both block one and two. Since the R^2 and adjusted R^2 are close together in value the model will generalize well when applied to the general population (Bowerman, O'Connel, & Murphree, 2014).

A R^2 value of around .05 is low which shows that other predictor variables are influencing the national brand market share. The conceptual model in this study therefore does not encompass the whole situation.

Factors that could further influence the market share could be marketing related. Advertising for example could alter customers' perceptions on products offered. Innovation is another factor that could heavily influence market share. While a baseline value is used regarding promotions, which are a way of advertising, an ad campaign could influence market share without having to need promotions for products. Marketing measures in general could have a significant impact on the market share of national brands but are not included in this study.

Factors in the business environment could also play a role in further predicting market share. The entrance of new competitors within the market can drastically change the way total market share is divided within the market across the firms in the market. Since market share is a relative value between competitors, as explained in section 2.1, the moment a new competitor enters the market, the market share of all its competitors will initially drop. Acquisitions which effectively remove a competitor from the market will have a reverse effect compared to when a competitor joins.

On the level of individual stores other factors could have an impact too. Product placement on shelves which could place a product inside or outside a customer's attention would have an impact on the market share. Individual local managers could also make decisions which

impact sales of specific products too which will could also have an impact on the market share of a specific product.

The significance of the relation does show however that the price premium is a predictor of the national brand market share. The significance of the moderating effect also shows that the economic cycle has a moderating effect on the relationship between the price premium and national brand market share.

5.2 Hypothesis 1

This section will focus on the first hypothesis presented in section 2.4.1; the price premium is expected to have a negative effect on the market share of national brands. Hypothesis one holds based on the outcomes of the study. A significant direct effect has been found. When looking at the strength of the effect it explains about 5% of the variance in the market share ($R^2 = .053$).

The results show that the price premium directly influences the market share and therefore the way customers make decisions. A price premium influences a customer's choice between national labels and private labels. Customer perceived-value comes from weighing the utility of a purchase against the costs of a purchase. In other words voluntary market exchange only occurs when the customer feels like they are better off after the exchange (Eggert & Ulaga, 2002). A price premium of national brands over private labels brings with it a higher cost. This higher cost has a negative effect on the customer's cost-benefit analysis when making a and therefore negatively influences the choice the customer makes regarding buying national brands versus private labels. The study conducted by Eggert and Ulaga (2002) therefore confirms this study's findings regarding the negative relationship between the price premium between national brands and private labels and the market share of national brands.

5.3 Hypothesis 2

This section will focus on the second hypothesis presented in section 2.4.2 of this study stating that; it is expected that the economic cycle has a negative moderating effect on the relationship between the price premium between national brands and private labels and the market shares of national brands.

Hypothesis two holds based on the outcomes of this study. A significant negative moderating effect of the economic cycle on the relationship between the price premium between national brands and private labels and national brand market share has been observed. The effect however

is small ($\Delta R^2 = .001$; $p = .012$). The small effect can be partially explained by the limitations of the data set. The time covered in the sample is two and a half years. Since the economic cycle has stronger long-term then short term effects the time covered in this study might simply be too short of a time to effectively measure the moderating effect of the economic cycle on the price premium (Van Heerde et al. 2013).

Another reason the effect size is small can be due to the influence of price elasticity. GDP and price elasticity are two concepts that are closely connected in its implication of consumer behavior. The price elasticity of a product determines the responsiveness of demand to a price change. This shows the customers sensitivity to price changes and the price premium. A study conducted by Gordon et al. (2013) found that products with a high price elasticity are more likely to react pro-cyclical to the economic cycle, while generally products, and especially those with a low price elasticity reacted countercyclically. Price elasticity is likely the reason why the assumptions of the initial hierarchical multiple regression that was ran were violated due to including specialiteiten. Specialiteiten as a product category has an expected price elasticity that is severely higher than other dairy products. This due to the products belonging in the category specialiteiten being luxury goods. Regular dairy products like milk are not luxury goods and therefore have a lower price elasticity compared to the luxury specialiteiten goods. This means that they will likely find different directions in the effect the economic cycle has as a moderator (Gordon et al., 2013). Since the exact price elasticity of included categories in the data set is not known, it could be possible that the strength of the moderating effect is diminished due to inclusion of a category has a price elasticity that is high enough to produce a positive moderating effect of the economic cycle on the relationship between the price premium and national brand market share.

The economic cycle moderates the effect between the price premium and market share due to increasing or decreasing customer price sensitivity. When the economic cycle and therefore the prosperity in a country is in an expansion period consumers have more to spend. Customers that have more money to spend are less price sensitive which creates a negative moderating effects on the negative relation between the price premium and market share. This concept is called the price elasticity of demand. Research has shown that the effect of the economic cycle varies based on the price elasticity of products. Low price elastic products will show a countercyclical relation to the economic cycle, while high price elastic products show a pro-cyclical relation to the economic cycle (Gordon et al., 2013). Further researching the differences GDP has on goods with different price elasticities in different markets would increase the possible implications of using the economic cycle in guiding pricing decisions.

6. Conclusion

This chapter will give answers to the research question and sub-question posed in chapter one of this study. Also the limitations of the study and recommendations to practice and further research will be described.

6.1 Answers to the main research question and sub-question

In this section concrete answers will be given to the main research question and sub-question presented in section 1.4.

6.1.1 Answer to the sub-question

The sub-question as presented in section 1.4.2. reads*;* to what extent does a price premium between national brands and private labels affect the market share of national brands? According to the results of this study, the price premium between national brands and private labels significantly affects the national brand market share negatively with a standardized coefficient of $\beta = -.229$

6.1.2 Answer to the main research question

The main research question as presented in section 1.4.1. reads; to what extent does the economic cycle moderate the relationship between the price premium between national brands and private labels and the market share of national brands? According to the outcome of this study the economic cycle significantly negatively moderates the relationship between the price premium between national brands and private labels and the market share of national brands with a standardized coefficient of $\beta = -.038$.

6.2 Research objective

The objective of this research was to find out if national brand manufacturers should use the price premium as a competitive tool towards private labels and if it should be altered throughout the economic cycle. This study does not give a comprehensive answer to the research objective

presented mainly due to not having a reference available regarding other factors influencing national brand market share. Five percent is not a percentage that should be ignored, however the reference frame for the strength of this relationship is limited due to limited information being available regarding the strengths of other influencing factors.

Regardless of the strength of the effect the price premium has on market share according to Docters, Roeopel, Sun, and Tanny (2004) pricing is the most flexible aspect of marketing so the reasoning against using the price premium when it is directly able to be influenced by the manufacturers rests on a weak foundation. This holds true even if the influence on the price premium is indirect which is the case for national brand manufacturers. With a proven relation national brand manufacturers should use the price premium as a competitive tool towards private labels.

With the moderating effect of the economic cycle being significant but extremely small no conclusive answer can be given regarding if the price premium should be adjusted throughout the economic cycle. It can be proposed that the price elasticity of the Dutch dairy market warrants a low strength in the moderating effect. A market with a more extreme price elasticity might warrant a moderating relationship with a higher effect strength. For the Dutch dairy market it cannot be argued that the price premium should be adjusted based on trends in the economic cycle.

6.3 Limitations

This study knows several limitations that might have influenced the outcomes of the study. The first limitation is excluding the hard discounter retailers in the sample due to the limited availability of data. This has implications for the data on national brand market share in the sample due to it being a relative measurement. Hard discounters could also employ radically different strategies regarding private labels vs national brands. It is often observed that cheaper national brands are being offered in hard discounter stores which have a lower price premium. Hard discounters increase price sensitivity by offering cheaper products which would further complicate results.

The choice to exclude the category specialiteiten is also a limitation to this study. This was done to keep the focus of this study true as to what it set out to achieve. As stated before this study was never meant to be comparative in nature and comparing different product categories with different expected price elasticities does not fit into the objective of this study. This does however severely limit the ability to generalize the outcome of this study.

Including just the dairy market can also influence results. The dairy market is homogenous which increases price sensitivity due to the availability of substitute products. This could have influenced the results of this study.

Having a sample that encompasses only one country limits this study too. The validity for the outcome of this study outside of the Netherlands is limited. Culture can have a severe effect on consumer behavior and therefore the outcome of the study can vary between different countries.

The time frame of the study was relatively short especially for a study that focusses on the economic cycle which has long-term effects on the market. A longer period of time might lead to different results especially regarding the strength of the moderating effect of the economic cycle.

6.4 Recommendations to practice

This study leads to a number of managerial recommendation based on its results. While the strength of the relationship between the price premium and national brand market share seems small. The importance of market share and therefore a predictor with an effect strength of five percent should not be ignored. A study conducted by Buzzell et al. (1975) reveals a link between return on investment and market share. The study found that the bigger the market share the better the return on investment for a firm as explained in section 2.1. This means that the price premium directly predicts five percent of the market share and therefore indirectly influences the return on investment. The direct implications for the success of a company and its financial performance means that market share should be as large as possible. Since the study conducted by Buzzell et al. (1975) uses revenue to calculate market share is it important to note that national brand manufacturers need to find an equilibrium to generate the largest amount of revenue. A relation is present where the price premium influences sales volume by altering a customer's cost-utility analysis (Green, 1971). Finding the most optimal equilibrium point of revenue along the relation between price and unit sales volume is critical to increase a firms market share and enjoy a higher return on investment.

The effect of the price premium on volume market share is negative. As described before, the price premium of a product is something that can be most easily monitored and adjusted accordingly compared to other marketing factors according to Docters et al. (2004). While manufacturers cannot directly influence retail prices, the ability to set wholesale prices and suggest retail prices gives national brands manufacturers indirect power over the retail prices of its products. The extent of what a firm can effectively do to increase its market share as opposed

to what is dictated by non-controllable factors is not precisely known. It is therefore not exactly known how much 5% is of the total ability of a firm to influence its market share. As said before however the wide array of different factors expected to influence the market share of a firm creates the expectation that the implication of a tool that directly influences 5% of a major performance measure should not be ignored and extensively used by national brand manufacturers to increase competitiveness and gain market share.

The expectation of cost pressure being the cause of a negative relationship between the price premium and national brand market share seems to be confirmed by the outcome of this study. Customers are not willing to pay more for a product then their perceived value of a product. With national brands generally spending more on marketing and innovation the perceived value of national brands is higher than the perceived value of private labels. As observed by Lamey et al. (2012) the quality gap between both national brands and private labels is getting smaller therefore the price premium will have to adjust according to this trend. Other factors other than perceived value also are expected to influence the price premium and its effect. Economic factors, social factors and marketing factors all are expected to have an influence on the extent of how much cost pressure consumers experience and therefore indirectly on the relationship between the price premium and the national brand market share.

6.5 Recommendations to further research

As discussed in before this study has a number of limitations that create possibilities for further research. Firstly, the limitations of this study could have had an influence on the results of the direct relationship between the economic cycle and the national brand market share. If a sample which covers a longer timeline will be tested it is expected that the economic cycle has a negative influence on the market share of national brands.

The significance of the price premium in the total sets of tools and uncontrollable factors influencing the market share of a firm is currently not known. While studies have been conducted on what factors influence market share, be it through the lens of private labels or national brands (Cotterill et al., 2000; Steenkamp & Geyskens, 2014). Recommended is a study that explores the marketing tools marketers have available to increase market share to find the relative effect of tools in one comprehensive context.

Another recommendation is to conduct a study further researching the moderating effect of the economic cycle but on a sample that encompasses products that have vastly different price elasticities. This would allow for further generalization for the total population.

Lastly it is recommended to conduct a study that studies the moderating effect of the economic cycle over a longer period of time. A timeline should encompass several expansion and conjectures. This should be done to be able to more reliably generalize the moderating effect of the economic cycle on the population especially when it is expected the economic cycle has long-term effects rather than short term. It could also show at what point the economic cycle trends show an actual impact on the market. This could help better understand the implications of the economic cycle on the market and would help to determine better the time frame needed to study the effects of the economic cycle properly.

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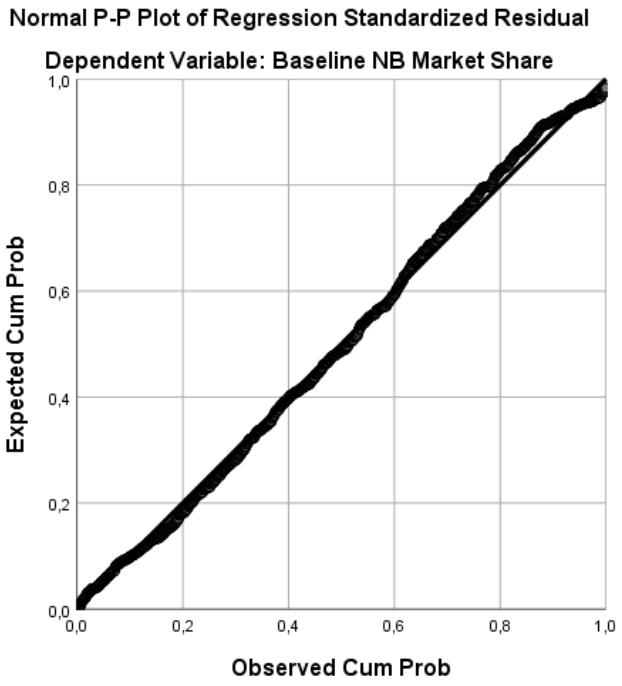
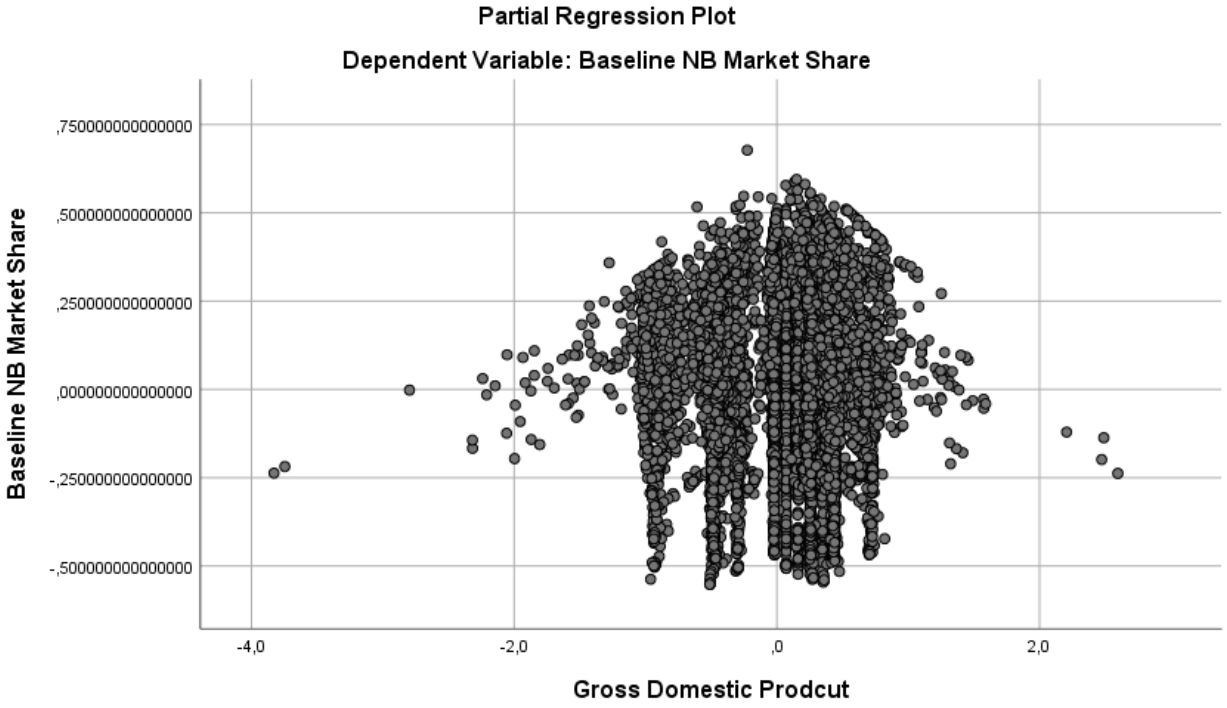
Appendix

Appendix A



Appendix B


Partial Regression Plot
Dependent Variable: Baseline NB Market Share
Baseline NB Market Share
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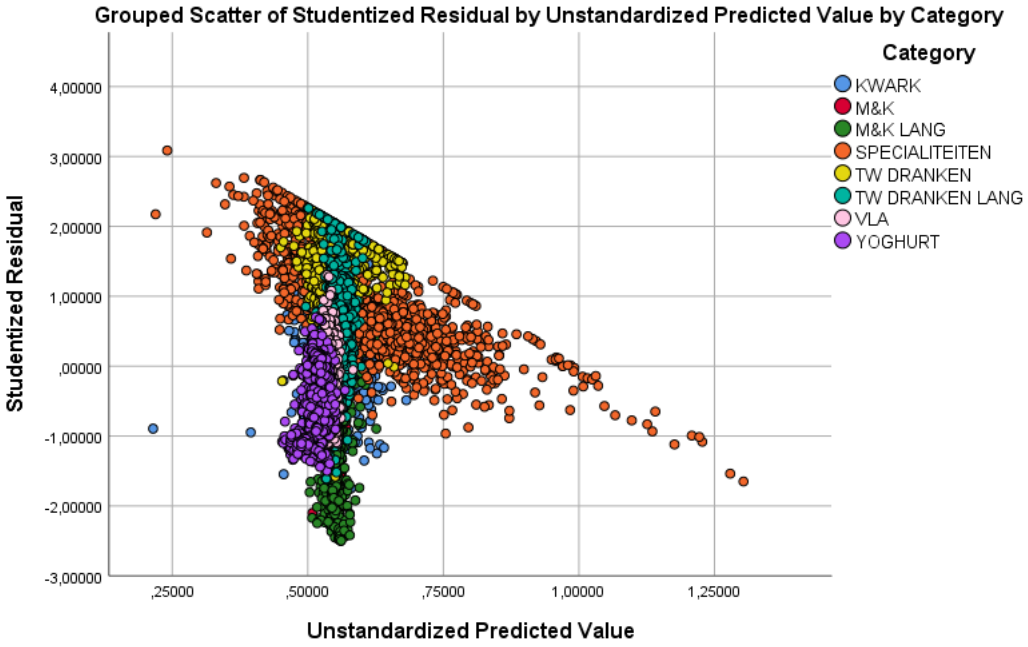
-2,0
,0
2,0
Gross Domestic Prodcut

Appendix C


Grouped Scatter of Studentized Residual by Unstandardized Predicted Value by Category
Category
KWARK
M&K
M&K LANG
SPECIALITEITEN
TW DRANKEN
TW DRANKEN LANG
VLA
YOGHURT
Studentized Residual
4,00000
3,00000
2,00000
1,00000
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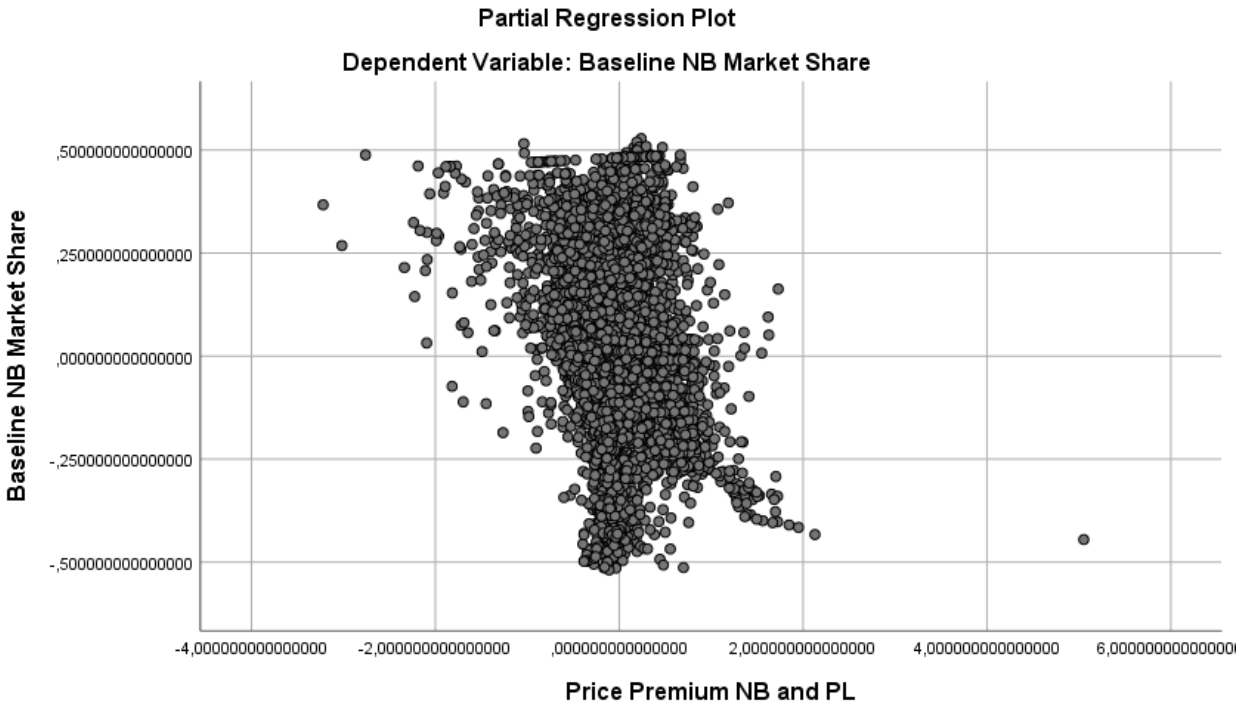
Unstandardized Predicted Value

Appendix D


Partial Regression Plot
Dependent Variable: Baseline NB Market Share
Baseline NB Market Share
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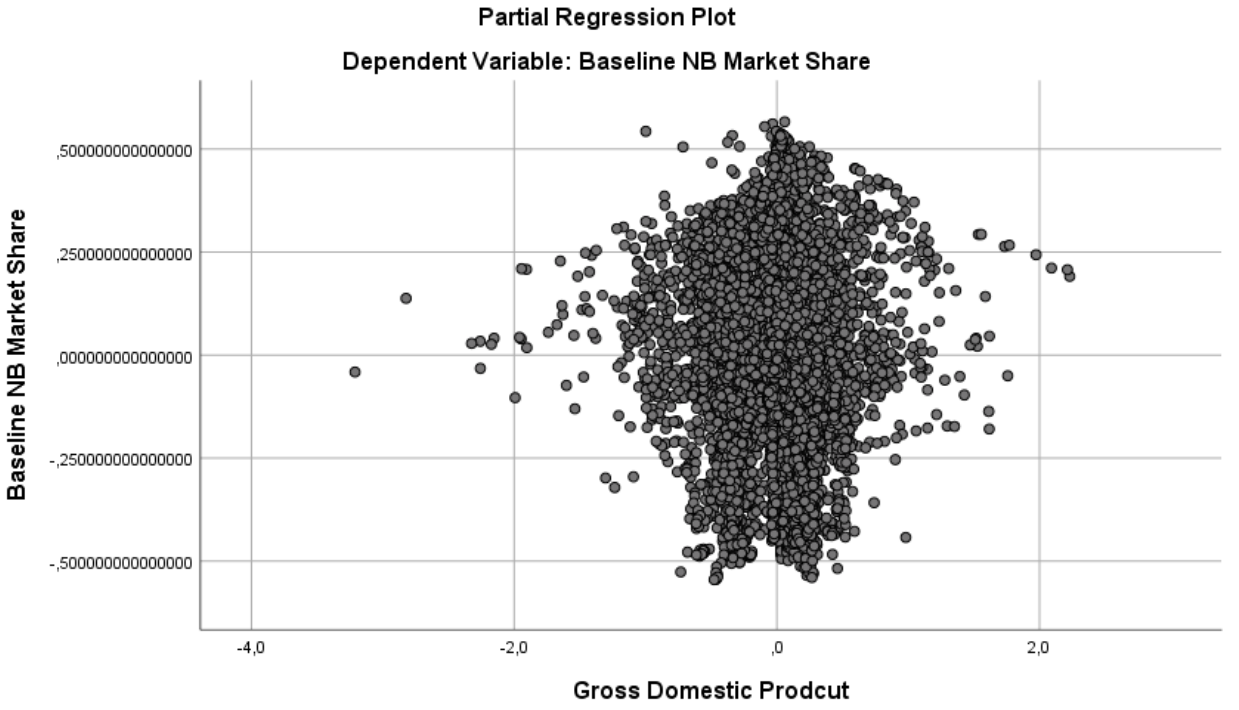
Price Premium NB and PL


Partial Regression Plot
Dependent Variable: Baseline NB Market Share
Baseline NB Market Share
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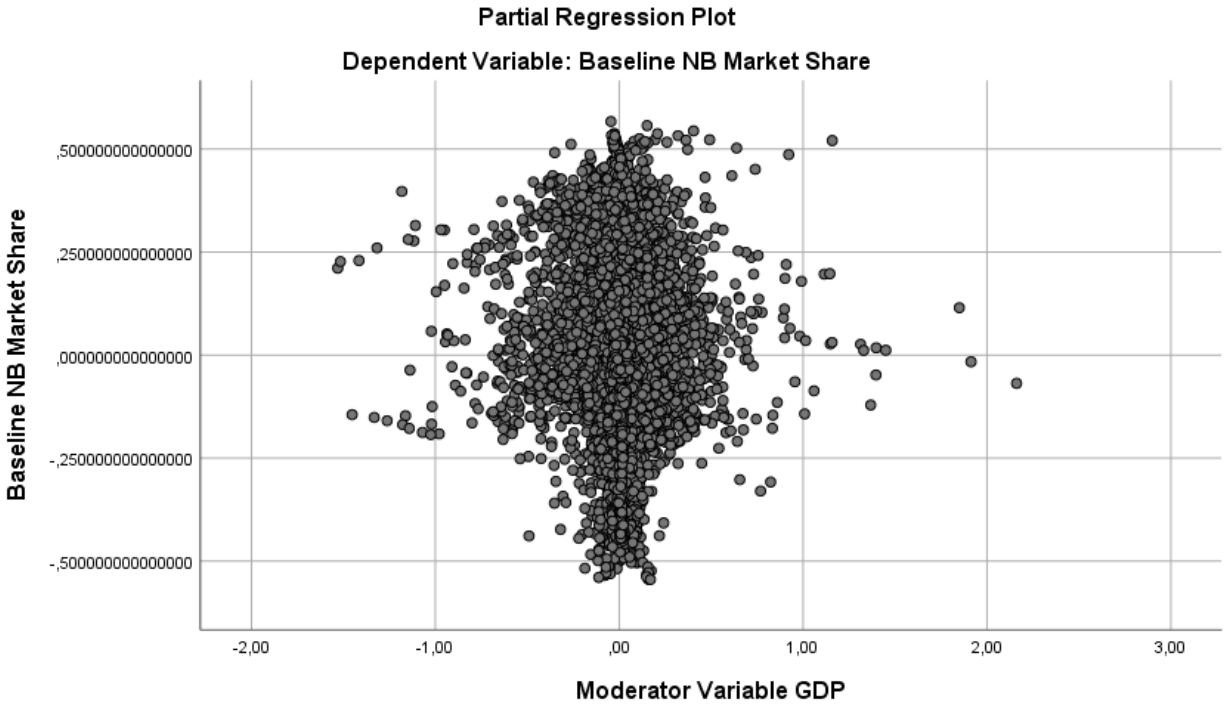
Gross Domestic Prodcut


Partial Regression Plot
Dependent Variable: Baseline NB Market Share
Baseline NB Market Share
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1,00
2,00
3,00
Moderator Variable GDP

Appendix E

Collinearity statistics

	Model 1		Model 2	
Variable	Tolerance	VIF	Tolerance	VIF
Price premium	1,000**	1,000	,913**	1,095
GDP	1,000	1,000	,882	1,134
Moderator *(GDP*Price premium)*			,811*	1,233

*Note. N=8736. * p<0.05, ** p<.001*