

Supermarkets in Spain. A profitability analysis.

Student: David Navarro Sarrión

Supervisor lecturer: Antonio Vico Martínez

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Abstract

This work analyses the profitability of the main supermarket companies that operate in Spain. That is, Mercadona, Dia, Eroski, Lidl Spain and Consum. It has been made by an examination of their financial statements and an analysis of the industry focused on the competitive determinants of the grocery retailing industry. It was feasible to gather data for some of these determinants, what has contributed to a better comprehension of the industry. All that has allowed to explain the profitability within the sector and possible reasons to the events regarding it were included.

Keywords: supermarkets, grocery retailing industry, financial statements, profitability

Introduction

Supermarkets are stores that form part of everyday life for people since they sell staple goods such as food and beverage. Therefore, it is important to analyse them. Many of their aspects can be examined. The purpose of this assignment is to study their profitability.

This will be structured in two main well differentiated parts. The main section of the work is devoted to a financial statements analysis of the five main supermarkets that operate in Spain. It focuses on their profitability, and not in their solvency or liquidity.

Previously to this, it has been made a literature review regarding different features that scholars have observed have an influence on supermarkets' profitability, considering as it mainly the reasons that lead people to chose one or other outlet. It is based in most cited articles according to Google Scholar. That have been done instead of an introduction based on internal and external analysis based on tools such as PEST or SWOT. However, this review makes reference to the groceries retailing sector as a whole, and not only to the supermarkets, since it is the usual way that this studies have addressed their investigations and they all sell similar products and consequently there profitability is affected by identical aspects.

The connection between both parts has been made for those points for which it was feasible to gather data to measure them. Examples of this are the importance of the relentless growing of the companies or their size. However, for features such as assortment or staff behaviour it was not possible to find reliability data for all the supermarkets. For others, like product mix, retailers own brands or to be acknowledged as a recognized authority in food, shallow analysis only was achievable.

Regarding other limitations of the financial analysis study, it has to be taken into account that Dia and Eroski Consolidated statements were elaborated according to IFRS Accounting standards, and those of Mercadona, Consum and Lidl Spain were developed following the standards of the *Plan General de Contabilidad*, that were available in the SABI Database.

Moreover, not thorough statistical analysis could be made. That is because the sample was not random and only 5 companies were studied. Therefore, not any effect could be isolated *ceteris paribus*.

The grocery retailing industry: a literature review

Definition and taxonomy

The grocery retailing industry comprises those establishments that sell mainly groceries, although they can sell other goods as well. Despite generally they are only classified as hypermarkets and supermarkets, according to Segal and Giacobbe (1994), there are ten types of this kind of stores:

- ✚ **Convenience stores.** Are small businesses run independently or under a franchise form selling the basic products mainly.
- ✚ **Up-scale specialty stores.** Their merchandise is comprised of luxury goods and are not very large (Herboristería Navarro).
- ✚ **Conventional Supermarkets.** Stores that sell groceries and other household merchandise, smaller than hypermarket and bigger than convenience stores (Mercadona) .
- ✚ **No frills discount stores.** Those that do not sell many branded articles, have no decoration and do not offer a good service among other features. They usually are a kind of supermarket (Lidl, Aldi).
- ✚ **Hypermarkets.** Combines department store and grocery supermarket (Alcampo, Carrefour).
- ✚ **Superstores.** A very large outlet.
- ✚ **Combination stores.** Expanded versions of supermarkets that include drugstore (Kroger).
- ✚ **Futurestores.**
- ✚ **Membership warehouse clubs.** Retail stores with a limited access to wholesalers or business owners that may or may not pay for entering to acquire goods (Makro).
- ✚ **Others.**

Main strategies

The literature has identified two paramount strategies of grocery retailing companies (Ellicson and Misra, 2008; Lal and Rao, 1997): EveryDay Low Pricing (EDLP) and Promotional pricing (PROMO). Although it may appear that they are exclusively pricing strategies at first glance, they comprise many other aspects such as service and communication, and their final goal is position themselves within the market.

A fact that may confirm that companies do not differentiate themselves only with regard to prices is a survey conducted by Matsa (2010). It gave as a result that only 11 per cent of the outlets' managers interviewed stated that they tried to differentiate themselves in prices, whereas 66 per cent affirmed that they tried to differentiate in quality.

As stated by the cited authors, while EDLP companies offer their products regularly at a good price, PROMO firms establish greater prices for all the assortment as a whole than EDLP but with a very reduced fare for a selected range of items that change continually. Those hard-discounted merchandises are strongly advertised to attract shoppers, especially cherry pickers, who will very likely acquire some of the rest of the goods they offer as well. This way, PROMO enterprises assure that they have no inferior prices in every item. Moreover, pure PROMO companies offer a better service as well.

Under an EDLP strategy can achieve such a low pricing for every single article in stock in a regular basis by having cost advantage, reached by "lower operating costs through better inventory control and warehouse handling due to more predictable demand; lower personnel costs since the Hi-Lo strategy (PROMO) often requires hiring temporary salespeople at significant costs and lower advertising expenses focusing on image rather than price" (Lal and Rao, 1997, p.61). That allows them to fix a lower cost of the Shopping basket with a lower variance too.

Ellickson and Misra (2008) state that EDLP strategy addresses to people with low income and PROMO addresses to those with a greater purchasing power and those who have time to visit several shops. They also ascertained that not every store of the company has selected the same strategy, but the outlets adapt to the demographics of each area and adopt the strategy that better suits those type of potential shoppers.

It has to be said that these strategies does not seem to have been adopted by groceries retailing companies in Spain in a pure way. However, their approach seems to share features from both of them, seizing hybrid strategies.

For example, Lidl, although shortly advertised, it do not offer a good service and establish low prices, not meeting accurately the PROMO described features. Or Mercadona, although it may seem that it has implemented an EDLP strategy, it offers both good service and prices in the merchandise as a whole, without needing to advertise at all.

A little bit of history

According to Burch et al. (2005), it has arisen a third food regime. It has been preceded by a first one where the products were sold without being processed and companies which produce them did not make efforts to differentiate them. It was followed by a second food regime characterized by stability in the types of merchandise sold and predominance of brand manufacturers.

This third food regime, however, is characterised by high innovation, flexibility in the production and ability of retailers to satisfy the needs of market niches. As it will be exposed later in this work, these features are not met by traditional producers in the demanded degree. Since the previous regime was dominated by them, the sector needed a change. This has imply, among other things, a change in the retailers' own brands use and the fact that the bargaining power inside the value chain has changed from the producers to the retailers.

Within these three stages, several technological breakthroughs occurred that have influenced the market structure and the goods sold in the retailers. Another important facts were the popularization in the use of cars or the invention of the credit card, which made more feasible to made larger purchases and the introduction (along with the invention of the fridge, that allowed to stock perishable goods at homes) and improvement of "computerized logistical and inventory management systems" (Ellickson, 2005) that allowed outlets to increase in assortment and size.

Additional milestones have been the introduction of preservation containers (cans or bottles), substances (preservatives), agricultural technological advances (that allow the consumption of products out of season) and devices (refrigerating machines). The reduction of transaction costs through reduction of tariffs coupled with the creation of areas of free commerce such as the EU have influenced it too.

Several social and demographic changes have influenced the industry as well (Shepherd, 2005; Segal and Giacobbe, 1994). For example, the growth of the population expanded the market size. Moreover, the urbanization process was an spur to the construction of bigger outlets, since in most villages only grocery stores can be profitable. Furthermore, the introduction of women labour and the shortening of the family size have created the necessity of convenience foods because there is less time available to cooking. Another of them is that the percentage of the household budget devoted to groceries decreased. It prompted that retailers started adding other merchandise in their shelves, apart from food and beverage.

As a consequence of migratory movements, it has been increasing the racial diversity, which has amplified the products needed by society and their source due to the cultural variety that it implies. The augmentation of the education has had an impact as well, since people are more concerned about how healthy is food and its origin. Thus, people are more aware of the negative effects of the industrialization, and more information about the origin of the goods and its traceability is show in their labels (Burch et al., 2005).

Finally, the population pyramid has changed its shape, especially in Spanish society. Nowadays, the proportion of senior citizens has grown much more than the young ones. It has been acknowledged by Pettigrew et al. (2005) that older people is wealthier than younger people, because they have been collecting assets throughout their lives and the later have barely earn something. These factor make necessary that companies address to the needs of this group of population especially. These authors identified as the main features of older citizen consumption "lower price sensitivity; preference for quality products; greater levels of store loyalty and somewhat smaller brand repertoires" (2005, p.307).

Profitability most important determinants in the grocery retailing industry

The average household acquires around 50 products by week (Matsa, 2005). Besides price, as have been acknowledged above, other factors influence the election of the outlets where people will buy these products weekly. According to the literature (Richards and Pofahl, 2010), these elements should grant pricing power to the company that would posses them and therefore, they would be able to raise its prices taking profit of these competitive advantages.

However, as it will be seen later in the industry ratio analysis of this work, the differences among the prices of main Spanish supermarkets that function in at least a vast area of the national territory are barely unnoticeable. Consequently, the possession of any of the following features may be more reflected in the turnover than in the prices (and the margin, by extension), since they have an influence in the shopping frequency more than in the cost of the merchandise for the shoppers. This has been confirmed by Ellickson (2005), who ascertained that outlets do not differentiate by price, but they all adopt the same strategy in a given area, depending on the demographic features of its population. The cited factors are described below.

Loyalty

As Rhee and Bell (2001) state, the decision of where to buy groceries is the consequence of a rational deliberation. Therefore, as long as people are satisfied with this decision and they are supplied regularly by products that satisfy their needs, they will remain loyal to it. Moreover, these authors observed that "nearly three quarters of the consumers show progressive attachment to a main store" (Rhee and Bell, 2001, p.1), what shows that loyalty actually exists. They also stated that the decision will not be changed by temporary prices promotions of other outlets, and that the decision makes reference to the store where most of their budget is allocated although customers will buy in others as well. Frequency shoppers are more prone to change the main store, since they are familiar with more outlets and adapt more quickly to changes in features of the stores than large-basket shoppers.

In addition, it is very important to devote time and resources to maintain current customers, since the cost of this is lower than the cost of attracting new ones. Moreover, once the decision of where to buy is made the seller is rendered a monopoly over those people, so the shopper is less price sensitive and outlets can charge more for products to loyal customers.

Additionally, some tools that retailers use to foster loyalty are the issue of loyalty cards that entitle the cardholders to discounts and other advantages and to make it conditional the discounts of some products (such as petrol) to the consumption in the outlet (Burch et al, 2005).

Loyalty cannot be observed looking into the financial statements, since they do not reflect the purchases of the customers in the competitors' outlets and they are not identified. The decision of selecting this main store will be the consequence of pondering most of retailers' features that are described below in this work.

Concentration

The grocery retailing industry has a large degree of concentration, both in Spain (analysed in the financial analysis of this work) and in the rest of the world as well (Richards and Pofahl, 2010). More than a big amount of controlled selling space or fixed costs that most important retailers have, it is the constant enlargement of the selling space what actually represents the real entry barrier, along with the continual expansion of the technological barrier (Ellickson, 2005).

For that reason, the most profitable businesses are continually opening brand new outlets and the rest keep closing them (Noel and Basker, 2007), selling these stores to the firsts or even selling the whole company to the first (acquisition of "El Arbol" by Dia, for instance). For example, as it will be examined, Mercadona or Dia can finance their openings with the cash they generate with their activity, but a lot retailers Such as Lidl or Consum have to borrow money, and those who cannot, are continually closing stores (Eroski).

The link between concentration and profitability is that it render the set of most important companies with a larger market share an oligopsony that gives them bargaining power over their suppliers. It has made, together with the retailing "own brands", that this power has been transferred to the retailers from the producers during the third food regime.

Retailing companies own the critical asset in the industry, that is the space in their shelves. Now they are who decide which products and under which conditions these merchandise will be exposed in them, since there are a lot of producers and only a few retailers with a big market share and number of controlled outlets (Burch et al, 2005). During the second food regime, there were the producers who have the power to decide about that. A factor that contributes to that importance is that the purchasing of 75% of the products are decided within the outlet, and half of them are selected impulsively (Gómez and Rozano, 2009). Therefore, only if they are merchandised have a possibility of being sold, even if the shopper was not actually looking for them.

In Spain, during the crisis years, the concentration has increased. However, this has occurred even with an stagnation of the total market, due to the stopping of the population growth, the loss in purchase power of families, the low inflation and the minor size of these households (Rodríguez et al, 2013). The degree of concentration is a medium one (CESCE, 2014) if comparing the market share of three major retailers of the country, it accounts to 46%, meanwhile in Denmark or Sweden it arises up to 70%.

This bargaining power over suppliers should be found in the financial statements in the days payables ratio mainly. Moreover, the COGS over sales ratio (that is, acquiring cheaper products), as it will be seen, does not seem to reflect at all the purchasing power in Spanish main supermarkets.

Retailers own brands

The importance of retailers own labels within the industry has increased enormously during the last years. When these trademarks appeared in the 70's, they were just a

cheaper alternative to branded products but nowadays they compete in quality as well (Burch et al., 2005).

The main advantages of retailers own labels are two. On one hand, since these products can only be found in the outlets of the retailers, if someone wants them is obliged to go to that retailer in particular. This way of differentiation grants them bargaining power over their customers. Therefore, loyal customers of the retailer brand products will be loyal customers of the company.

On the other hand, they give bargaining power over the suppliers as well. That is because retailers are less dependent on the products of the brands and can supply themselves by their own labels (Richards and Pofahl, 2010).

However, these advantages are not the main reason of the increasing importance that these brands have reached. As it what explained above, the third food regime is characterized by high flexibility and innovation. According to Burch et al (2005), traditional producers do not fulfil these requirements for some reasons. First of all, their production is not flexible, since it is committed to the manufacturing of large amounts of their star branded goods. Furthermore, their innovative capacity is limited, since they need to devote much more time for the development of products before putting them into the market. This is because they have to test a lot the new goods previously, since a bad result in a release of a new product may damage the image of the branded goods, and this image has been very costly to construct.

As a consequence, producers that only manufacture for retailers own brands have a better structure to meet the demanded currently features. They can release a product to the market and if it does not succeed, they just launch another, being able to taking more risks. Moreover, they have a part of their productive capacity that is flexible and able to change its output.

In Spain, retailers own labels are very important. Gil and Rondán (2015) ascertained that Spain was the second country in the world with a bigger weight of these products in the total basket, only after Switzerland. Authors like Rodríguez et al (2013) argue that in Spain the reason of the increase in market share of retailers own labels (in 2008, they reckoned it represented 26% of total sales and in 2012, 36,7%) is their inferior price (it was around a 30 percent cheaper; IRI, 2012). This has been supported by Gil and Rondán (2015), who say that in a survey, 92,6% of own brand consumers stated that their main factor when selecting these products is their low prices. However, they also alluded to the results of another survey where it was declared that the main

factor took into account when deciding in which retailer to buy was the quality of the retailer own brand (Kantar Worldpanel, 2012). Grayling (2013) affirm this is true as well.

In other countries, such as in France, retailers own brands are not perceived as quality products. Since one of the Strengths of Dia is these kind of products, it may explain why they decided to sell their business in France (CESCE, 2014).

Assortment

When pondering where the shopping will be made, *ceteris paribus*, potential customers will select outlets with a bigger assortment where they can decide which product will be purchased among a bigger amount of substitute products (Ellickson, 2005). This was more important during the second food regime, where almost the same brands were sold in all the retailers, and therefore outlets that could offer others as well attracted customers easily. This fact can be appreciated when comparing small grocery stores and supermarkets. With the inception of the later, the first were quickly out of business. Therefore, only in places where there are not supermarkets (villages) or if they offer much different products (addressing niches) these grocery stores with a short assortment can survive since they could only sell the same products as the supermarkets with higher prices (Ellickson, 2005).

Moreover, it would be more attractive to buy in outlets that offer every product that a household needs, being available to buy only in one store, reducing shoppers in cost and time spend in buying. Plus, companies with a greater assortment can offer cheaper products because their delivery costs are minor (Matsa, 2010).

The increase of the assortment could only be possible to an extend degree thanks to coordination tools provided by computational logistics and management inventories systems developed in the 80's. It allowed that the amount of products that were available per outlet increased from around 14.000 in 1980 to more than 30.000 in 2004 (Ellickson, 2005).

In the financial statements and the disclosed information by the companies, the assortment may be found either straightforwardly by the number of articles that they sell per store, or indirectly if they state the square metres per outlet, since bigger stores should have a greater assortment.

Proximity

Having to travel farther from home increases the cost of the shopping. Not only in terms of money but in time as well. One thing that would decrease the shopping cost is buying larger baskets, since the higher cost of the trip is divided among more articles, therefore people will tend to buy farther when they have to do large shops. Reasons that would make people more likely to move for a bigger distance to buy might be to find cheaper products and articles that they cannot acquire closer.

In Spain, due to the crisis, it has changed the proportion on supermarkets and hypermarkets (more distant from the city, since it would be very expensive to maintain the space needed for a hypermarket in the core of cities), prompting the retailers to open new locations within the cities and abandoning or not expanding their business in large stores in their outskirts. It can be seen for instance that sales over square metres ratio were higher before the crisis in the hypermarkets than in supermarkets, what changed from 2007 (Rodríguez et al, 2013; The Nielsen Company, 2014).

Two reasons have been identified that may explain this change of tendency. The first is that a tighter control of the expenditure is needed when living with a more limited amount of money (average income descended during the crisis and larger employment rates) led to smaller shopping baskets (CESCE, 2014), what rendered more expensive movements to the hypermarket outlets. The second one is the increase in size of the supermarket chains has allowed them to offer their products at a relatively lower price thanks to their bigger purchasing power (Anton, 2015).

In the financial statements, it may be found the number of supermarkets and hypermarkets that the company controls.

Availability

According to Matsa, "frequent inventory shortfalls ("stockouts") and limited product variety are the number one cause of dissatisfaction among supermarket shoppers" (2010, p.1). Therefore, if people can nearly always find what they went looking for at the store, they will be more likely to remain buying at it. However, to decrease the figure of stockouts supposes incurring in additional costs, and to reach a total availability of the items sold in an outlet is not optimal.

Offering a big assortment reduces this problem, since, if a shortfall occurred, substitute products will be more likely to be found in the same store. Moreover, having bigger assortments decreases the cost of supplying, since more deliveries would be made into

the outlet anyway and not *ad hoc* trips would need to be done. Consequently if an unexpected change in the demand would provoke a stockout, it would not be necessary to wait long till the items would be again available without additional costs.

The shopping experience

"In the retail sector, a firm's "product" is the shopping experience it provides its customers" (Matsa, 2010, p.1). Consequently, factors such as an easy way into the parking lot; hearing nice and quiet piped music; tidiness and good decoration; short queues; services such as bagging; shopping equipment functionality or courtesy of employees will have a positive impact in making customers return. Furthermore, assortment can increase the shopping experience, since the action of going through the store exploring the products offered and examining those which grabs the attention of the shoppers may be a pleasant experience as well.

To be acknowledged as a recognized authority in food

This can be achieved by publishing information about food in general and giving more information than they are abided by. Some supermarkets (Eroski, Consum) issue this data through internet or by printed magazines. They advise about healthy good practices, propose recipes or inform about the properties of some comestibles or cultivation and farming good practices.

Doing that, they are legitimized in front of (potential) buyers, since they are seen as suppliers of healthy, nutritive and quality food and therefore their products may be better accepted. Moreover, it generates loyalty and allows these supermarkets to influence the preferences of the shoppers (Burch et al, 2005)

Other factors

Having a **car park** is important, since it allows customers to convey their shopping with their cars, permitting them to do larger acquisitions and, therefore, spending more.

Value-for-money of course is crucial, and the retailers own labels contribute to increase it.

Offering products in **appropriate sizes** has to be taken into consideration as well. Since there are such a variety of family dimensions, it will be better to offer small sizes for reduced households to attract them.

It has to be highlighted, due to the great and increasing proportion of its populations over the total, the factors that senior citizens consider important. According to Pettigrew

et al (2005) the **personnel behaviour, the good condition of shopping equipment and the disposal of the merchandise** are the paramount features that older people most appreciate in a retailing store. It has to be said that, about the disposal of the merchandise, it makes reference to the fact that it is more difficult for them to bend down to the lower shelves or to stretch out to seize products from the upper ones or if the products are too deep over them.

Vertical integration in the retailing industry makes reference to owning warehouses and means of transports, that is, having their own distribution centres. That would allow vertically integrated firms to enjoy reduced operating expenses and supplier control of the outlets (Ellickson, 2005). This may be reflected in the financial statements inside the conveying elements and the constructions balances.

The **product-mix** have an influence on the profits as well. Offering goods with higher added value is more profitable, obviously. Thus, freshly made food (Carrefour, *El Corte Inglés*) or bakery (currently in all retailers) will impact the results, as having a butcher or fishmongers sections as well. Moreover, they differentiate from those who does not offer such services.

According to Chevalier (1995), there is influence of the **financial structure** of the companies and the degree of competition among them. He argues that leveraged companies will try to avoid price wars. Therefore, if a lot of companies are strongly indebted, the grade of competition will be softer.

Financial Statements Analysis

The profitability to be analysed here is that independent of the financing structure of the companies, that is, their Return on Assets (ROA) and its components. Differences in the liabilities and shareholders' equity structure and their financing effects are examined only shallowly.

The companies selected have been the most important supermarket chains in revenues. These are Mercadona, Dia, Lidl, Eroski and Consum. The information have been extracted from their financial statements (Dia and Eroski), the SABI database (Consum, Lidl, Mercadona) and annual reports (Consum and Mercadona). Dia has been considered only from the year they split from the Carrefour group (2010).

ROA

As can be seen in figure 1, Mercadona has been the leader of the sector in ROA until last year, when Dia surpassed it. It has to be took into account that Dia left the Carrefour group in 2010, and before that, this group was the leader of the industry.

It can be appreciated that all the companies are currently more profitable than they were 10 and 15 years ago except for Eroski. Above all Dia, followed by Consum and Mercadona. Therefore, it appears that the crisis has benefited them. Among the reasons that could explain this effect are that they sale mostly groceries, which are basic necessities whose demand is very inelastic and the fact that with the crisis, people seem to have decided to eat less at restaurants and similar, so they had to buy more at supermarkets (CESCE, 2014).

Moreover, the behaviour of these companies have varied, with a collapse of Eroski after acquiring Caprabo in 2007, the stability of Mercadona since the inception of the crisis in 2007 after their growth during the previous years, similar to the conduct of Consum. Dia has boosted since it excscinded itself from Carrefour and Lidl had had strong up and downs before stabilizing itself around 2008 and with a recent tendency to improve.

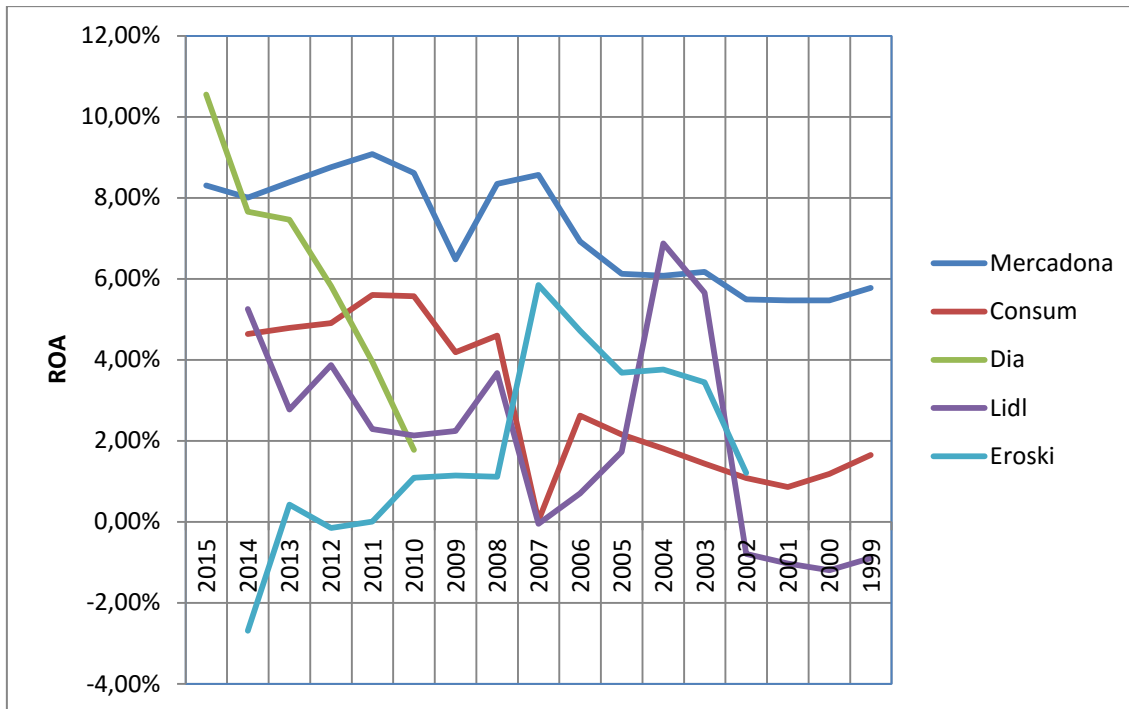


Figure 1. ROA of main Spanish supermarkets for the period 1999-2015

In 2007, Consum's profitability collapsed. This may be due to the acquisition of considerable supermarket outlets from Dinosol, Caprabo and Sabeco, financed with debt mostly, although it seems that the most of them were leased, since, in the balance sheet, the material account rises discretely but the balance of financial leasing increases in a hundred million euros. The null profitability could proceed from the necessity of closing the acquired stores for some time during which they were accruing costs (profit margin for ROA is what collapsed, not turnover of assets).

It can be appreciated that, in the case of Dia, the acquisition of a large number of outlets in one year (Schleker, El Arbol) did not affect negatively to its profitability, but rather the contrary. Moreover, in the balance sheet, nor the goodwill neither the material assets balances raise significantly in the year of the acquisitions. In fact the later decreased substantially in 2014. That is because Dia sold its business in Turkey in 2013 and in France during 2014, what offset that effect.

Moreover, in 2014, Mercadona, Dia and Lidl had not improved only in profitability of their assets, but in size measured as total sales and disclosed assets as well (figure 2). On the other hand, Eroski and Dia were bigger in assets but sold less. Eroski was the bigger company among this group, for the years 2006 and 2010, but has been outscored by Mercadona (namely this change in leadership occurred in 2012). The third is Dia, followed by Lidl and Consum. This is the smaller one in capacity because it

only operates in the Mediterranean area (Valencian Community, Catalonia and Murcia mainly).

The increase of the capacity during years of crisis have occurred despite the stagnation of Spanish population growth and the decrease of the disposable income due to the crisis. It could be feasible thanks to the cited feature of most of the products that they sell: that they are staple basic necessities. It has to be said that these companies faced the crisis reducing in personal expense rather than in capacity (Rodríguez et al, 2013).

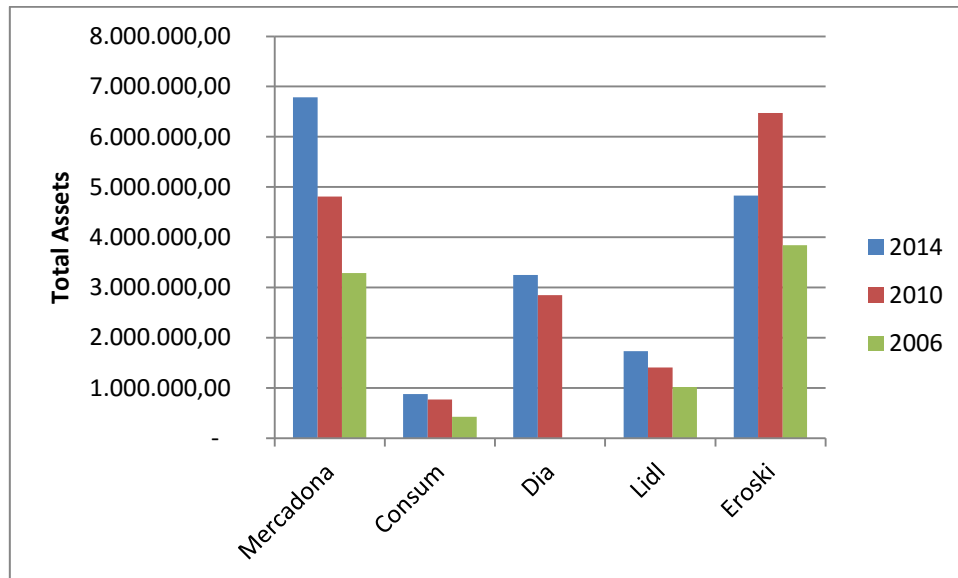


Figure 2. Total Assets of main Spanish supermarkets for the years 2006, 2010 and 2014

Profit Margin for ROA

Regarding the profit margin for ROA depicted in figure 3, it can be observed that more variability among the supermarket margins existed in the beginning of the century than in 2014. For this last year considered Mercadona, Lidl and Dia achieved almost identical profit margin, Consum a bit less and Eroski a very bad performing with a negative figure. Furthermore, it can be easily seen that, with the exception of Eroski, the rest had been considerably and consistently improving this ratio. This increase of profit margin for ROA seems to have been the common solution when facing the financial crisis.

For the case of Lidl, at least partially, this improvement in the margin figure may be due to the introduction in the assortment of Spanish Lidl outlets of higher added value products. Examples of this are fresh packed meat and bakery in 2005 and of fresh packed fish in 2012, changing the product mix of the company. It is noticeable the profit

margin it has achieved, given the fact that they sell mainly own label products with the lower price (figure 6) among the considered supermarkets.

It is remarkable the evolution of Consum and Eroski after the first split the group in 2004. Consum has been improving consistently the profit margin for ROA. Meanwhile, for Eroski this ratio has been decreasing since 2007.

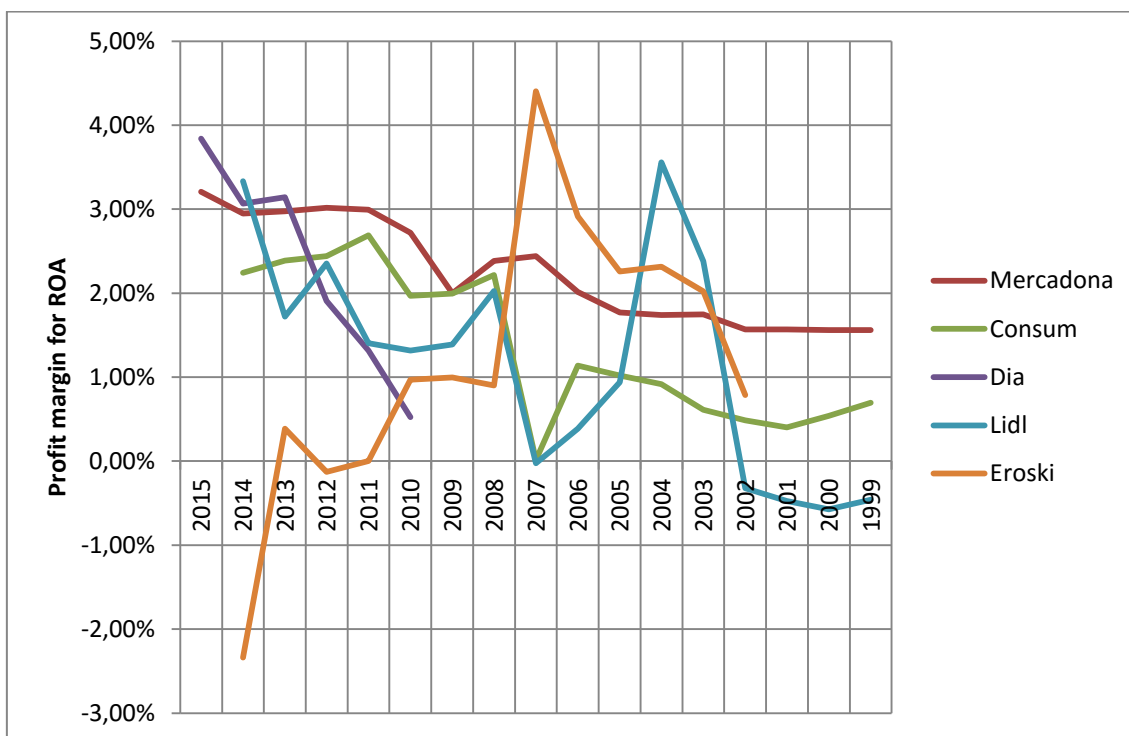


Figure 3. Profit margin for ROA of main Spanish supermarkets

The acquisition of Caprabo by Eroski

This was a paramount event within the sector that have influenced Eroski's results enormously, and so it must be analysed a bit thoroughly. The results of Caprabo are relevant to Eroski, since around a 15% of its Assets in the Consolidated Financial Statements and a 20% of the revenue relate to Caprabo.

As can be appreciated in figure 4, the retailer chain Eroski had an increasing and considerable profitability of the Assets until 2007. Then, they acquired the Catalan chain Caprabo through a leveraged buyout and this figure dropped dramatically.

Nevertheless, Caprabo was already in that year proven to be not very profitable or even generating losses some years, as can be seen in figure 4. Moreover, Caprabo's ROE was even worse due to the financial leverage and the high cost of debt.

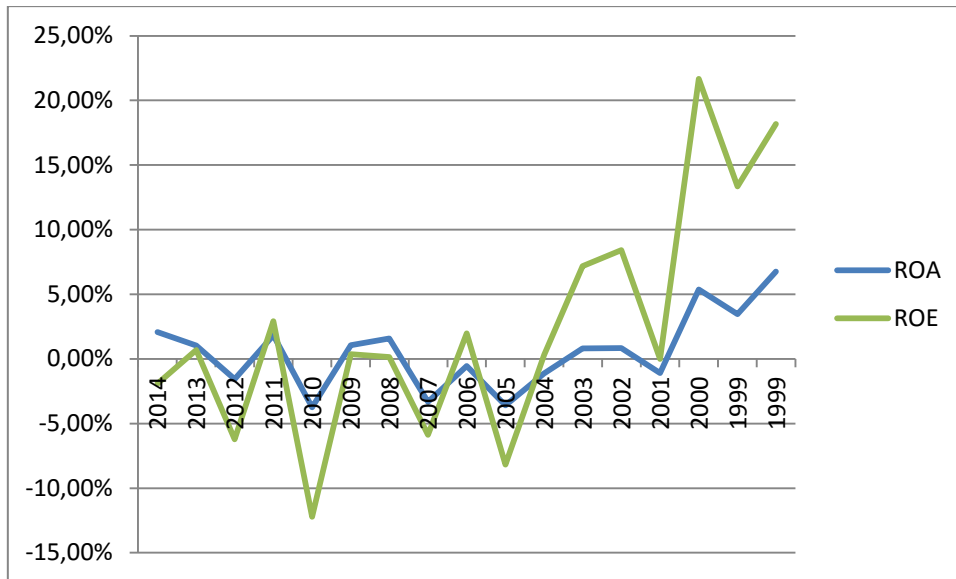


Figure 4. ROA and ROE of Caprabo for the period 1999-2014

The stated purpose of this buyout was the introduction of the Basque Eroski into Catalonia, where Eroski did not controlled a single supermarket. For that, they paid around 1.300 million euro (Saborit and Navarro, 2007), a really large price, maybe because of the struggle among Eroski, El Arbol, Carrefour and Permira to buy Caprabo.

Evidence that it was over paid are, in the first place the cited bad profitability of Caprabo, who was already selling supermarkets. Moreover, the fact that Eroski disclosed an increase of 1.526 million euro of the goodwill and only an 251 million euro rise in material assets because of acquisitions of other companies. It is true that they bought other companies that year as well (Inmobiliaria Recaré, Caoba Cosmetics) but most of the composition of those balances represent Caprabo assets. Therefore, they paid for a company whose assets had a value of around 200 million euro and controlled around 500 outlets, 1.300 million euro.

More than the price or the results of Caprabo, even could have been more important the fact that, due to this great leverage, during that year, the cash flow statement shows a gross increase of 2 thousand million euro in bank debt (net, 1.265 million euro) and 287 million euro in preference shares. That should include the extra financing incurred to be able to buy Caprabo, together with the debt of Caprabo.

Eroski could not only continue the normal expansion of assets in the sector (and important as cited), since it had to allocate a large amount of money to pay the

interests and the debt repayments, but had to sell lots of outlets and reduce its size. Its stated intention is to focus in those outlets and areas that are more profitable, selling its business in the rest and expanding mainly through franchises.

It has to be said for Eroski it is compulsory to disclose the whole of its financial statements. That is because its preference commodities are publicly traded in the AIAF ("*Asociación de Intermediarios de Activos Financieros*") market of fixed income. Therefore, lots of reliable information could be found.

Other facts about Eroski's results

One fact is that Eroski has a real state segment in its operations. The weight of this business has been between 8.72% and 14.80% over Eroski's Assets and between 0.32% and 1.78% over its revenue for the period 2007-2014. About its profits, they varied between -42 million and +77 million, resulting in a negative profit in 3 out of the last 4 years considered. These high amounts in absolute value explain why this segment is important in results. Therefore, this is a segment with almost no significance in revenue, but with a relevant weight in assets and especially in the results, whose strong variability has a great influence in the final profit or loss.

One of the reasons to keep this segment is that Eroski debt is partly guaranteed with these assets (226 million in 2014). It is remarkable that during the deep crisis this segment was profitable when prices in the sector were collapsing, and for the last years considered, it provoked losses.

Regarding the groceries segment, it accounts for around 65% of total assets and 90% of revenue. Moreover, its profitability is better than the company's, not only in global terms but both in margin and turnover as well (figure 5), especially during the last years, as a consequence of the bad results of the previously analysed segment.

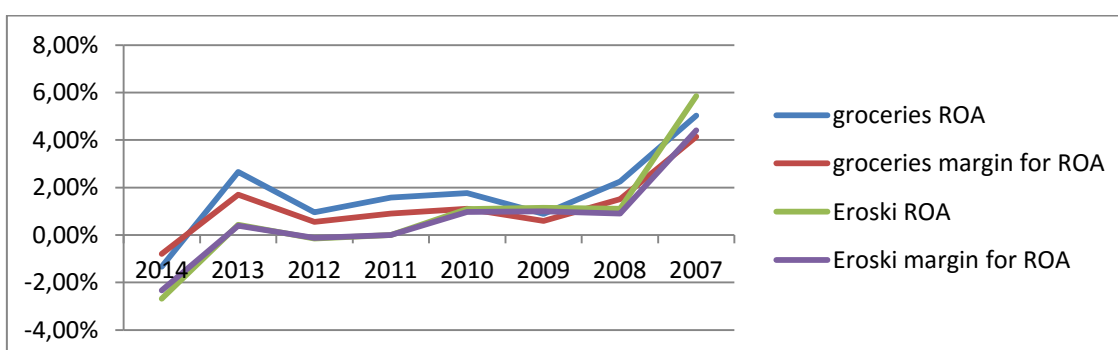


Figure 5. Evolution of the grocery segment in Eroski for the period 2007-2014

Another fact about Eroski is the big impairment figure that it has reached some years, especially in 2014. In that year, the impairment of non-current assets supposed 3,39% of operating income, what is a much greater than usual amount (the average for the period 2008-2013 was 0,87%). That impairment is related to the intention of Eroski of selling 151 outlets in the southern and central areas of Spain. Excluding this effect by supposing that this expense balance had equalled the average for that period, the Return on Assets figure for that year would have been 0%.

The last relevant point considered is the fact that Eroski, because it is a cooperative company (as Consum), has lower rates to apply in its corporation tax together with other fiscal advantages. This is relevant when compared to other companies such as Mercadona or Lidl whose taxation is greater.

Prices

It is clear that the price is one of the most relevant characteristics that defines the strategy of the companies. Since they might be even selling the same products of the same brands at different stores, the differences in price cannot be very accentuated, since the bargaining power of the customers is too high and they would easily buy where the merchandise were cheaper.

This is reflected for instance in the OCU annual price index. This index measures the general level of prices for each one of the most important Spanish Supermarket Chains, scoring the cheaper of them as a 100 and benchmarking the rest in comparison to it. For example, if the index of Mercadona were 111, that would mean that its average annual basket cost would be 11% higher than the cheaper retailer in Spain.

This study measures different types of products, that are put together into different baskets. The most important is the Standard Basket, which is a set of merchandise of well-known branded products that can be easily found in different outlets. The other relevant one here is the Economic basket, which includes the same type of merchandise as the standard basket but they are not sold under popular brands but in others, preferably under retailers own labels.

As figure 6 shows, the prices are very similar between the selected supermarkets both in the Standard and the Economic Basket. The prices have a maximum difference of 10 percent during the considered years for the Economic Basket and 7 percent for the Standard Basket. Meanwhile, the maximum standard deviation was 2,58 percent, being the year with the minimum 1,87 percent for the Economic basket and 4,16 and 2,41

percent for the standard basket. There is to say that Lidl does not include enough well-known brands among its assortment, and that it is the reason that a Standard Basket index could not be computed for this supermarket chain. The years showed are those to which data could be gathered (OCU, 2009, 2012, 2013 and 2014).

Moreover, Dia has many store brands such as Dia Market, Schlecker (Clarel), Dia Fresh, El Arbol, Cada Dia, Minipreço and Mais Perto. The prices of Dia Market were chosen as the most representatives since it represented the vast majority of the group (51,5% in 2013). Dia has hypermarkets as well (Dia Maxi) that supposed 21% of their business in 2013. Additionally, the discount business as a whole represented 78% in 2013 for this company.

Standard Basket				
	2014	2013	2012	2009
Mercadona	111	108	110	109
Consum	113	114	117	114
Dia Market	115	111	113	110
Lidl	-	-	-	-
Eroski	118	114	115	111

Economic Basket				
	2014	2013	2012	2009
Mercadona	116	110	110	109
Consum	118	110	115	115
Dia Market	122	111	108	108
Lidl	112	105	102	104
Eroski	115	112	109	106

Figure 6. Standard and Economic baskets of main Spanish supermarkets (source: OCU, different years)

A priori, supermarkets with higher prices should tend to achieve greater margins and those with lower prices, bigger turnover. Nevertheless, although it is roughly an introductory approximation and this comparison has none statistical value, in figures 7 and 8 are shown margin and turnover of the supermarkets compared to their economic basket price indexes for different years.

These figures show that supermarkets that charged bigger prices reached barely higher Profit Margin for ROA. Surprisingly, the relationship between turnover and prices appear to be a positive one and a bit stronger than the one with the margin, although small as well . However, the method used; the short sample; the little variability in prices and to some years in profit margin and turnover and the fact that other factors

affect this relationship as well does not strictly allow to make any conclusion. The results with the standard basket are very similar.

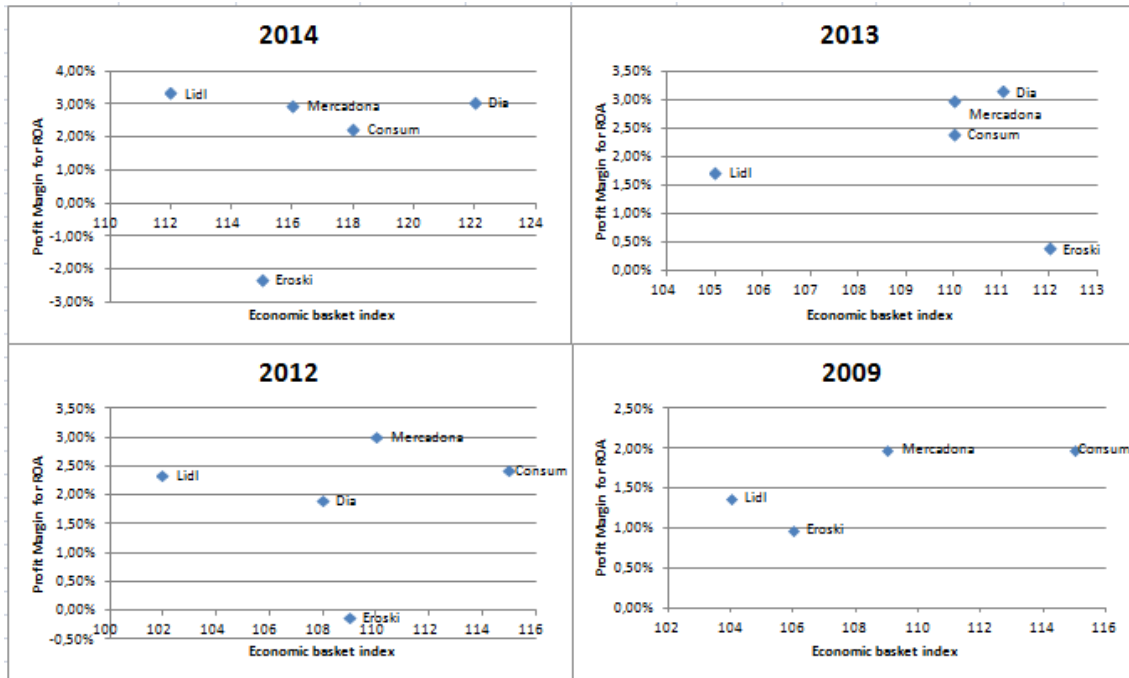


Figure 7. Profit Margin for ROA and Economic basket prices index of main Spanish supermarkets for the years 2009, 2012, 2013 and 2014

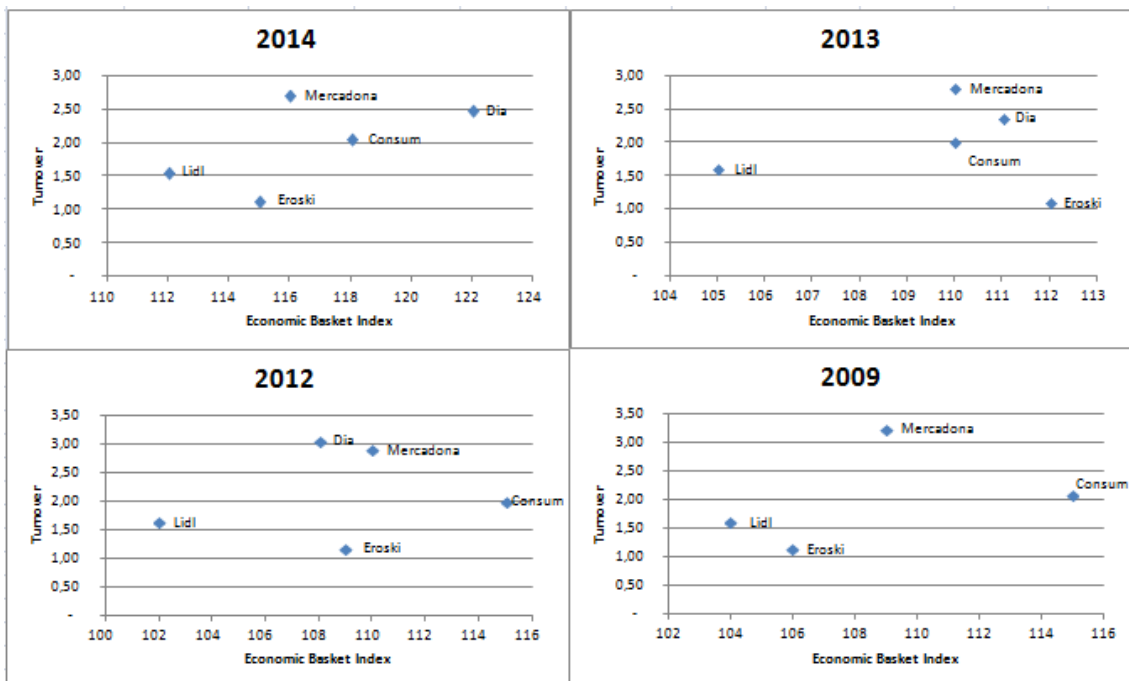


Figure 8. Turnover and Economic basket prices index of main Spanish supermarkets for the years 2009, 2012, 2013 and 2014

COGS

Since the profit margin for ROA figure does not seem to depend strongly on the price, the cost structure will be an important determinant. It has been confirmed by CESCE (2014), who claims that there has been a price war during the crisis and consequently, the profits would depend on their capacity in controlling the expenditure.

About this, the most important component for all retailer companies is the cost of goods sold. It is common knowledge that, in general, the more capacity a company has, the more merchandise the company will acquire and, through obtaining this way bigger discounts and gaining bargain power, will obtain lower prices.

However, this theoretical behaviour has not been observed in the companies studied. In fact, they seem to show the adverse effect, as can be seen in figure 9. It compares the ratio COGS over sales and the market share for the different enterprises in different years. It implies that other factors apart from the purchasing power has an effect over this procurement cost. As it has been said previously, this kind of comparison has barely no statistical value.

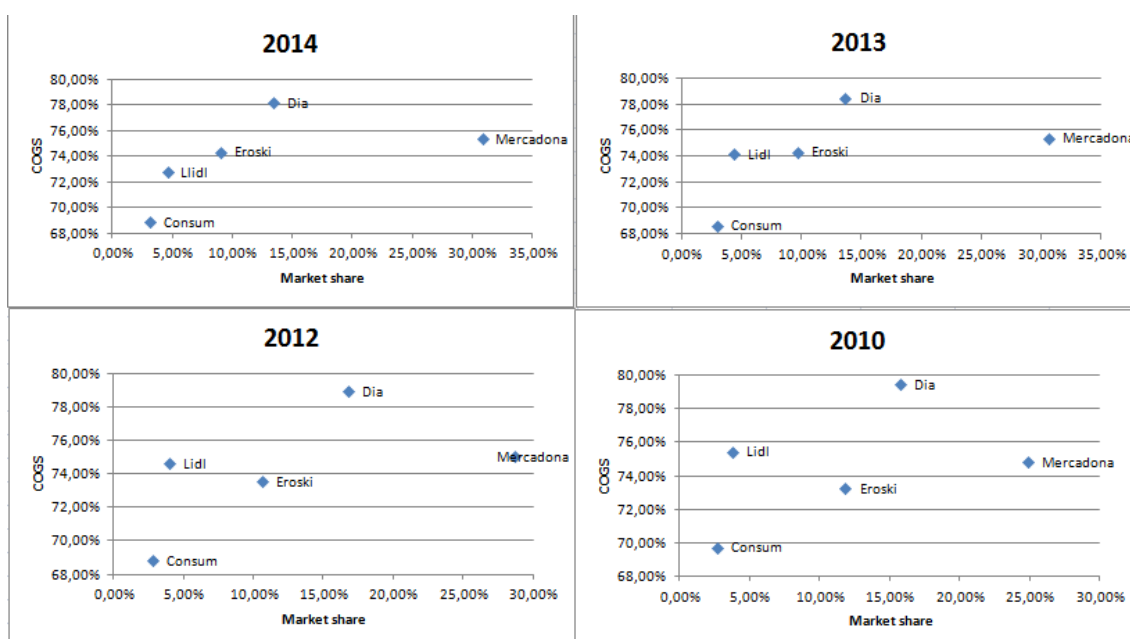


Figure 9. COGS over sales and Market share of main Spanish supermarkets for the period 2010-2014

The market share has been computed by considering the total size of the market the 25 companies of the CNAE 4711 group (not-specialized retailers with predominance of

grocery products, beverages and tobacco) with greater sales. The sales of these companies added up to 60 thousand million euro in 2014, which supposed a 5,76% of the Gross Domestic Product.

This inverse relationship between COGS and market share could have been provoked because of the intervention of another factors, such as the product-mix strategy. That means that chains like Lidl, with much less fresh products proportion in its sales than Consum for example, will tend to have less added value to those products, obviously.

Nevertheless, the tendency has been to a decrease in general in the ratio COGS/Sales during the period (figure 10). Reasons that could have prompted the tendency in this direction should be found, for instance, in improvements in containers, etc. that straightforwardly decrease the cost of the products. Some of these measures are reducing the ink used to print the labels of tuna's cans, the change in the packaging of some products (milk, soap) or the removal of the packaging completely (fruits) or partially (convenience salads, removing the cardboard container and maintaining only the plastic one). Others have been logistics savings due to changes such as the disposition of sliced bread vertically instead of horizontally, allowing to stock 15 bags instead of 12 or receiving the goods directly from the supplier to the outlet (reducing shipping and storage costs in around 70%); changes to cheaper suppliers (doughnuts); changes of format, with bigger packages (soap); show the product in pallets instead of on the shelves, benchmarking hard-discount outlets like Lidl or Dia; or pressing the suppliers to reduce cost and investments so that their products would be cheaper (El Mundo, 2016). Those reductions in costs, allowed them to drop their prices (Carbó, S., 2008).

Other factors that may have had an influence in the decrease of COGS were the bigger capacity of the retailers (and their increase in sales) and their strategies of association that permitted them to buy a greater amount of products (such as the inclusion of Eroski in Alidis). Concerning this, it has to be said that, for the period 2009 to 2014, those 5 group of companies increased their global market share from 51,03% to 60,60%, what reflects in general this improvement of their purchasing power. The market size, for its part, increased a 17,69 percent during those years, supposing a rise of over 9 thousand million euro in sales. Moreover, the fact described below that companies with higher turnover were more prone to achieve a higher profit margin for ROA may lead to think that the efficiency of the assets (measured by the turnover) have an influence over the costs, and consequently, over the profit margin for ROA.

Therefore, it seems that this reduction of the most important expenditure balance in retailers accounts could be the main reason that the profit margin for ROA has increased and, consequently, ROA itself.

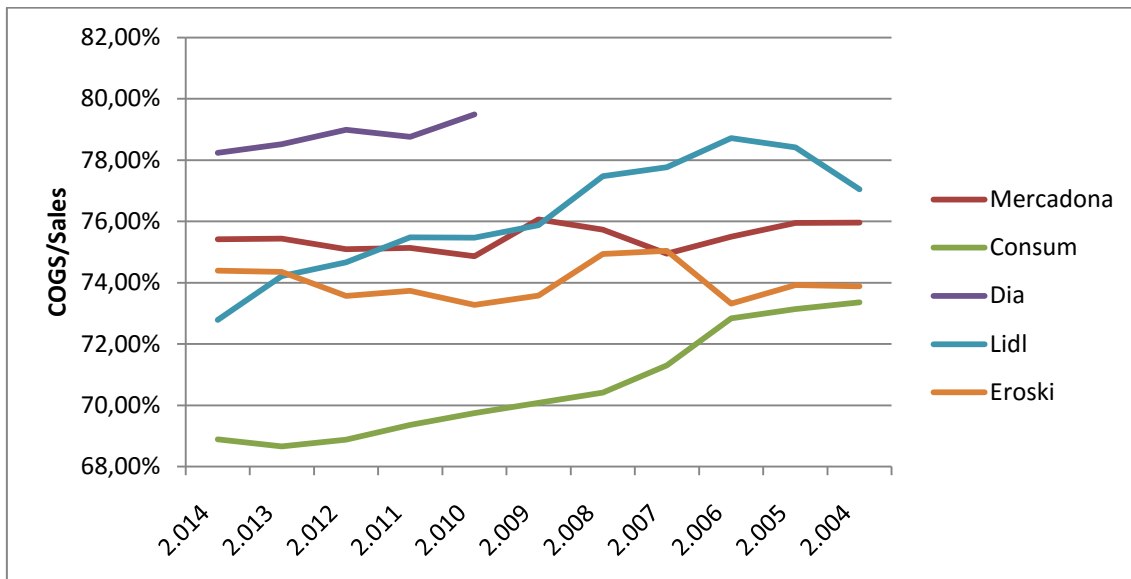


Figure 10. COGS over Sales ratio of main Spanish supermarkets for the period 2004-2014

Wages

The second most important balance in the income statement is the remuneration of employees. Regarding this, considerable differences arise among the different companies (figure 11). There appear to be two groups, one comprised by Lidl and Dia, whose wages under Sales ratio had been more reduced, and other formed by Consum, Eroski and Mercadona with a higher proportion of the wages incurred to obtain the sales of each year.

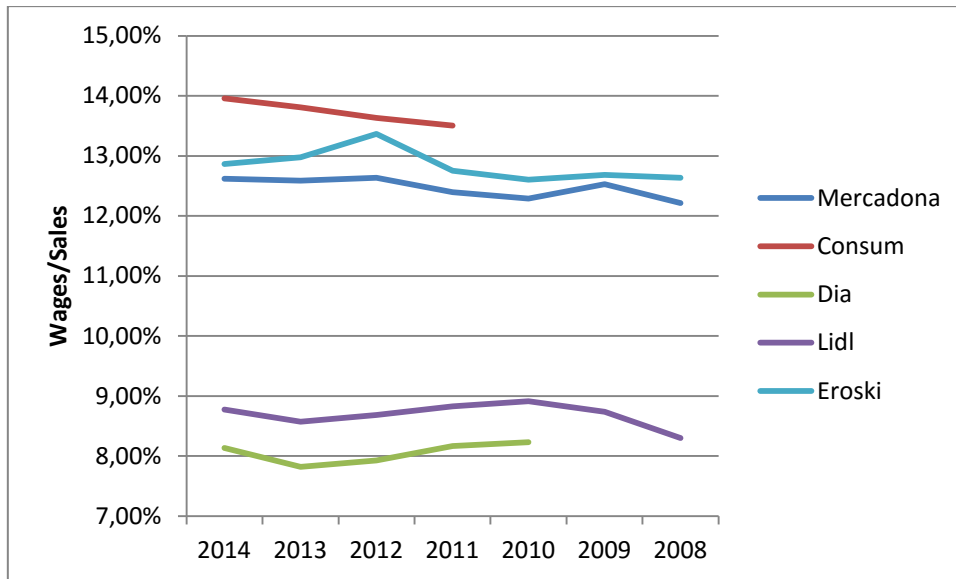


Figure 11. Wages/sales ratio of main Spanish supermarkets for the period 2008-2014

The wages expense balance depends on both the number of employees and the wages per employee. About the first, its amount and evolution can be analysed observing the figure 12. It shows the number of workers divided by sales to make the figure comparable between the different sizes of the companies. This number of employees has been disclosed to be the average of the year for people working full-time and computing proportionally those who did not work full-time.

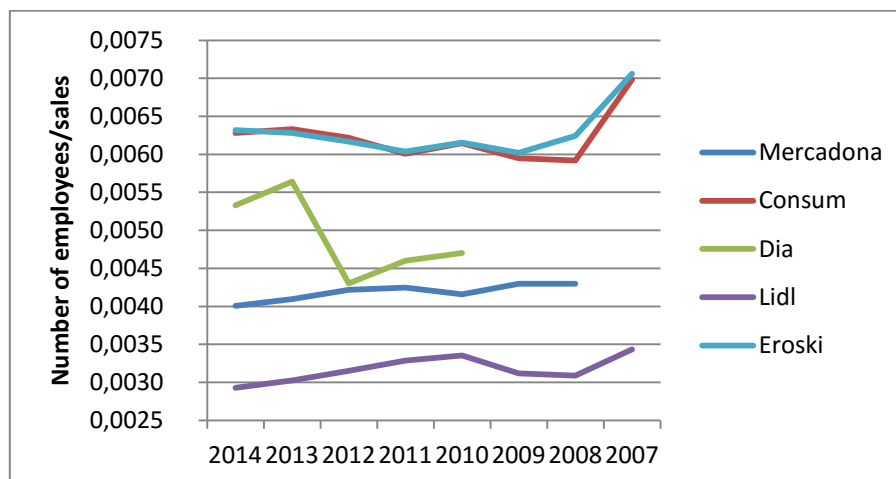


Figure 12. Number of employees/sales of main Spanish supermarkets for the period 2007-2014

Great differences appear to exist, being necessary in Eroski or Consum the double of employees to obtain a euro of sales. That implies that Lidl employees are much more productive, what can be achieved by strategies such as that they have not to take out

the products from the boxes and arrange them correctly in the shelves. They just need to grab the boxes from the pallet and arrange them in their correct spot or convey the pallets to their proper place. Using this strategy, they save not only time but a large reduced number of employees are needed.

This big differences also implies that Consum or Eroski may be operating with a larger selling capacity than they are actually using, because it is intuitive to deduce that this amount of employees could be able to sell more products if more people were about to buy in those stores. A fact that probably has an influence in this large number of employees of Eroski and Consum is the fact that they are both cooperative companies.

Apart from that, it is easily seen that the ratio has been very stable during the period in the different firms, despite the fact that sales have increased or decreased strongly throughout the period in this set of supermarket chains. That implies that they adapt perfectly their capacity measured as number of employees to their necessities.

Regarding the wages per employee, and according to the financial statements, the amounts obtained as a result of dividing the total wages between the disclosed number of employees (according SABI for Lidl and according the reports disclosed by the rest of the companies), can be observed in figure 13. Although being Lidl the company who ranked the last in wages over sales amount, it is the second company that pays better to its employees.

The firm that remunerates higher is Mercadona, and Dia is both the enterprise that pays worse in average and with a lower wages over sales ratio. It is noticeable the strong differences among the considered firms. An issue that could contribute to this great variability is the fact that the figure includes payments to all kind of workers inside the company, those who earn less and those who earn more, and executives in some companies could be earning much more than those in others, especially if the results are much better.

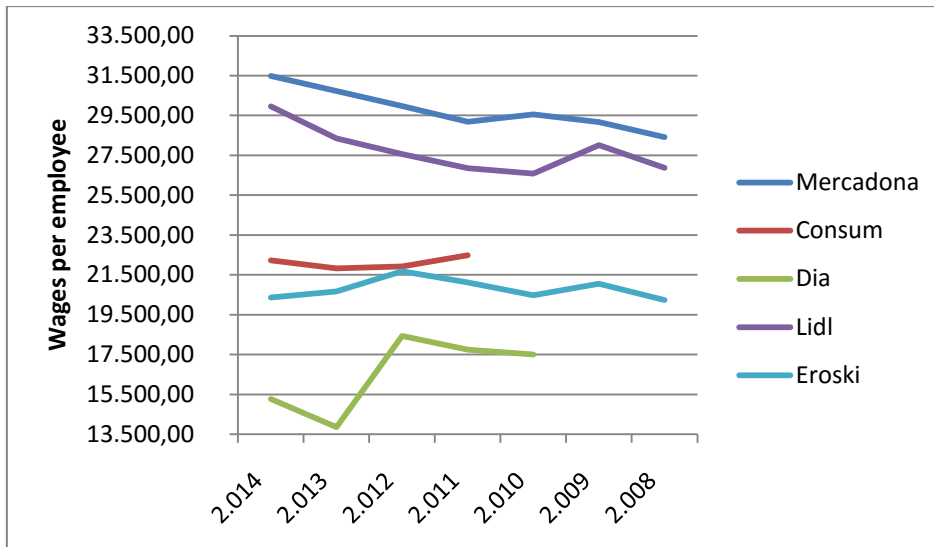


Figure 13. Wages per employee of main Spanish supermarkets for the period 2007-2014

A priori, it should exist an inverse relationship between wages over sales ratio and Margin for ROA, since it is one of its components. Nevertheless, it does not seem that this inverse relationship is very strong, for the years and companies considered, as can be observed in figure 14 bellow. It happened quite the opposite: companies with bigger wages per sales ratio tended to be those with bigger profit margin for ROA. That does not mean that increasing the ratio will increase the Profit margin for ROA, though.

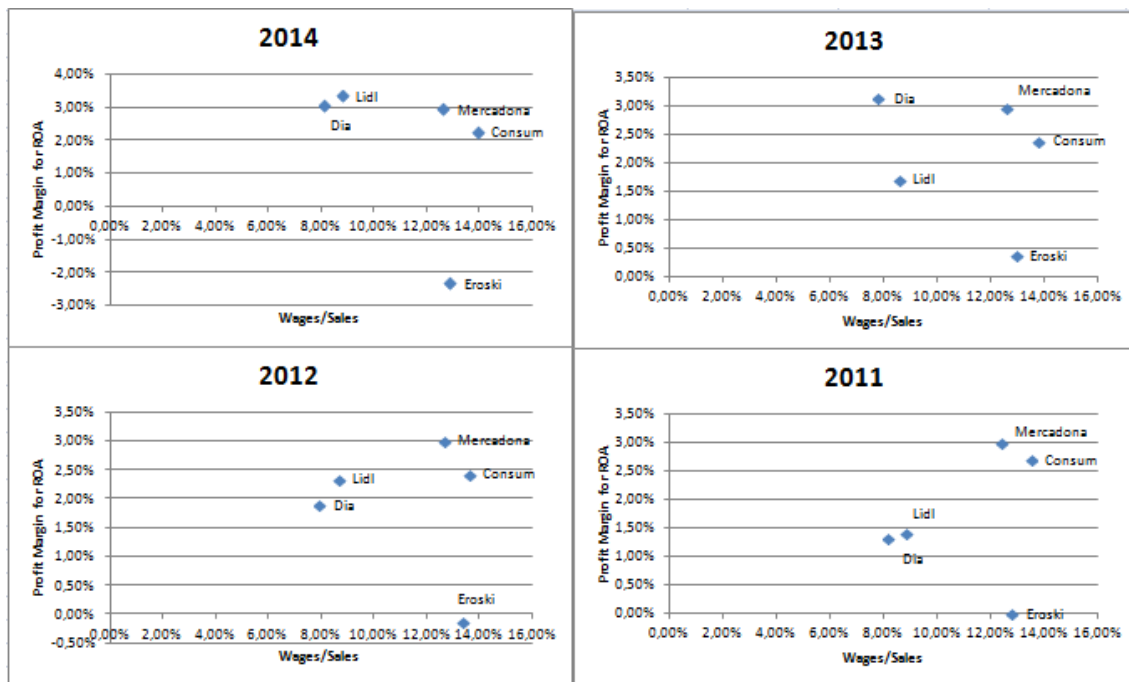


Figure 14. Profit Margin for ROA and wages/sales ratio of main Spanish supermarkets for the period 2011-2014

Other expenses

About the rest of operating expenses (excluding amortizations and depreciations), its evolution is represented in figure 15. Apart from the odd behaviour of Consum, it can be appreciated that Mercadona and Dia really make the difference, devoting a smaller amount to this concept, in percentage of sales. They only have to allocate around a 6% of the sales into this concept to pay expenses such as operating leases, advertisement, taxes (apart from the income tax), research and development, repairs, transportation or supplies of services such as water, electricity and telephone.

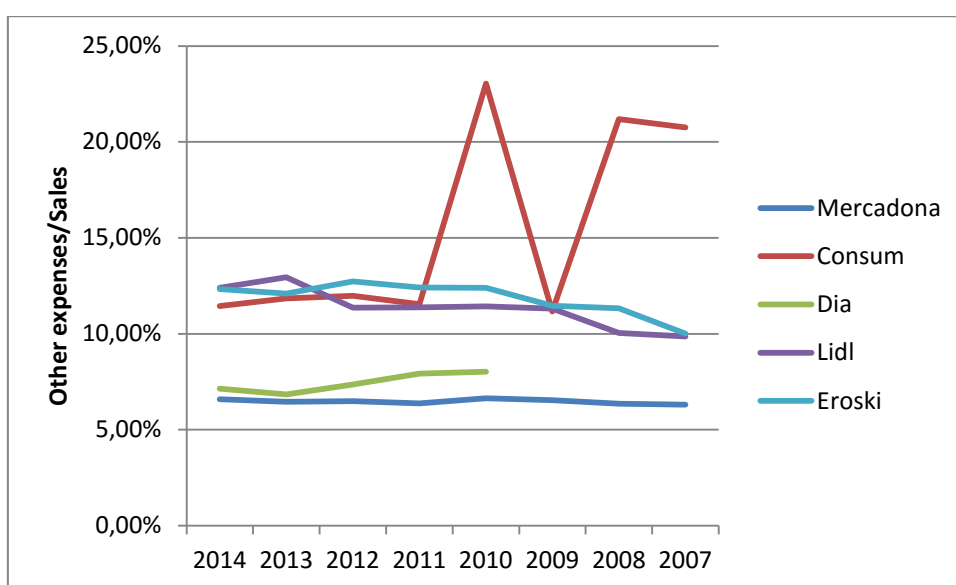


Figure 15. Other expenses/Sales ratio of main Spanish supermarkets for the period 2007-2014

A fact that could contribute to explain this differences is the amount spend in advertisement. According to Lal and Rao (1997), those supermarkets that adopt a EDLP strategy do not need to advertise a lot, and this lesser expense among other things allows them to obtain good prices in all their products. On the other hand, for those that have a strategy of Promotions it is necessary to inform the potential consumers which products are offered with a very low price in each moment. That will contribute to make companies nearer to EDLP such as Mercadona or Consum to save in this concept and firms closer to PROMO such as Lidl to have to spend more money in it.

Other costs that some of these companies have to assume is the cost of selling through the internet, which according to Mercadona (CESCE, 2014), it is not a

profitable means at the moment. They have disclosed that doing this they have obtained only losses. Other supermarkets that offer this service are Dia and Eroski. It is thought that the shopper habits will change, and more people will buy groceries on-line in the future (CESCE, 2014).

Regarding the supplies of services such as water, electricity and telephone, their figure might have dropped compared to sales, since the use of led-lights, for instance, have been generalised in the outlets. Other measures to diminish the electricity expense has been adopted by these supermarkets as well.

Since this reduction of costs is very important, companies have undertaken additional measures. For instance, Eroski established a "transformation of the operations office", which strives to look for opportunities where to decrease the costs of operations.

Assets turnover

About the turnover, it is represented in the figure 16. Here is where can be seen the real differences in the supermarkets, since their position in general have remained stable throughout the period. A phenomena that can be observed for all the companies is their tendency to decrease slightly since the beginning of the crisis, with the exception of Mercadona and Dia, who have dropped it quite considerably. Then, it appears that Mercadona has lost its privileged position in ROA because of this declining of the turnover not offset with a proper advance in the profit margin for ROA. That is what occurred with Dia, which could actually improve greatly its margin for ROA.

Regarding Eroski, it has always achieved low turnovers of its assets. Therefore, reasons that could explain its low profitability may not only lay on its costs or the acquisition of Caprabo.

There has been a tendency of the assets turnover to decrease then. That means that the assets have grown proportionally more than the sales. This behaviour is the typical one of an industry in its growing stage, increasing its assets to prepare to sale more in the future but not increasing the sales at the same rate yet. However, it is obvious that this industry is a mature one, since there have been supermarkets stores for more than a hundred years.

There are two events that may contribute to explain this fact. In the first place, it has been a stagnation in the Spanish population growth. It was raising during the previous years, mostly thanks to the fact that Spain offered employment opportunities and that attracted immigrants. Therefore, if the population remains stable, the existing number of supermarkets should have been able to cater it all. Nevertheless, its number, at least for most of the companies considered (all with the exception of Eroski), increased. The other fact is that, as it has been cited previously, it appear that those most profitable companies are the ones who are growing, while the rest are reducing its size, and the first are the core of this work.

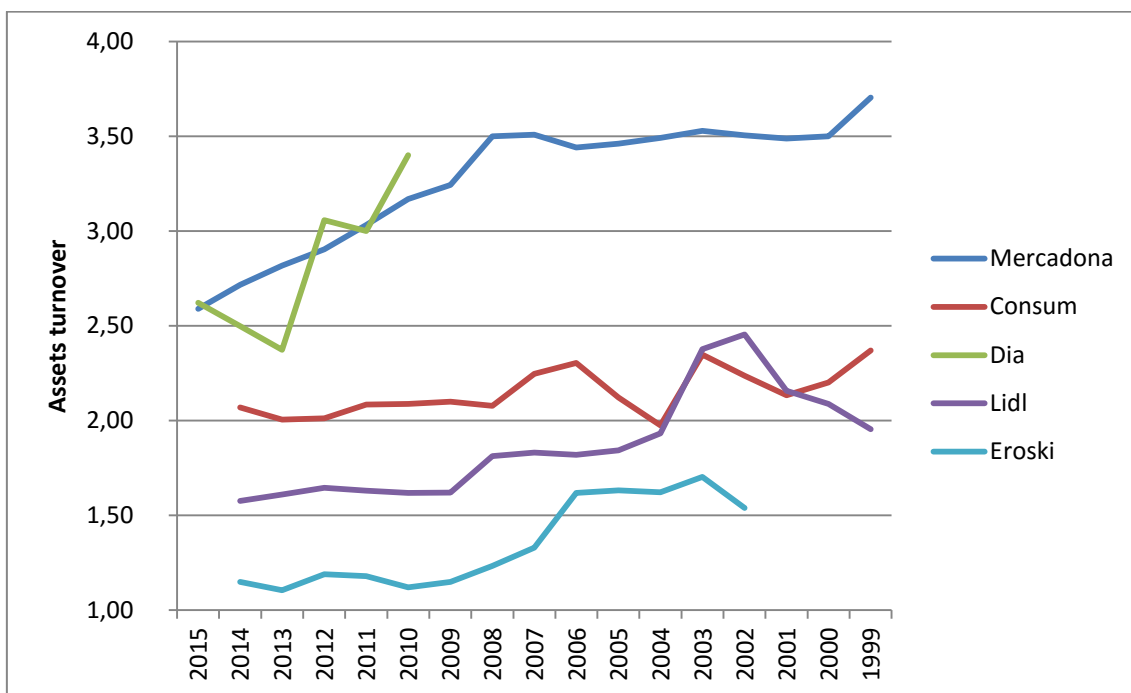


Figure 16. Assets turnover of main Spanish supermarkets for the period 1999-2015

Regarding the relationship between profit margin for ROA and turnover, it can be seen in figures 3 and 16 that they have behaved inversely within each supermarket (they are substitute magnitudes) throughout their evolution in several years, when studied one by one. That is, when the profit margin for ROA of a supermarket went up, the turnover tend to go down.

However, if these combinations are compared between the companies for a very same year, the conclusions are different. As figure 17 shows, for each one of the several

years analysed, the more profit margin a supermarket achieved, it tended to have a higher turnover in comparison with the rest of them.

Summarising, it seems that a company, to be able to improve the turnover will have to give up some profit margin for ROA and inversely. Nevertheless, it appears as if the competitive advantages of the companies would be reflected both in the turnover and the profit margin for ROA.

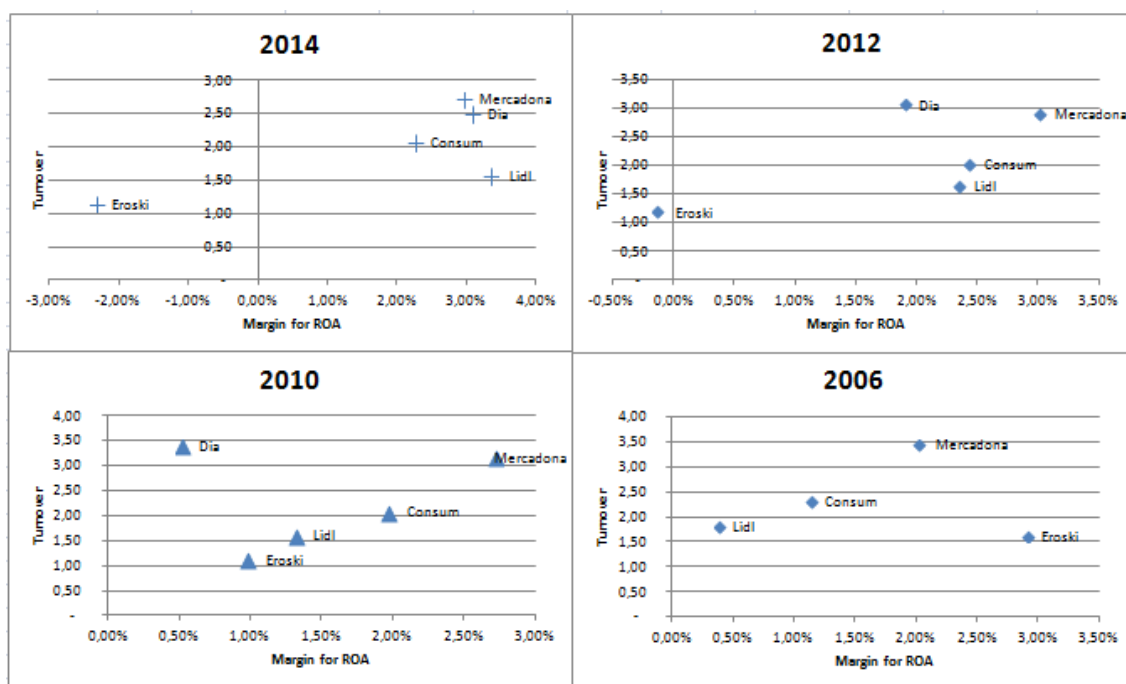


Figure 17. Turnover and profit margin for ROA of main Spanish supermarkets for years 2006, 2010, 2012 and 2014

Assets turnover measured with non-financial data

The disclosed figure of total assets may impair comparability for some reasons. Some of these are off balance sheet assets like operating leases that suppose control of assets that are used to obtain the sales; the current fashion of using franchises; the fact that there are material assets valued at cost of different years (the cost of a store acquired in the 1990's is lower than one bought in 2007) and even totally depreciated assets.

For that, other measures of assets may be better measuring units than the total assets disclosed figure. The ideal one would be total square metres of selling space. However, it was not possible to gather this data. Adjustments over the balance sheet such as those proposed by Standards & poor's or Moody's (Financial Watch, 2007) could not be possible since the operating leases amount only was available for Eroski and Dia.

So, this analysis have been made with the number of stores. It is not a perfect measure since the stores of different companies have different sizes, causing that only the evolution within each store can be analysed, since comparing the different companies will take to conclusions different from the analysis of assets turnover that are due to the different outlets sizes.

As can be seen in figures 18 and 19, Consum and Lidl turnover evolution is confirmed, with an stability throughout the period. Nevertheless, Dia and especially Mercadona differ in the direction of the assets turnover and the sales per store indicators. Dia decreased considerably in assets turnover, but stayed more stable in sales per store. Since Dia discloses its square metres, it could be feasible to reckon sales per square metre. The result can be seen in figure 20. It reflects a similar behaviour of the assets turnover, rather than the sales per store. It might be because Dia acquired smaller outlets like *Schlecker* or "El Arbol" chains and sold bigger outlets such as those owned in France, which included hypermarkets.

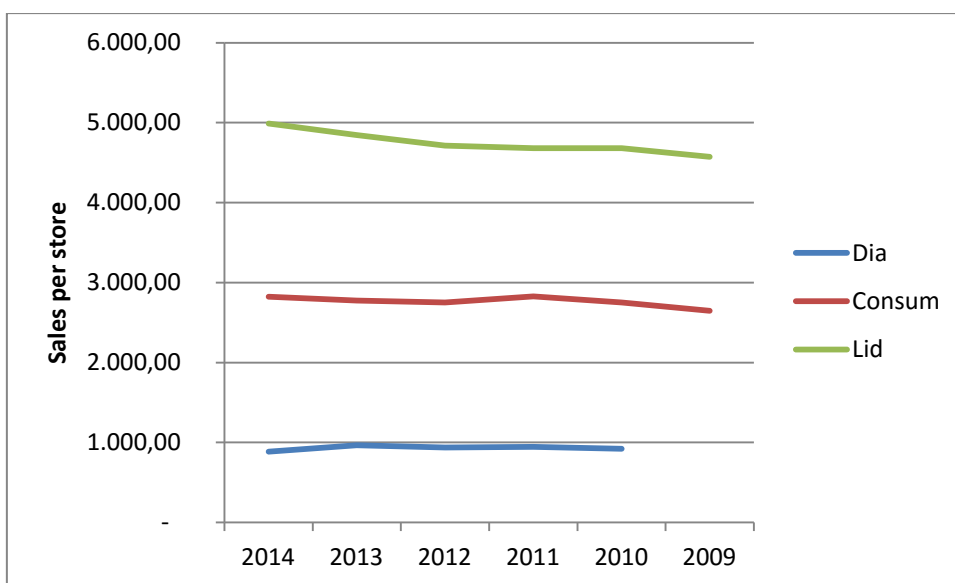


Figure 18. Sales per store of main Spanish supermarkets for the period 2009-2014

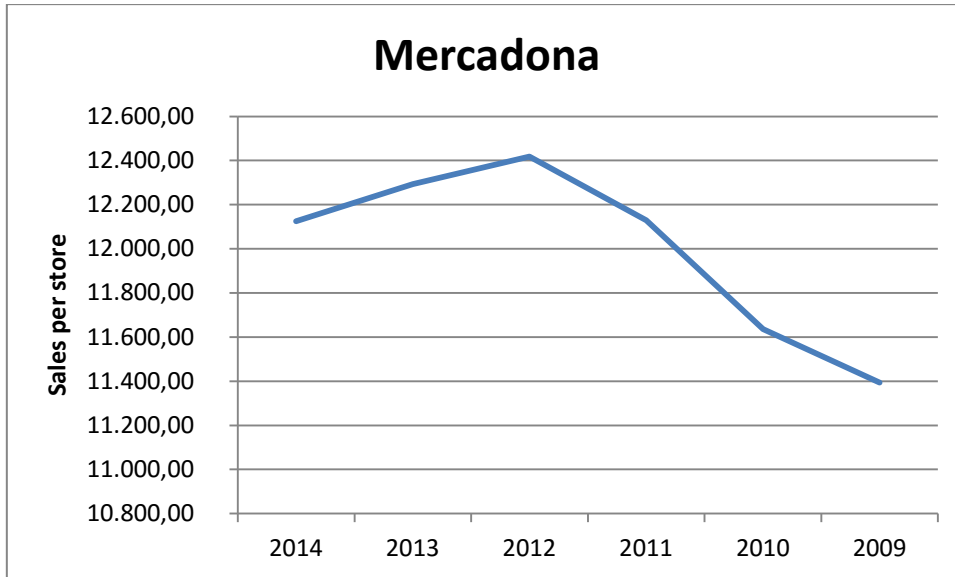


Figure 19. Sales per store of Mercadona for the period 2009-2014

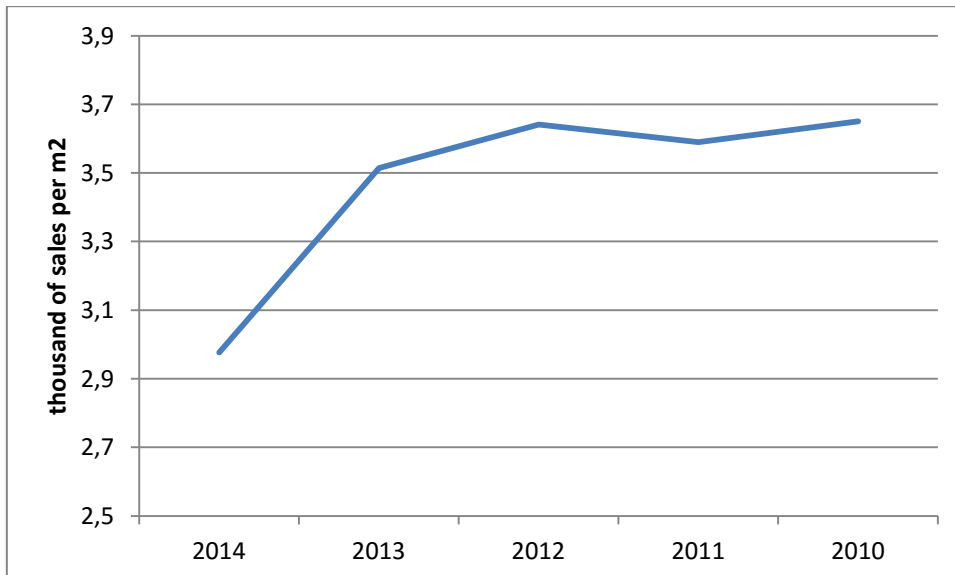


Figure 20. Dia sales per square metre (in thousands)

Regarding Mercadona, its assets turnover considerably decreased but its sales per store increased about 800 thousand euro for the period. Such a big difference can be explained by looking into the cash and equivalents balance of Mercadona. The ratio cash over total assets increased from 31,17 percent in 2009 to 40,84 percent in 2014 (figure 21). This great rise in non-productive assets may be the cause of the decreasing in the turnover measured with accounting figures when the actual situation is that its productive assets are more efficient.

	2015	2014	2013	2012	2011	2010	2009	2008
NON-CURRENT ASSETS	46,68%	48,90%	49,66%	47,34%	44,26%	49,86%	55,25%	56,17%
Intangible Assets	1,40%	1,35%	0,98%	0,89%	1,08%	1,28%	1,51%	1,97%
Property, plant and equipment	40,55%	41,26%	41,85%	40,71%	40,98%	46,86%	51,97%	53,13%
Investment in subsidiaries	0,86%	0,98%	0,85%	0,61%	0,57%	0,59%	0,00%	0,00%
Financial investments	3,28%	4,76%	5,35%	4,61%	1,16%	0,79%	1,50%	0,87%
CURRENT ASSETS	53,32%	51,10%	50,34%	52,66%	55,74%	50,14%	44,75%	43,83%
Inventory	8,55%	8,67%	8,55%	9,10%	9,65%	11,07%	11,86%	12,28%
Receivables	1,21%	1,06%	1,59%	1,33%	1,36%	1,50%	1,50%	1,09%
Financial investments	0,97%	0,47%	0,51%	0,68%	0,15%	0,10%	0,03%	0,05%
Bank and cash	42,52%	40,84%	39,63%	41,43%	44,50%	37,35%	31,17%	30,12%
TOTAL ASSETS	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

Figure 21. Balance sheet of Mercadona with figures over total assets for the period 2008-2015

Therefore, if Mercadona would had had a policy of issuing more dividend among its shareholders, in a way that the amount that the cash over total assets ratio would have remained the same, Mercadona's assets turnover would have increased and its profitability measured with data from the financial statements, outstanding.

Concluding, it seems as if the tendency of the assets turnover of Dia, Consum and Lidl has been confirmed. For Mercadona, instead, its assets turnover seems to be underestimated.

Inventory turnover

Figure 22 shows the figure of inventory turnover. As can be easily appreciated, those with a higher inventory turnover are those firms with a better turnover of the assets. That is reflected as well in the days that the average amount of inventory needed to be sold (figure 23). It shows that Mercadona needs less time to sell the inventory it acquires than the rest of the considered retailing firms. Eroski, however, needs four times more time to sell the average inventory than Mercadona. Improving this ratio will have a positive impact in the assets turnover and the profitability of the firms.

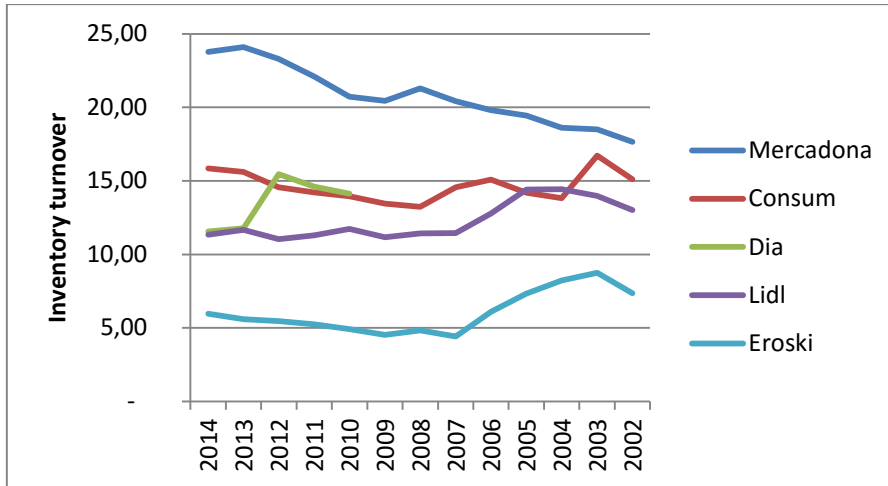


Figure 22. Inventory turnover of main Spanish supermarkets for the period 2002-2014

Theoretically, companies with larger sales of perishable food should have higher inventory turnover. This is because these products are spoiled if they are not sold in a given, frequently small, period of time. Although it has not been possible to collect data to test this fact, it can be seen, for example, that Lidl has nor butchery neither fishmonger sections inside its outlets and it has one of the lowest inventory turnovers. This fact may have influenced it.

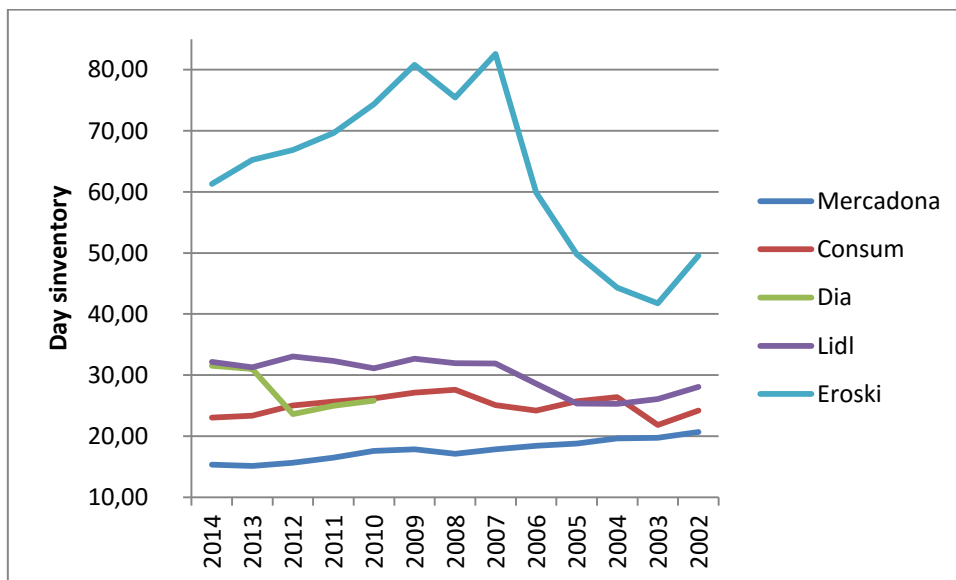


Figure 23. Days inventory of main Spanish supermarkets for the period 2002-2014

It has to be considered that the established year-end date may have influence on the amount of inventory. For example, if the year-end would be on 31st of December, it

could in fact skew the inventory figure not reflecting the actual amount of the average inventory for the whole year. This is because, on that date, it is taking place the *Christmas* season, and the amount of inventory may depend on the cyclical success of that campaign, that may have not much to do with the amount of inventory held during the rest of the year. Regarding this, Mercadona and Dia have a year-end of their financial statements fixed on 31st of December; for Consum and Eroski it is the 31st of January and for Lidl the 28th of January.

Finally, the figure of days inventory does not only depend on the demand of the goods, but also in the inventory management system. Therefore, low amounts of days inventory ratio may be influenced by a successful just in time inventory management system. Moreover, this implementation of the JIT system may have an influence in other balances of the financial statements.

Suppliers turnover

The suppliers turnover ratio is a crucial indicator in the retailer industry, since it is a known measure for analysing the rate of bargaining power that these firms have over their suppliers. They can improve it as well by increasing their liquidity and solvency capacity, what give more repayment credibility and the suppliers may be more prone to grant them a higher period to repay their debts.

For the analysed supermarket chains, this figure can be observed in figure 24 represented by the "days payables" ratio. In it can be observed that Consum and Eroski have a very low and high figure, respectively. The above seen low amount of COGS in Consum, may be influenced by this fast repayment of its debts with the suppliers, since it would imply an almost inexistent implicit interest expense and consequently a lower value of the acquisitions of inventory. They pay them even before the merchandise has been sold, since the average inventory takes 23,05 days (2014) to be sold and they pay in average in 8,20 days to their suppliers. Regarding Eroski, they may have to pay so slowly, not only because they may have a great bargaining power (their big capacity has been cited above), but because of their liquidity and solvency problems it may be obliged to operate in this way.

There can be observed different tendencies: while Mercadona and Lidl seem to be reducing those payment times, Consum and Eroski remain more or less stable and Dia could improve (enlarge) them.

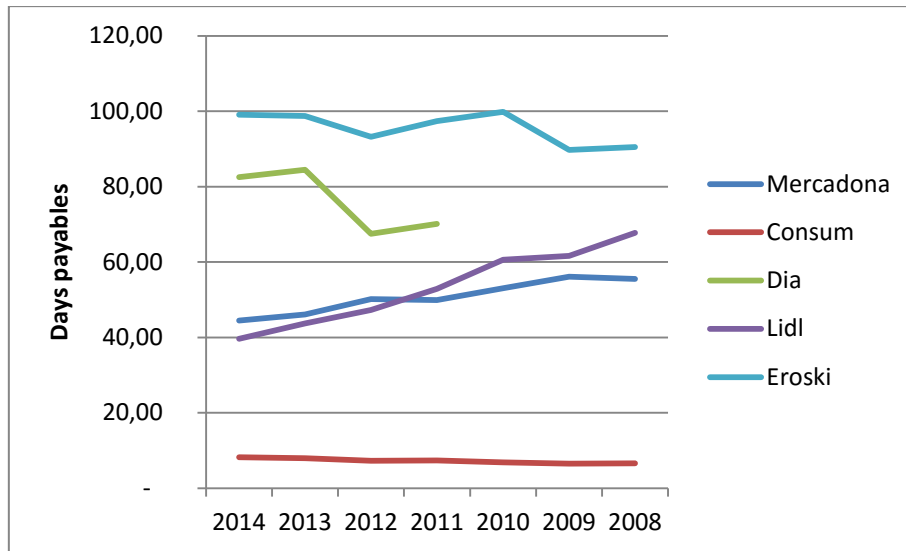


Figure 24. Days payables of main Spanish supermarkets for the period 2008-2014

About if it is a correct measure to grossly ascertain the degree of bargaining power over the retailers' suppliers, it should be useful to compare it with other indicators of this bargaining power. For instance, it is intuitive that the more market share a company has, more bargaining power it should enjoy. The relationship between these two concepts can be seen in figure 25. It can be appreciated that, although it is not very straightforward (and it have not statistical value, since this fact is not isolated *ceteris paribus*), it seems as if companies with a higher market share actually tend to show larger days payables ratios, what would be coherent with the premise.

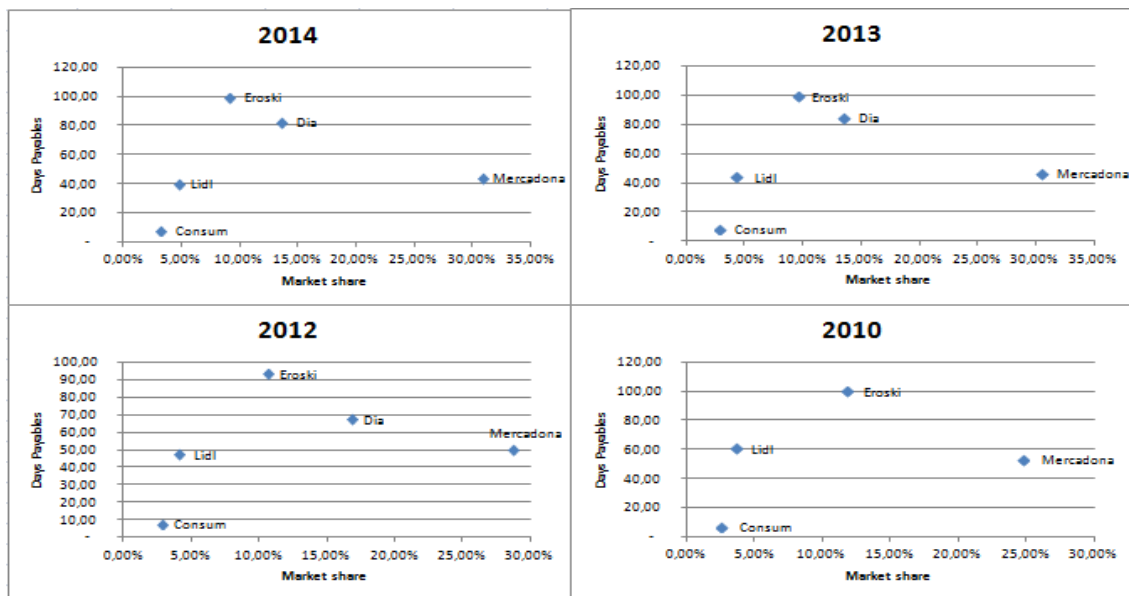


Figure 25. Days Payables and Market share of main Spanish supermarkets for the period 2008-2014

Cash Conversion cycle

The cash conversion cycle (CCC) is usually measured by adding days inventory and days receivable and subtracting the days payables amounts. However, in the case of the retailer industry, although possessing the companies that comprises it positive balances of receivables, they get paid mostly in cash and therefore cannot be assumed that they sell on credit. Nevertheless, they use to buy on credit, then the days payable should be subtracted to days inventory to compute the cash conversion cycle figure.

As figure 26 bellow depicts, Consum is the only company to whom its days inventory is higher than is days payable. Meanwhile, Dia is the one who shows a better performance. Finally, for the period considered, in can be appreciated that Consum, Dia and Eroski tended to diminish this figure and Mercadona and Lidl, to increase it.

	2014	2013	2012	2011	2010	2009	2008
Mercadona	- 29,15	- 30,94	- 34,47	- 33,34	- 35,46	- 38,27	- 38,38
Consum	14,84	15,46	17,77	18,35	19,29	20,65	21,02
Dia	- 50,99	- 53,48	- 43,87	- 45,13	25,83	-	-
Lidl	- 7,49	- 12,42	- 14,25	- 20,58	- 29,54	- 28,96	- 35,81
Eroski	- 37,80	- 33,49	- 26,41	- 27,77	- 25,47	- 8,90	- 15,06

Figure 26. CCC of main Spanish supermarkets for the period 2008-2014

Return on Equity

Regarding the profitability for the shareholders, the ROE ratio can be seen in figure 27. It highlights Dia as the most profitable firm among the considered. About this, and despite of the size of some of the companies, Dia is the only groceries retailing company in Spain whose stocks are publicly traded in the stock exchange market. Regarding this, it has to be said that Dia has the policy of allocating between the 40% and the 50% of the adjusted result to the dividend. The dividend shared for the years 2011 to 2014 were, respectively, 0,11; 0,13; 0,16 and 0,18 euro per share. That is consistent with such a great ROE, since the nominal value of Dia shares is 0,10 euro per share.

Other noticeable facts are that Eroski has passed from being the leader in this ratio in 2002 to be the worst and that Lidl has outscored Consum and even Mercadona from 2011 and 2014.

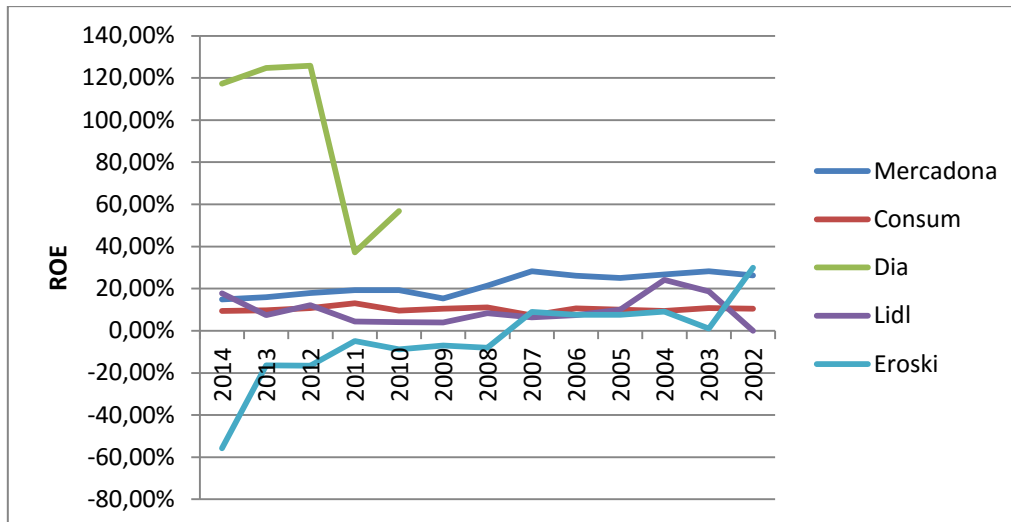


Figure 27. ROE of main Spanish supermarkets for the period 2002-2014

About the composition of the ratio, its determinants are shown in figure 28. It shows the great leverage that Dias has had. That, together with the fact that it was the second firm with a better leverage margin, explain the outstanding profitability of shareholders turnover. Eroski has a similar situation in the opposite way. Its large leverage together with a negative leverage margin rendered a poor ROE. Eroski was the less leveraged firm in 2007, but the debt contracted when acquiring Caprabo through a LBO prompted it as the most leveraged company in 2008. Moreover, it can be seen that Lidl outscored Mercadona because of its higher leverage. Finally, Mercadona is the one with greater leverage margin but the less leveraged.

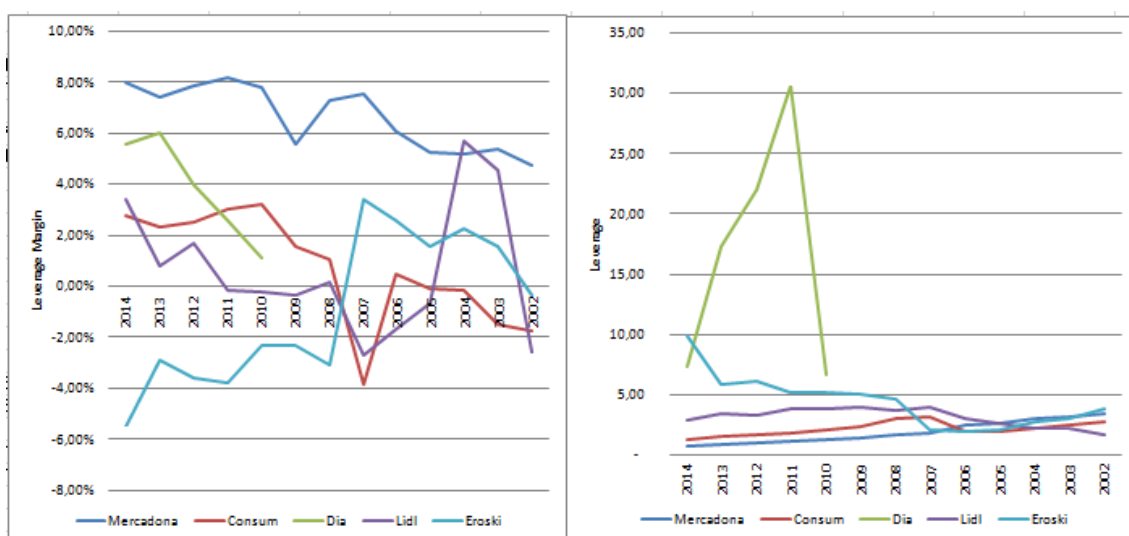


Figure 28. Leverage margin and leverage of main Spanish supermarkets for the period 2002-2014

Financial structure

Regarding the financial structure of the companies, it is going to be analysed here (although only shallowly was feasible) if those companies with a greater leverage margin, that is, return on assets subtracting debt cost rate, took profit of the situation that leveraging the firm they would obtain a much greater return on equity than the return of assets itself (although increasing the risk). As before, this has been only observed by the selected, not randomly chose companies, and comparing both indicators.

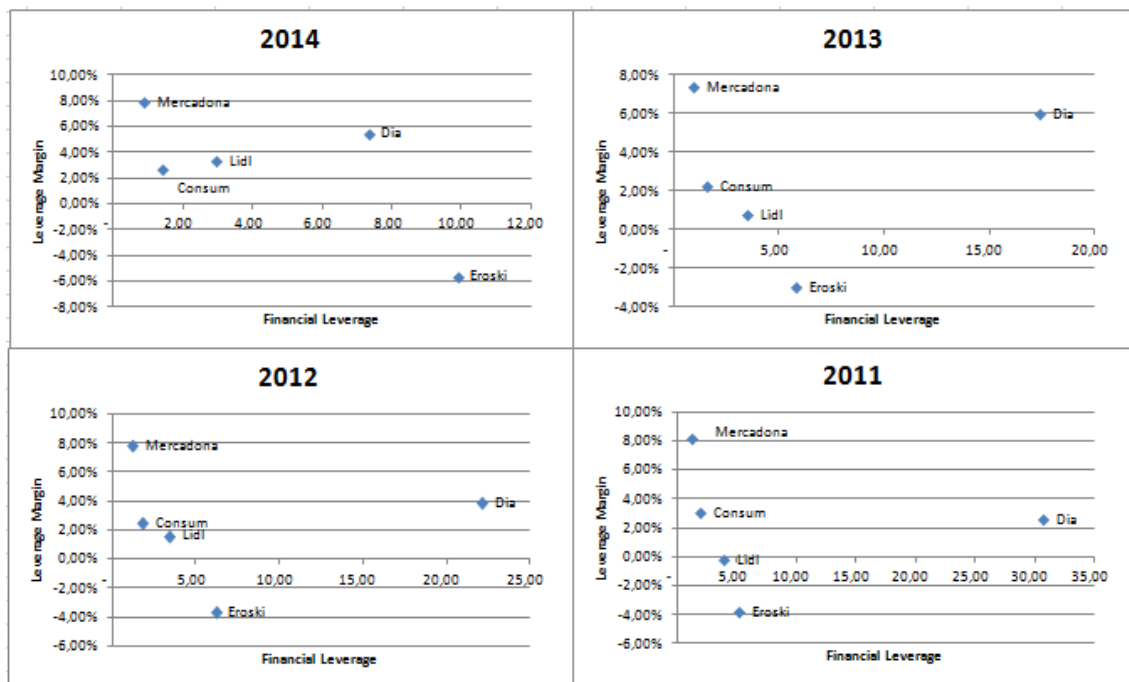


Figure 29. Leverage margin and financial leverage of main Spanish supermarkets for the period 2011-2014

Figure 29 represents the situation for the period 2011-2014. It seems to reflect that those companies that achieved a higher leverage margin were, in general, those who leveraged the less, especially for years previous to 2014. Moreover, the tendency among them is to be less financially leveraged (with the exception of Eroski).

Given the fact that companies, especially those more profitable, are continually expanding (Noel and Basker, 2007), it shows that they tend to finance this growth by other means different to indebtedness such as franchises, operating leases or self financing themselves. Mercadona, Consum and Lidl are those less leveraged and Dia the most. It has to be said that, due to the fact that groceries are basic necessities, it is

less likely that a collapse of the sales per store would occur, therefore, it would not be necessary to reduce the risk of the company by avoid indebting it.

Eroski's debt

Regarding the future evolution of Eroski's debt, since it will be very important in its results, an important event need to be mentioned. In January of 2015, Eroski agreed with creditors which amounted up to 95% of its debt a new terms for repay it, since Eroski was not able to repay it in its initial terms. The debt was guaranteed with both assets from the company and of the Mondragon group, to which Eroski belongs.

Cash flows

Regarding which of the studied supermarkets were able to finance their investments only with the cash flow from operating activities generated, they can be seen in figure 30. It shows that Mercadona, Dia and Eroski have all or all except Eroski in one year (2008) their cash from operating activities greater than cash flow from investments activities. Meanwhile, Consum and most of all, Lidl, have had constantly to be financed to be able to finance their investments. That caused the cited increase in leverage in Lidl that led to an improvement of its ROE ratio.

Since the most important barrier of entry in the retailing business is the capacity of the companies to continuously increase their assets (Ellickson, 2005), the conclusions regarding this subject will be important, since they say which supermarket chains will be able to keep growing. Of them, the only one who has clearly had problems with it is Lidl, and its survival within the Spanish market will depend on its ability to finance its new investments.

	2014	2013	2012	2011	2010	2009	2008
Mercadona	396.178	75.991	196.296	743.187	498.613	147.643	376.178
Lidl	- 91.432	- 45.389	48.404	- 63.262	- 31.886	- 112.979	- 23.701
Consum	49.414	- 50.474	- 5.678	5.008	- 18.175	15.940	37.133
Dia	145.120	114.357	83.842	125.555	343.046		
Eroski	183.854	150.654	242.097	393.481	722.850	434.551	- 275.119

Figure 30. Subtracting "Cash flows from investment activities" from "Cash flows from operating activities" of main Spanish supermarkets for the period 2008-2014

However, looking into figure 31, it can be seen that Cash flow from operating activities has been not enough to cover both investing needs and financing needs such as payments for issuing of dividends, interests and debt repayments for all the companies considered but Mercadona.

	2014	2013	2012	2011	2010	2009	2008
Mercadona	270.360	202.498	- 116.234	- 71.546	626.475	439.984	89.459
Consum	-184.451,76	-141.041,22	- 87.742,89	- 87.524,50	- 56.025,02	- 53.013,93	- 52.676,38
Dia	-540.224,00	-265.181,00	- 44.124,00	-285.493,00	-406.626,00		
Lidl	-251.432,00	-188.347,00	-138.759,00	- 71.688,00	-138.119,00	- 94.200,00	- 23.898,00
Eroski	92.961,00	-108.229,00	-215.769,00	-354.231,00	38.367,00	-219.749,00	-529.143,00

Figure 31. Subtracting "Cash flows from investment activities" and payments for issuing of dividends, interests and debt repayments from "Cash flows from operating activities" of main Spanish supermarkets for the period 2008-2014

Conclusion

This study has illustrated the current profitability situation of main Spanish supermarkets through an analysis of their financial statements preceded by an analysis of the industry by listing important determinants of the grocery retailing industry profitability.

It has been seen that these determinants are loyalty, bargaining power over suppliers, retailer own brands, assortment, proximity, availability, shopping experience, to be acknowledge as a recognized authority in food and product mix, among others.

Moreover, it has been seen that assets of supermarkets are more profitable now than before the crisis mainly due to a reduction of the costs; that those more profitable are continually expanding; that those with greater margin also presented greater turnover; that their profit margins differences have been reducing and the main disparity is seen in the turnover; that prices are very similar among them and consequently the profit margin for ROA depends mainly on the costs; reasons explaining the bad results of Eroski; the effect of the inventory turnover over assets turnover; indicators of bargaining power over suppliers have been tested; that most profitable companies tend to be less leveraged and that the companies in general do not generate enough cash to finance both investing and financing activities, among others.

It is pending to future study to gather data regarding the profitability determinants of the supermarkets for which it were not feasible to get information and analyse the difference among them. A thorough statistical testing could be made as well, over the determinants of profit margin for ROA and assets turnover that have been cited. Moreover, a reconciliation of IFRS financial statements of Dia and Eroski to PGC is advisable and will improve comparability.

References

Basker, E. and Noel, M., 2009. The evolving food chain: competitive effects of Wal-Mart's entry into the supermarket industry. *Journal of Economics & Management Strategy*, 18(4), pp.977-1009.

Berman, M. and Jones, L., 2007. Capitalization of operating leases by credit ratings agencies. *ELT*, 19(2), pp.12-18.

Burch, D., & Lawrence, G. A., 2005. Supermarket own brands, supply chains and the transformation of the agri-food system. *International Journal of Sociology of Agriculture and Food*, 13(1), pp.1-18.

Carbó, S., 2008. Mercadona insta a sus proveedores a bajar sus costes para poder reducir los precios. *Levante, el mercantil valenciano*, [online] 11 November 2008 Available at: < <http://www.levante-emv.com/economia/2008/11/11/mercadona-insta-proveedores-bajar-costes-reducir-precios/517837.html>> [Accessed 21 April 2016].

CESCE, 2014. *Informe sectorial de la economía Española: Sector distribución alimentaria*. [pdf] CESCE. Available at: <http://agricultura.gencat.cat/web/.content/de_departament/de02_estadistiques_observatoris/27_butlletins/02_butlletins_nd/documents_nd/fitxers_estatics_nd/2015/0163_2015_IA_Distribucio_Distribucio-alimentaria-Espanya-2015.pdf> [Accessed 20 May 2016]

Chevalier, J. A., 1995. Capital structure and product-market competition: Empirical evidence from the supermarket industry. *The American Economic Review*, pp.415-435.

Consum, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015. *Memorias de sostenibilidad de Consum Cooperativa*. [pdf] Consum. Available at: <<http://www.consum.es/p-memorias>> [Accessed 15 April 2016]

Cordero, E. G. and Cataluña, F. R., 2015. Evolución y tendencia nacional e internacional de la marca de distribuidor. *Distribución y consumo*, 25(138), p.38.

Delgado, C., 2015. Mercadona tiene en caja casi 2.900 millones, el doble que hace cinco años. *El País*, [online] 10 March 2016. Available at: < http://economia.elpais.com/economia/2015/03/09/actualidad/1425899385_373786.html> [Accessed 21 April 2016]

DIA, 2010, 2011, 2012, 2013, 2014 and 2015. *Distribuidora Internacional de Alimentación, S.A. Consolidated financial statements*. [pdf] DIA. Available at:

<<http://www.cnmv.es/Portal/Consultas/IFA/ListadoIFA.aspx?id=0&nif=A28164754>>
[Accessed 10 May 2016]

Ellickson, P. B., 2006. Quality competition in retailing: A structural analysis. *International Journal of Industrial Organization*, 24(3), pp.521-540.

Ellickson, P. B. and Misra, S., 2008. Supermarket pricing strategies. *Marketing science*, 27(5), pp.811-828.

Eroski, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015. *Eroski Sociedad Cooperativa Consolidated financial statements*. [pdf] Available at: <<http://www.cnmv.es/Portal/Consultas/IFA/ListadoIFA.aspx?id=0&nif=F-20033361>> [Accessed 17 February 2016]

ESADE, 2013. *Investigación: Análisis de fabricantes de marca de distribuidor (MDD)*. [pdf] ESADE. Available at: <http://www.promarca-spain.com/wp-content/uploads/2014/12/estudio_esade_2013.pdf> [Accessed 4 May 2016]

Gómez Suárez, M. and Rozano Suplet, M., 2009. Marcas de distribuidor: análisis del espacio en el lineal por categorías y enseñas. *Cuadernos de Gestión*, 9(1), pp.81-98

Grayling, 2013. *Estudio: Confianza en las marcas blancas*. [pdf] Barómetro Grayling 2013. Available at: <<http://controlpublicidad.com/uploads/2013/05/Estudioconfianzaenlasmarcasblancas.pdf>> [Accessed 1 May 2016]

Kantar World Panel, 2014. *Las tiendas de precios bajos, principal canal de compra*. [pdf] Kantar World Pane. Available at: <<http://www.kantarworldpanel.com/es/Noticias/wpd2014>> [Accessed 10 May 2016]

Lal, R. and Rao, R., 1997. Supermarket competition: The case of everyday low pricing. *Marketing science*, 16(1), pp.60-80.

Lidl *España* website, 2016. 20 años de Lidl en España. [online] Available at: <<http://www.lidl.es/es/20-anos-lidl-espana.htm>> [Accessed 15 May 2016]

Magdaleno, S., 2012. Balance del sector de la distribución en 2012. *Kantar Worldpanel Report*. [pdf]. Available at: <<https://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwj54Le1177NAhXE2BoKHePIA-MQFggBMAA&url=http%3A%2F%2Fwww.kantarworldpanel.com%2Fdwl.php%3Fsn%3>>

Dnews_downloads%26id%3D152&usg=AFQjCNHOpivdfz7a63NfJdHCycZWDhyydg&vm=bv.125221236,d.d2s&cad=rja> [Accessed 21 April 2016]

Matsa, D. A., 2010. Competition and product quality in the supermarket industry. *Quarterly Journal of Economics*, 126, pp.1539-1591.

Mercadona, 2009, 2010, 2011, 2012, 2013, 2014 and 2015. *Memoria Anual Mercadona*. [pdf]. Mercadona. Available at: <http://www.noticiasmercadona.es/memorias-anuales-mercadona/> [Accessed 15 April 2016].

Pablos, R. R., Vara, A. J. and Roche, I. C., 2013. Estrategias de las principales empresas de distribución minorista de gran consumo ante la crisis económica. *Distribución y consumo*, 23(129), pp.5-17.

Pettigrew, S., Mizerski, K. and Donovan, R., 2005. The three big issues for older supermarket shoppers. *Journal of Consumer Marketing*, 22(6), 306-312.

Rhee, H. and Bell, D. R., 2002. The inter-store mobility of supermarket shoppers. *Journal of Retailing*, 78(4), pp.225-237.

Richards, T.J. and Pofahl, G., 2010 Pricing power by supermarket retailers: a ghost in the machine?. *Choices: The Magazine of Food, Farm and Resource Issues*. 25(2), pp.1-12

Saborit, S. and Navarro, J.E., 2007. Eroski compra el 75% de Caprabo por 1.300 millones. *Diario Expansión*. [online] 6 June 2007. Available at: <<http://www.expansion.com/2007/06/06/empresas/1002535.html>> [Accessed 25 May 2016]

Segal, M.N. and Giacobbe, 1994. Market Segmentation and Competitive Analysis for Supermarket Retailing *International Journal of Retail & Distribution Management* 22(1), pp.38-48

Shepherd, A., 2005. The implications of supermarket development for horticultural farmers and traditional marketing systems in Asia. *Rome, FAO*.

The Nielsen Company, 2014. *Nielsen 360º*. [pdf] The Nielsen Company. Available at: <http://www.acotex.org/wp-content/uploads/InformeNielsen360_Retail_Actual.pdf> [Accessed 20 April 2016]

Villaécija, R., 2016. ¿Por qué los súper de Mercadona, Dia o Lidl son más baratos?. *El Mundo*, [online] 23 March 2016 [Accessed 18 April 2016]