

**COLEGIO UNIVERSITARIO DE ESTUDIOS FINANCIEROS**

**Bilingual Degree in Business Administration**

**Trabajo Fin de GRADO**



# **ACCOUNTING ANALYSIS**

## **FOOD RETAIL MARKET IN SPAIN**



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## 1. Introduction

In this project, I will analyse the main financial indicators of the three companies with highest sales in the Spanish grocery industry (Mercadona, Carrefour and DIA). The ultimate goal will be to rank these companies based on the performance over the period 2015 – 2017 as well as the expected future performance with the information included in their Financial Statements.

I will begin by analysing the market in which these companies operate as well as the tendencies that could impact the future of it, followed by financial statement analysis to understand current and predict future performance and finally express my conclusions.

### 1.1. Spanish food retail market

In economics, necessity goods are products that customers will buy regardless of their economic level or their prices due to their vital importance in daily lives. In other words, they have a very inelastic demand. Examples include: water, electricity, and the one this project will focus on, food, whose demand directly depends on population size. As a result of the high demand, many companies try to provide the required supply, and competition is very intense.

In the European Union, food stands as the main activity in the manufacturing industry with a market worth over 1 trillion euros representing 14% of global consumption. There are over 289,000 companies employing 4,24 million people where small and medium enterprises represent 48.3% of the total.

Spain is no exception to the rule, and food represents 21.7% of the industrial sector, with over 98,163 million euros in sales. The main difference in the Spanish market lies in the size of the companies doing business, where small enterprises have a higher share of the market, in fact, 96.3% of them have less than 50 employees and 78.9% have less than 10 employees. (Ministerio de Agricultura, 2017)

In this highly diversified scenario, supermarkets/hypermarkets, convenience stores, major discount and specialized stores coexist with traditional corner grocery stores and open-air markets. However, over the past decade, the total

number of retail outlets has decreased, and the consolidation of the retail food industry continues. (USDA Foreign Agricultural Service, 2017)

Mercadona finished 2017 as the clear leader of the market with 24.1% of sales, followed by Carrefour (8.7%) and DIA (8.2%). (EAE, 2017) Just from this numbers, it is very representative the considerable advantage Mercadona enjoys with respect to competitors, equating the share held by the next four largest grocers combined and almost one out of every four purchases. The top 3 companies in the market only enjoying 41% of the market share is a clear sign of strong diversification. This project will find the reasons for that difference as well as predict the future of the market and it's leaders.

In 2014, the Spanish Institute of Statistics foresaw a continuous decrease of the Spanish population for the following 50 years, losing up to one million inhabitants in the next 15 years. (INE, 2014) Since there will be less mouths to feed, the demand for grocery products will decrease, and efficiently managing competition will be a determining factor for company survival.

## **1.2. Trends in the Spanish food market**

Market trends must be considered when deciding both current and future business strategy, and rather than forcing customers to use existing channels, the companies of the future must force themselves to use the channels that customers prefer. (IE University, 2018)

Consumers have more shopping choices than ever, and as channels proliferate, protecting and building store loyalty is no easy task. To keep customers coming back for more, it's crucial to understand what drives them to switch from one store to another. (Nielsen, 2015)

In May 2017, the In-Store Media agency specialized in consumer research published a report analysing the aspects Spanish customers value the most when choosing a supermarket. According to results, price is the most valued characteristic (65%), followed by comfort and shopping experience (49%), availability of products (46%) and sustainability (40%). (Vanguardia, 2017)

Additionally, the “Asociación de Consumidores y Usuarios” (ACU), or the Consumers and Users Association, published in 2017 their annual report on price

levels of supermarkets in Spain. From the 3 chains being analysed, Mercadona came out in 6<sup>th</sup> position out of the 82 chains under study, while Carrefour resulted 10<sup>th</sup> and DIA 26<sup>th</sup>, (OCU, 2017), with the rest of chains in the study having a much lower market share in comparison with the top three. The same report shows that 47% of the Spanish population prefer shopping in supermarkets and self-service stations, followed by discount stores (15.8%), traditional stores (14.6%) and hypermarkets (12.9%).

Consumers are increasingly reluctant to travel to hypermarkets found in the city outskirts for shopping, with clear preference for urban spaces. People demand proximity supermarkets in housing areas, variety of fresh products and wide schedules. According to Enrique Domínguez, partner at Deloitte's Financial Advisory, this will lead to an important increase in the number of selling points. (El Independiente, 2018)

Online sales have slightly grown from 0.5% in 2016 to 1.3% in 2017, and are expected to reach over 10% of global grocery shopping by 2025. The percentage of the Spanish population with access to Internet has constantly increased to 83.4% of homes, further increasing the importance of this channel in the future.

## **2. Companies' description**

### **2.1. Mercadona**

Mercadona is a family-owned and run supermarket company with capital 100% Spanish, whose mission since its foundation has been to fully satisfy all the food and beverages, cleaning and personal hygiene needs of its customers, as well as those related to feeding and caring for pets.

Founded in 1977 by Cárnicas Roig Group, Mercadona is currently Spain's market leader in the supermarket segment. It has 1.632 stores throughout Spain and a 84,000 employee-strong workforce who strive to offer a service of the highest level of excellence on a daily basis. Thanks to them, 5.2 million households place their trust in the company every year. (Mercadona, s.f.) In 2004, the New York Reputation Institute placed Mercadona as the 4<sup>th</sup> company with the most admired reputation in the world. Its business model is currently analysed in

top universities like MIT or Harvard in comparison with IKEA or Amazon according to the Boston Consulting Group, with keys for its success being in the use of own sub-brands like Hacendado, Deliplus or Bosque Verde and the special relation with its suppliers allowing low prices.

Concerned about the possible repercussions that the 2008 financial crisis could have in its performance, Mercadona established the goal of “providing the cheapest and best-quality shopping cart in the market” while expanding to all Spanish provinces. Having achieved this goal, Juan Roig, company’s president, announced in 2016 the first international expansion phase for 2019, with an investment of over 25 million euros and with the goal of opening 4 stores in Portugal as well as in Ceuta and Melilla. In addition, Mercadona announced the creation of warehouses throughout Spain focused only in improving the service in online sales.

## **2.2. Carrefour**

Carrefour is the global leader of the retail market and a reference in food retail operating more than 12,300 stores and e-commerce sites in more than 30 countries. Employs more than 380,000 people worldwide and generated 88.4 billion euro sales including VAT under its banners in 2017. Every day, Carrefour welcomes around 13 million customers around the world and it’s actively committed to quality and to more sustainable trade. (Carrefour, s.f.)

The group started as an idea by Marcel Fournier and Denis Defforey in 1959, opening the first hypermarket in High Savoy, France. International expansion begun in 1969 with a store in Belgium, followed by Spain three years later and Brazil in 1975. Business strategy focused on a concept known as “hard discount” with the goal of offering the highest variety of products with the lowest prices possible.

Carrefour currently operates globally with a combination of hypermarkets, supermarkets and convenience stores, in which food is the best-selling product included in 3 out of every 4 sales. In the case of Spain, Carrefour operates a total of 204 hypermarkets and 113 supermarkets along with 123 gas stations and 426 travelling agencies. Offering a great variety of products and services

allows the company to gain brand recognition, which in turn is an important reason for the good performance in the grocery market.

### 2.3. DIA

DIA (Distribuidora Internacional de Alimentación) Group is a Spanish multinational engaged in the food distribution, personal and home care sector traded in the Madrid Stock Exchange Market. The company's first store opened in 1979 in Madrid, but it wasn't until 1984 that they started launching products under DIA's brand.

1993 marked the beginning of the internationalization strategy with the opening of the first store in Portugal, followed by Greece in 1995, and Argentina and Turkey in 1999. Carrefour group incorporated DIA in the year 2000 while allowing them to continue operating independently, what opened the doors to France. Finally, DIA expanded to Brazil in 2001 and China in 2003.

During the 2008 financial crisis, DIA acquisitioned home-care companies like Schlecker or supermarkets El Arbol while opening new sub-brands like DIA Maxi or DIA Market, designed to operate in the outskirts rather than city centres but which did not yield the expected benefits.

One of the keys for DIA's success has always been franchising, with a model designed to give the franchisee the possibility to join a great commercial network based on proximity to the customer. Adapting to the characteristics of the franchisee and proximity, facilitates a personalized treatment reinforcing the idea of quality products with the best price-quality relation.

Currently, and after DIA decided to focus on those countries with better performance, the group has stores in 4 countries (Spain, Portugal, Argentina and Brazil), with a total of 42,600 employees and grossing EUR 10.334 billion in revenues at the end of 2017. Carrefour group deciding that DIA operated under a different name, as well as the two companies competing in the same market led to the analysis of these two companies independently in this thesis.

### 3. Financial Statements Analysis

Financial statement analysis applies analytical tools and techniques to financial statements and related data to derive estimates and inferences useful in business decisions. It is a diagnostic tool in assessing financing, investing and operating activities, and an evaluation tool for managerial and other business decisions. Financial statement analysis reduces our reliance on hunches, guesses and intuition, and in turn it diminishes our uncertainty in decision-making. (Bernstein, 1988)

DIA and Carrefour operate in other countries apart from Spain, but I will analyse their consolidated financial statements under the assumption that the global situation of the company will be directly related to and reflected in their performance in Spain's grocery market. Given that the three companies are not comparable in size, the basis of the analysis will be accounting ratios and vertical and horizontal analysis, which will allow to study proportions and eliminate the size-factor. Albert Einstein once said: "everything should be made as simple as possible, but not simpler", and that will be precisely the goal of this thesis, to make the information from the Financial Statements as simple as possible to allow anyone to understand it, but without simplifying reality.

Both DIA and Carrefour are listed in stock exchange markets, and are therefore obliged to annually publish their financial statements. On the other hand, Mercadona does not trade publicly, but still publishes annually a memory with less-detailed statements so that stakeholders can have a good idea of the company's performance.

The analysis will cover three main topics: profitability, liquidity and solvency.

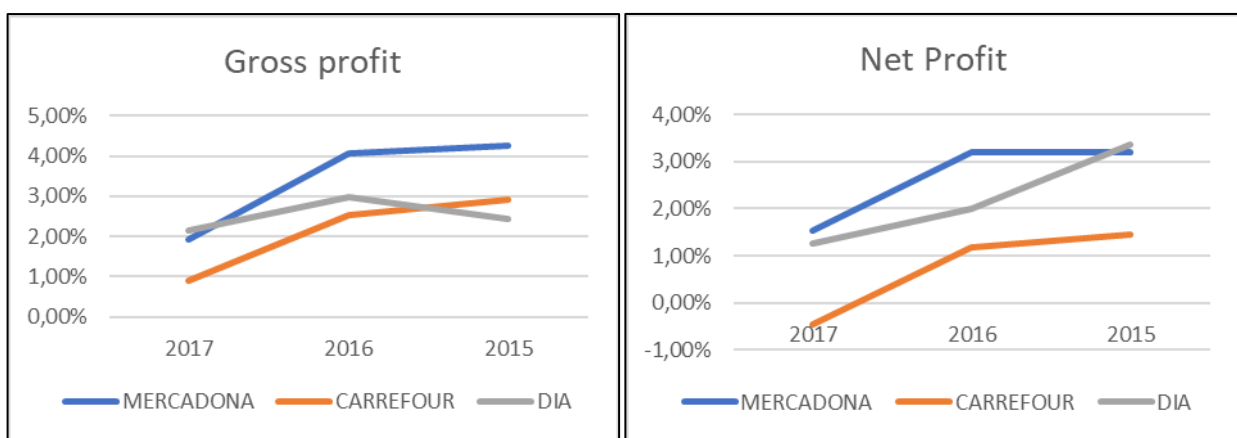
#### 3.1. Profitability ratios

Return on invested capital, or profitability, refers to a company's success in obtaining earnings relative to both the level and source of financing. It is also a helpful tool when analysing the management teams or the efficiency of the management decisions taken over a period of time. (Schmidlin, 2014)



### 3.1.1. Gross and net profit

Gross profit, measured as revenues less cost of sales, is a key performance measure. A company must produce a sufficient gross profit to be profitable, and it must be sufficiently large to finance essential future-directed discretionary expenditures like research and development, marketing, and advertising. The variations of gross profit across years are an important indicator of the future. (Bernstein, 1988) Secondly, net profit represents the amount remaining after all expenses (interests, taxes and stock dividends) have been subtracted from gross profit.



Figures 1 and 2: gross and net profit. Own making based on financial statements

All three companies suffered important decreases from 2015 to 2017 in both gross and net profit as a result of the reduction in sales with respect to costs derived from the 2008 financial crisis. Even if food is considered a necessity good and should therefore have a stable demand based on everyone having to eat on a daily basis, the quality of the products purchased depends on income as well as the purchase of complement products like wine, making demand partially dependant on income. This decrease in net profit was especially significant in the case of Carrefour, reaching negative amounts at the end of 2017, was should lead to important management changes in the future to avoid bankruptcy.

From 2016 to 2017, Mercadona increased spending considerably with respect to previous years with the goal of improving future performance, and more specifically investing in new supermarkets, employee training and online-sales centres. This led to a reduction in gross profit that positioned DIA as the leader in this category. Juan Roig announced shareholders that the reduction in revenues should not be regarded as something negative since it will further increase

Mercadona's advantage with respect to competition in the future. During 2015 and 2016, the reduction in both gross and net profit suffered by Mercadona were considerably lower than the ones seen in Carrefour and DIA as a result of higher sales and lower costs, and it is reasonable to believe that in case the long-term investment had not taken place, the advantage with respect to Carrefour and DIA would have continued or even increased.

When comparing the values of gross minus less profit, we can see how they are larger in the cases of DIA and Carrefour. This is a consequence of having to pay higher amounts of interests and taxes dependent on the amount of liabilities in their respective Balance Sheets. The further consequences of capital structures will be analysed in more detail in the solvency analysis.

### 3.1.2. Net assets turnover

It gives an insight into how effectively a company invests its total capital base. High asset turnover means that capital flows back quickly into the business and less capital is therefore needed in order to achieve a certain business volume. (Schmidlin, 2014) Net assets turnover also measures a company's ability to generate sales from its assets. Lower ratios mean that the company is not using its assets efficiently and most likely has management or production problems. Analysing the ratios, Mercadona results in first position with a small advantage with respect to DIA, while Carrefour falls considerably behind both.

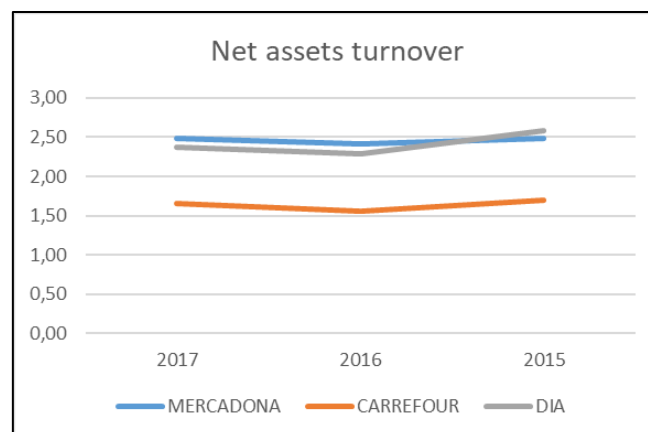


Figure 3: net assets turnover. Own making based on financial statements

In the retail market, physical stores are an indispensable asset to generate revenues, but according to a report by LZ Retailytics, the amount of money

different chains obtain per square meter varies considerably. From the 20 chains of supermarkets they studied, Mercadona came in first position with over 10,000€ in annual sales per square meter, Carrefour resulted 10th with over 4,000€ and DIA 18th with 3,000€/m<sup>2</sup>. (Retailytics, 2017)

Finally, one way of measuring efficiency is average sales per store. LZ Retailytics, in their report “Spain, seeking a challenger to Mercadona”, found out that on average Mercadona sales 15 million euros per store per year, resulting in second position of all 20 chains analysed and after E. Leclerc, while Carrefour resulted fourth with under 10 million euros per store per year and DIA 17<sup>th</sup>, with under 2.5 million per store per year. (Retailytics, 2017)

Even if market trends suggested that customers value proximity and consequently a higher number of stores would mean higher sales and better results, data shows that clearly Carrefour and DIA should improve store management before continue expanding. Instead of h ineffective continuous expansion, money spent in opening new stores should be spent in current stores to improve customer satisfaction and reduce cost of goods sold, allowing them to improve results with respect to Mercadona. Even if they did not have management problems, their liquidity and solvency problems would not allow Carrefour and DIA to open new stores, giving Mercadona a clear advantage in the future.

In the case of Mercadona, with a completely different situation and good returns per store, opening new stores in response to market trends would allow them to increase revenue and increase brand awareness. I believe that Mercadona should take advantage of the bad situation their competitors are in and respond to market trends by increasing investment or even incurring in liabilities to open new stores and increase their market share both in Spain and in Portugal, assuring prosper future performance.

Net asset turnover is a clear evidence of customers preferring Mercadona with respect to competitors for their cheaper prices: while Carrefour and DIA decreased this ratio over the period of time being analysed, Mercadona managed to maintain 2015 proportions and have the same amount of cash flowing back into the company.

### 3.1.3. Return on Investment (ROI)

Also known as return on assets, measures the return obtained by a company on its assets. (Thomas R. Robinson, 2009) Given that assets represent the most important source of income for a company, the return they provide is vital for measuring a company's performance.

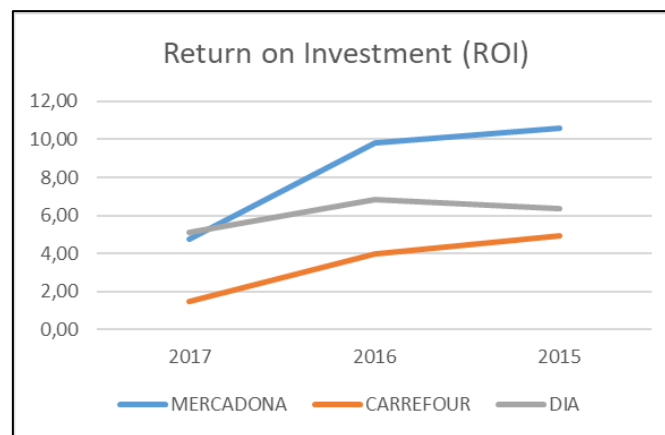


Figure 4: Return on investment. Own making based on financial statements

Mercadona enjoyed an important advantage with respect to DIA and Carrefour during 2015 and 2016, but a decrease of over 51% in Return on Investment from 2016 to 2017 positioned DIA as the leader in this category at the end of 2017 with a return of 5.14%, followed by Mercadona (4.16%) and Carrefour (1.46%). It is reasonable to believe that, in case Mercadona's investment levels returned to usual levels in 2018, the company would regain the first position in this category.

As already explained in gross and net profit analysis, return on investment for Mercadona decreased as a result of long-term investment, what given the sustained and increasing advantage that Mercadona enjoys in the present, I believe this change will assure the company's performance in the future. Population decrease will reduce future sales and companies will have to compete hard for a lower number of customers, what makes long-term investment a good strategy to gain future market share.

Finally, the general decrease in return on investment all three companies suffered from 2015 to 2017 is another sign of Spain not having yet recovered from the 2008 financial crisis.

### 3.1.4. Cost of debt

Computed as interest expenses divided by total financial liabilities, the cost of debt expresses the cost of borrowing the external funds the company needs. It is also the minimum return the company should obtain to pay back interest on liabilities.

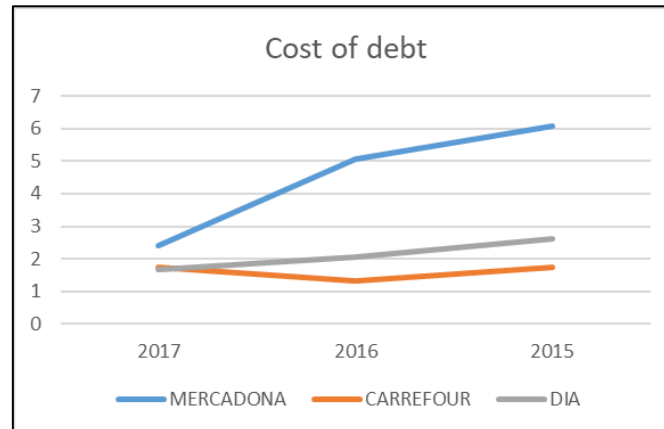


Figure 5: Cost of debt. Own making based on financial statements

The reason why Mercadona has the higher cost of debt can be the fact that it is not a publicly traded company, so it needs to obtain the funds from the banks instead of obtaining them from the markets, though it is important to point out that this ratio has heavily decreased in the period under study. Also it is necessary to take into account that as a result of the different financing options, Mercadona having a higher cost of debt should not be considered worrying as debt only represents 39.5% of financing compared to Carrefour (75%) and DIA (90%).

The reason for the differences in the cost of debt is that banks and lending institutions tend to ask for returns inversely proportional to the quantity lent.

Currently, all three companies obtain return on investment higher than their cost of debt, meaning that they should have no problem in paying pack liabilities. However, all three companies have seen a reduction in the difference between returns and cost of debt, meaning that if this trend continued it would be increasingly complicated to earn enough to pay back debt.

### 3.1.5. Return on Equity (ROE)

It measures the return earned by a company on its equity capital, including minority equity, preferred equity and common equity. Return is measured based

on value of net income (EBIT) at the end of the accounting period. (Thomas R. Robinson, 2009)

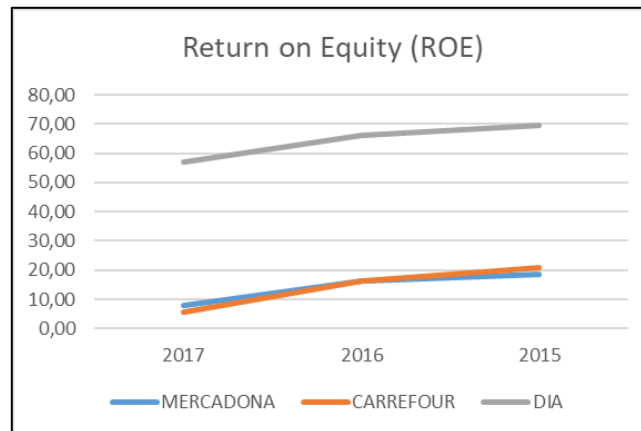


Figure 6: Return on equity. Own making based on financial statements

Return on equity shows DIA obtaining 57% of returns on equity invested, 7.27 times more than Mercadona and 9.92 times more than Carrefour. The explanation for this considerable difference is that in the case of DIA, Equity only represents 8.99% of the total value of liabilities and equity in 2017, representing 25.43% in Carrefour's Balance Sheet and 61% in Mercadona's. At the same time, proportions show that Mercadona is the one obtaining the best result in this category in comparison to the percentage of equity.

Companies across different industries have different dependence levels on the sources on income. In the grocery industry in particular, companies revenues mainly come from assets sold, and therefore in this analysis ROE will be given less importance that ROA.

In relation to return on investment, all three companies suffered a decrease in the returns obtained on its equity from 2015 to 2017 as a result of the financial crisis.

### 3.2. Liquidity ratios

Liquidity refers to the availability of company resources to meet short-term requirements. A company's short-term liquidity is affected by the timing of cash inflows and outflows along with prospects of future performance.

The importance of liquidity is best seen by considering repercussions stemming from a company's inability to meet short-term obligations. Lack of liquidity can cause a company being unable to take advantage of favourable discounts or profitable opportunities. It also implies limited opportunities and constrains on management actions. More extreme liquidity problems can cause the company's inability to cover current obligations, which can eventually lead to forced sale of investments and assets and, in its most severe form, insolvency and bankruptcy. (Bernstein, 1988)

As seen in the market trends, companies will have to invest to adjust to market trends by opening new stores and improving online services. This implies that solvency, or the ability to make those investments, will be an important indicator of future performance.

### 3.2.1. Current ratio

The working capital measure of liquidity and of short-term financial strength is a common analytical tool. Credit grantors, loan agreements and bond indentures often contain stipulations for maintenance of minimum working capital levels. Financial analysts assess the magnitude of working capital for investment decisions and recommendations. Government agencies compute aggregates of company's working capital for regulatory and policy actions. (Bernstein, 1988)

The current ratio, computed as current assets divided by current liabilities, is a relative measure for working capital. The higher the result, the greater assurance we have in current liabilities being paid.

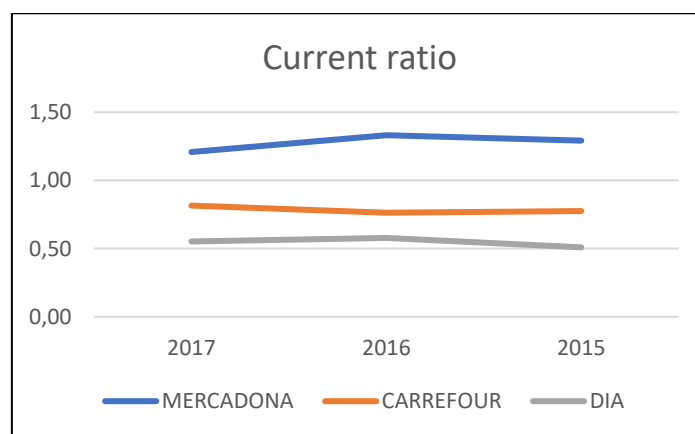


Figure 7: current ratio. Own making based on financial statements

In the case of the three companies being analysed, Mercadona is the only one with positive current ratio, having maintained this situation for over three years. From an investor's perspective, the lack of liquidity shown by both DIA and Carrefour reflects an important risk of not only not being able to pay back, but also of not having enough current assets to invest (minimizing returns). Of all three, DIA shows the most challenging situation where current liabilities are twice larger than current assets, situation which did not improve over the period 2015 – 2017 indicating severe managing problems.

Companies normally incur in current liabilities with their suppliers, so analysing the relationship between those two parties it's also important for the future of working capital. DIA and Carrefour have less stable and shorter-lasting relations with their suppliers, increasing risks and therefore costs. On the other hand, Mercadona signs long-term contracts with its providers based in "win-win" situations and where it is clearly specified that in case any of the two companies wanted to finish the contract, it would still continue for 3 years or until Mercadona could find another provider. It also settles non abusing financing conditions with its suppliers not forcing them to accept extended payment periods. Also, being the clear leader of the Spanish market share encourages suppliers to maintain their business relationships with Mercadona, clearly reducing risks for both companies and allowing for certain flexibility in case any problems arose. (Brines, 2016)

### 3.2.2. Cash ratio

The importance of cash as the ultimate form of liquidity should not be underestimated. The record of business failures provides many examples of insolvent companies with sizeable noncash assets (both current and non-current) and an inability to pay liabilities or to operate. (Bernstein, 1988)

Given this importance, and computed as cash plus cash equivalents divided by current liabilities, the cash ratio measures the cash available to meet current obligations in a short period of time. Along with the current ratio, cash ratio shows Mercadona as the best positioned of the three companies regarding liquidity, with a ratio over 4 times better than their current competitors.



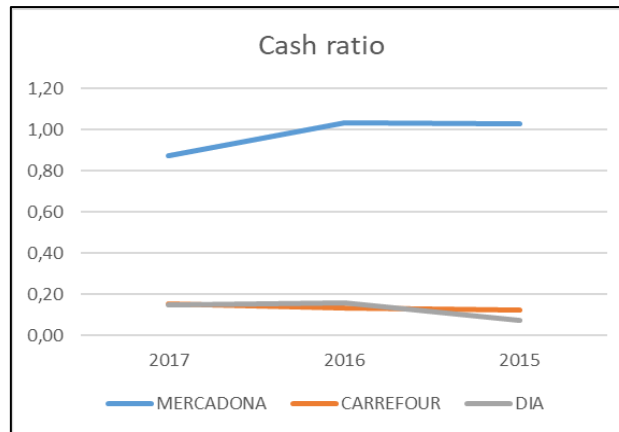


Figure 8: cash ratio. Own making based on financial statements

As the reason for the important difference, it is not surprising to find that in the case of Mercadona, the average percentage that cash represents of current assets (19.42%) is much higher than in DIA (3.92%) or Carrefour (3.39%).

Given that in the future sales are expected to decrease along with population size, less returns will mean a lower inflow of cash into the company. DIA and Carrefour should progressively increase their respective amounts of cash to avoid future complications. Problems related to lack of cash could vary from inability to pay suppliers or employees to inability to invest, increasing the urgency of changes in management approaches.

### 3.2.3. Acid test

A more stringent test of liquidity removes inventories from the cash ratio as they are the assets least quickly convertible into cash. Interpretation of the acid test is similar to that of the current ratio. (Bernstein, 1988)

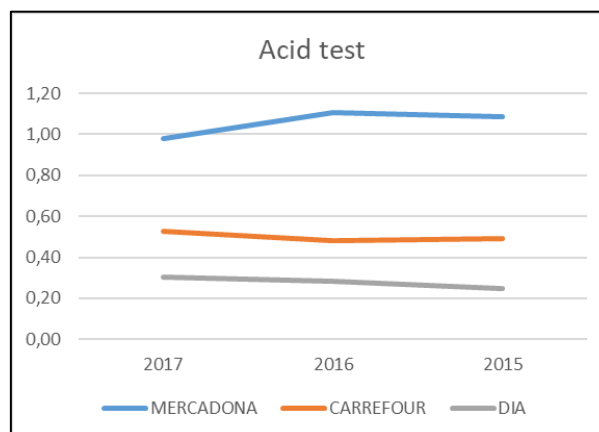


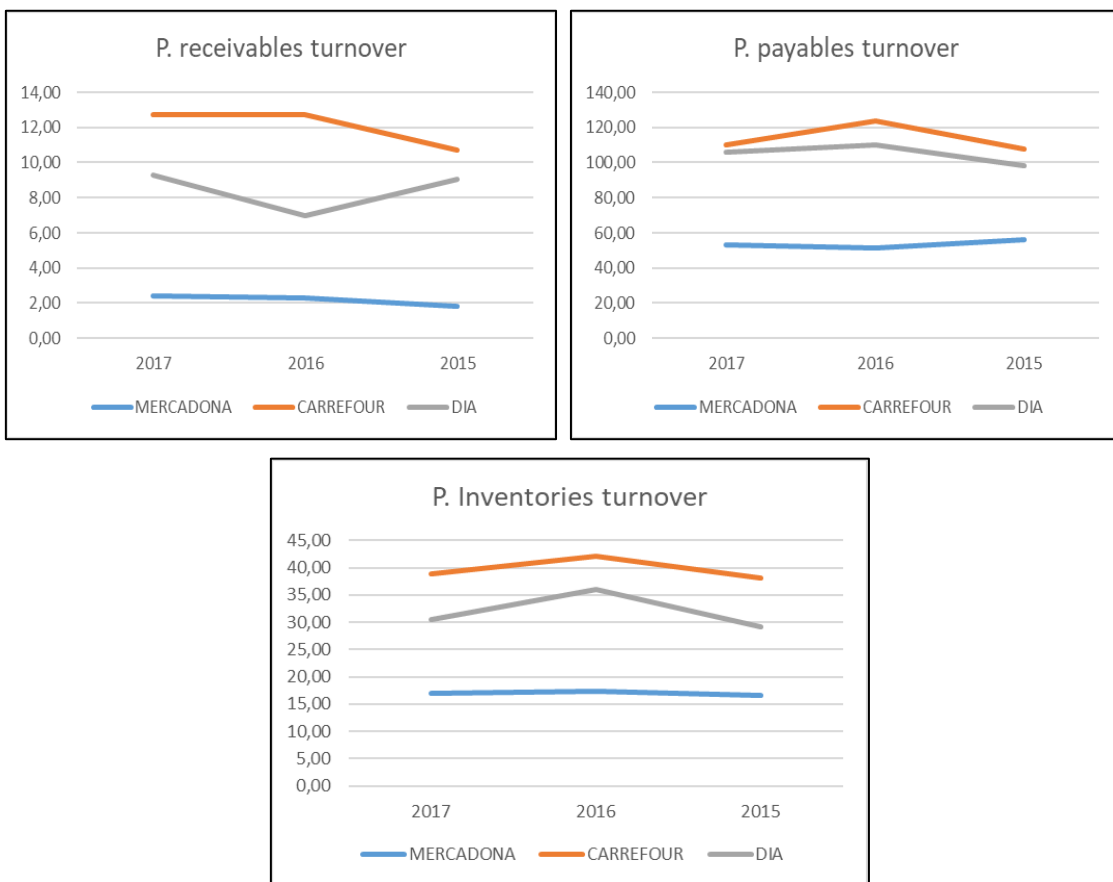
Figure 9: Acid test. Own making based on financial statements

The smaller average percentage that inventories represent in Mercadona's current assets (4.36%) compared to DIA (8.29%) and Carrefour (7.09%) shows more ability to convert current assets into cash in case of necessity, also reflected in Mercadona having an acid ratio twice better than Carrefour's and three times better than DIA's.

Finally, and as the study of future cash inflows for these companies, the net variations in sales from 2015 to 2017 (Mercadona +10.24%, Carrefour +2.54% and DIA - 3.42%) under the assumption that the trend continued in the future maintain the positive situation Mercadona is regarding liquidity, show a possible sign of improvement in the case of Carrefour, and a continuous worsening of the situation for DIA.

### 3.2.4. Activity ratios

Directly related to liquidity, activity ratios consist of the analysis of the average number of days used by the company to finance its activity with its working capital.



Figures 10, 11 and 12: activity ratios. Own making based on financial statements

Accounts receivable turnover shows how long it the company takes to collect its bills from its customers. An increase in this ratio indicates a deterioration in receivables management and liquidity. High and increasing values reduce the operating cash flow as less money actually flows into the company. Analogously, accounts payable turnover quantifies how long it takes the company to pay back its debts to its suppliers. (Schmidlin, 2014)

This ratio is set as a result of the proposition that it is in the best interest of the company to collect receivables from customers early, while at the same time paying its own bills as late as possible. The wider the spread, the longer the company is the holder of interest-free money. As a result, the need for external short-term funding or the need to resort to expensive overdrafts decreases. (Schmidlin, 2014)

When analysing the groceries market in particular, it is important to understand that accounts receivable do not work the same way as in other industries. Other types of companies that sell products of a higher value tend to incur in accounts receivable on every sale, but since in the groceries market sales are made to the public directly and using cash (retailing), companies do not incur in receivables. This can be clearly seen in the vertical analysis of Balance Sheets, where in 2017 accounts receivable only represent 3.64% of current assets in Mercadona, 17.56% in the case of DIA and 14.62% in Carrefour.

Having said this, the ratios computed using the financial statements reflect that Mercadona has a more conservative policy regarding its extension of credit than DIA or Carrefour. As a result, it enjoys an important advantage in cash collection period (2.48 days), followed by DIA (9.39 days) and Carrefour (12.72), which took over five times more days to collect debts than Mercadona in the year 2017.

While Mercadona and DIA only sell groceries, Carrefour has a much broader product mix including from electronics to sports equipment. Food is always sold quickly because of expiry dates, but other products can stay in the company's shelves for even months before they are actually sold, what in turn postpones the cash collection from the sales of those items. It is also more common to finance durable goods (such as TVs or small electronics) that extend the payment of fresh

products. The difference in the product mix is also reflected in the period of inventories turnover, or the amount of days it takes the company to sell its inventories: Carrefour is in last position with a total of 38.90 days in 2017, while Mercadona's (16.90) difference with respect to DIA (30.50) is a result of higher sales.

When performing the horizontal analysis of the three Balance Sheets, and specifically of Accounts Receivable, we can see an increasing trend in the values of accounts receivable for the three companies. On one hand this could probably still be a result of the economic and financial crisis where, despite the recovery, the households are still suffering difficulties and on the other hand this might also show a change in the customers' payment habits with credit cards offering all sorts of payment delays.

Accounts receivable represent a very risky element within current assets due to the uncertainty of the debtor paying back or not, and therefore the lower the percentage they represent, the lower the dependence of the company on accounts receivable for the current activities and performance. Mercadona once again shows the lowest dependence of accounts receivable on current assets with 3.64%, followed by Carrefour with 14.62% and DIA 17.56%.

Regarding accounts payable, ratios reflect that Mercadona has a clear advantage compared to its direct competitors taking approximately 40 days less to pay back, being able to do so thanks to the earlier mentioned long term agreements with its suppliers and the commitment to reasonable paying periods. Given the overall situation of Carrefour and DIA, I believe that taking more time to pay back liabilities is a consequence of the liquidity problems both companies are suffering with a capital structure highly dependent on liabilities. Unless management teams focused their efforts on reducing liabilities, the period of payables turnover would probably increase in the future, leading to an increase in the financing costs.

The positive conclusion from these ratios is that all three companies reflect an improvement from the year 2016 to 2017 which, combined to the increase in sales and the improvement of the macroeconomic environment indicate better future results.

### 3.2.5. Cash-flow statement analysis

While Balance Sheet analysis allows to study liquidity and the amount of cash available, cash-flow statement analysis specifies the source of that cash and the uses they are making of it.

Being retailer companies, it is not surprising that the unique source of cash for all three companies is operating activities, while investing and financing activities represent cash outflows. As a result of operating more stores and selling a more expensive product mix, Carrefour has the clear advantage regarding cash inflows from operating activities with over 3 billion euros at the end of 2017, more than Mercadona (0.88 billion) and DIA (0.81 billion) combined.

Market trends show the importance of short-term investment to increase the number of stores available and efficiently operate online, and it is precisely here that liquidity is becoming a problem for DIA and Carrefour. While Mercadona increased the amount of cash flow used in investing activities by 44% from 2016 and 2017, both DIA and Carrefour had to decrease investment and focus only in investment in property, plant and equipment, representing the majority of investment for all three companies. Assuming that performance remains stable in the short term, Mercadona is likely to continuously increase its advantage with respect to its direct competitors, what in turn will mean more cash available for investing activities, and so on.

Finally, and as a consequence of the different capital structures, financing activities varies considerably between all three companies. Financing activities-related cash outflows for Mercadona consisted entirely in the payment of dividends, very positive for the company since they increase shareholder satisfaction. In the case of Carrefour and DIA, and basically because of their capital structures, cash from financing activities consisted mainly in paying back bonds and liabilities respectively with minority amount devoted to dividends.

### 3.3. Solvency ratios

Solvency refers to a company's ability to fulfil its long-term debt obligations. Assessment of this ability includes an in-depth analysis of the components of its

financial structure. Solvency ratios provide information regarding the relative amount of debt in the company's capital structure and the adequacy of earnings and cash flow to cover interest expenses and other fixed charges as they come due.

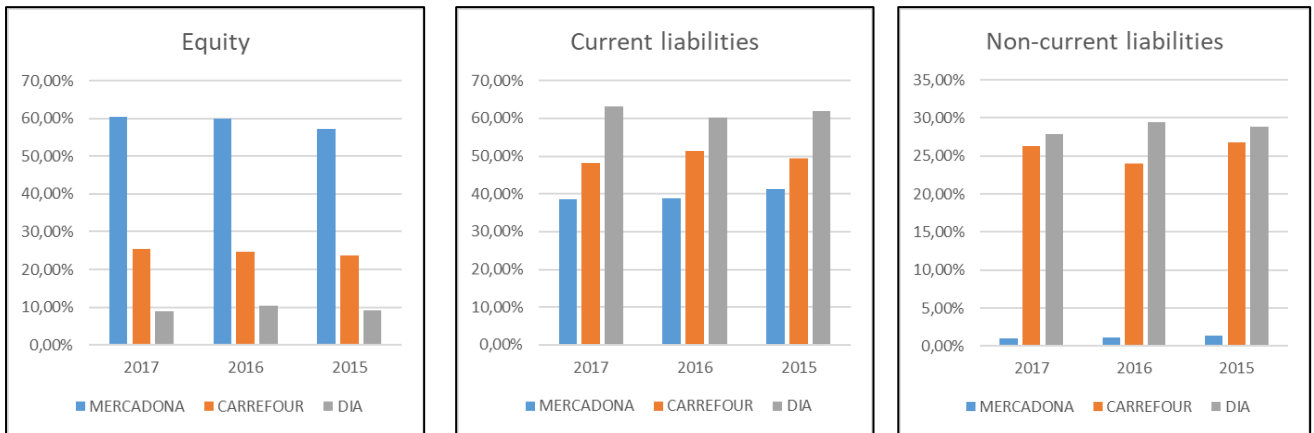
A higher level of debt in a company's capital structure increases the risk of default and results in higher borrowing costs to compensate lenders for assuming greater credit risk. A company's relative solvency is fundamental to valuation of its debt securities and its creditworthiness. (Thomas R. Robinson, 2009)

### **3.3.1. Capital structure**

The importance of analysing capital structure derives from several perspectives, not the least the difference between debt and equity.

- Equity refers to the risk capital of a company. Characteristics of equity include its uncertain or unspecified return and its lack of any repayment pattern. Equity capital contributes to a company's stability and solvency, it is characterized by a degree of permanence in times of adversity and a lack of mandatory dividend requirement. A company can confidently invest equity-financed cash in long-term assets and expose them to business risks without threat of recall. (Bernstein, 1988)
  
- Unlike capital, both short-term and long-term debts must be repaid. The longer the debt repayment period and the lower the interests, the easier it is for a company to service debt capital. Still, debt must be repaid at a specific time regardless of company's financial condition, and failure to pay principal or interests typically results in proceedings like bankruptcy. (Bernstein, 1988)

From all the aspects under consideration in this thesis, it is precisely solvency that will have the biggest impact in the final conclusions. This is not because of random causes, but because of the specially worrying situation DIA has regarding debt, and the advantage that Mercadona has compared to Carrefour.

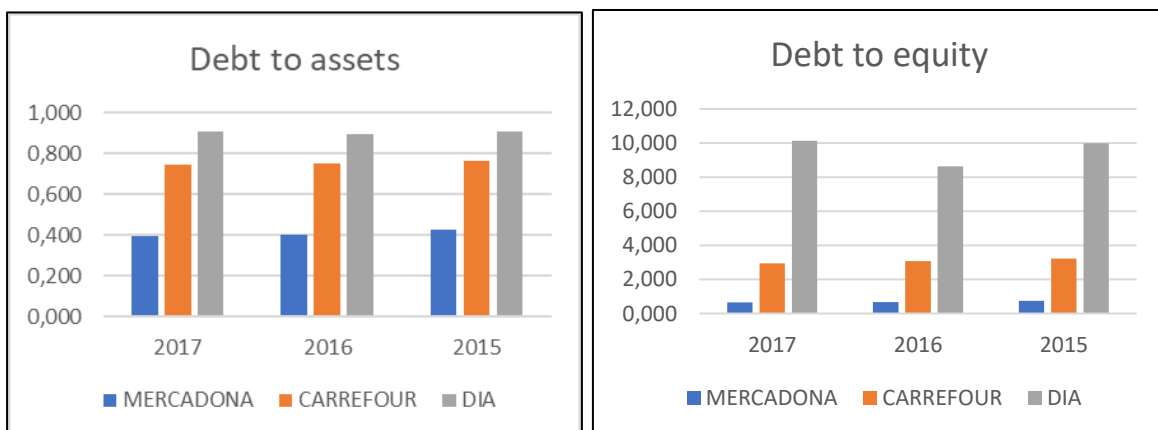


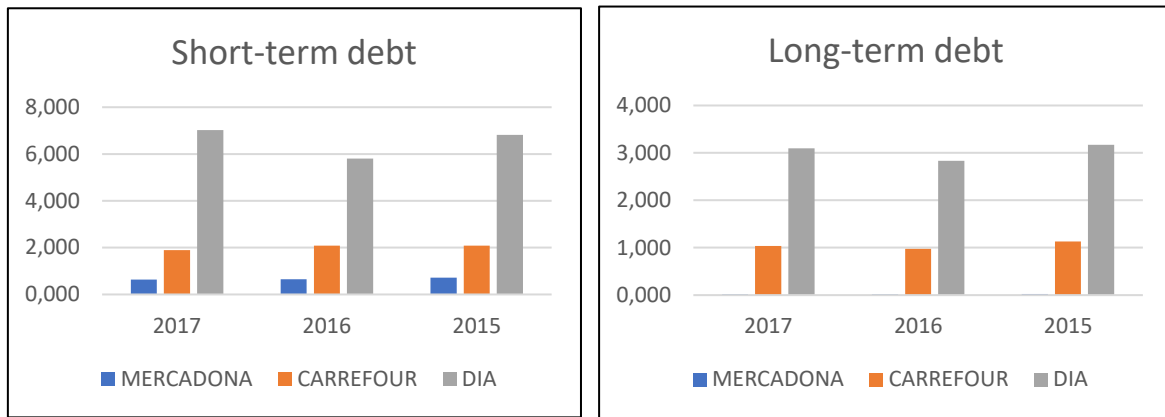
Figures 13, 14 and 15: Capital structure. Own making based on financial statements

When analysing Mercadona’s capital structure we can see that Equity represents over 60% in 2017, while it is only 9% in the case of DIA and 25% in the case of Carrefour. This implies that Mercadona has lower financing costs for having to pay returns for a much lower percentage of the money. Having a lower percentage of liabilities also means that Mercadona can invest more confidently in the long-term without having to worry about when debt is due. Regarding the evolution of the capital structures over time, Mercadona and Carrefour are slowly reducing their dependence on debt, while DIA maintains a constant amount of current liabilities equal to 60% of all financed investment.

### 3.3.2. Debt ratios

Ratios help compare the percentages that liabilities represent in the Balance Sheet with respect to the other elements in the general accounting formula: assets and equity. Assets are the companies’ source of returns, and therefore comparing them to the source of this returns in both the short and long runs allows to study the company’s ability to fulfil their future obligations.





Figures 16, 17, 18 and 19: debt ratios

Total debt to total assets ratio reflects once again the capital structure of each of the three firms, where DIA's liabilities represent the largest percentage with respect to their assets, followed closely by Carrefour and finally Mercadona, where liabilities represent less than 40% of assets at the end of 2017.

All the ratios being analysed indicate that DIA will be suffering from severe solvency problems, clearly positioning the company as the worst of the three. Current liabilities, or those which will have to be paid back in less than a year, are seven times larger than equity in 2017, situation which has even worsened when comparing it to 2015. In addition, and complicating the company's long-term perspectives, non-current liabilities have remained at a value approximately 3 times larger than equity.

In the case of Carrefour, both current and non-current liabilities are and have remained larger than equity for the period 2015 – 2017, with the emphasis in current liabilities which, even if progressively decreasing, still are almost twice equity. Finally, Mercadona's choice of using mainly equity in their capital structure allows them to have an enviable situation with respect to solvency, where current and especially non-current liabilities are considerably smaller than equity. It is also remarkable how Mercadona managed to improve all of their debt ratios from 2015 to 2017, sign of really effective management.

Trends in the market indicated the importance that online sales will have in the future, and any company willing to compete in that arena will have to invest heavily in both the short and long run. Mercadona is clearly the best positioned of the three companies to face that investment, with the possibility of incurring in liabilities in case of requiring further financing. On the other hand, incurring in



more liabilities would not be a good idea for neither Carrefour or DIA since it would further deteriorate their solvencies.

#### 4. Conclusions and Recommendations

Spain finds itself in an usual position. It is one of the most fragmented markets in Western Europe, yet features an overly dominant position market leader in Mercadona. (Retailytics, 2017) The company founded by the Roig group, and thanks to their optimal relation with its suppliers, has managed to annually increase their market share to 21.7% of sales at the end of 2017 and, of all three market leaders, be the one with higher net profit and profitability results.

Good profitability is combined by optimal liquidity and solvency positions that will allow the company to make the required investments to adjust to market trends, assuring a promising future. From the analysis, the only aspect that I believe managing should focus on improving is cost of debt. It is true that having financed mainly by equity should generally increase this cost, but also being the clear leader of the market and having good liquidity and solvency should encourage the lender to reduce the cost with the assurance of getting paid back even if the market environment changed.

For Mercadona, the challenge will be to sustain its efficiency-driven expansion without cannibalising sales. The retailer undoubtedly has room for growth in its home market, but its nascent international interest (in highly consolidated Portugal no less) suggests that it is already anticipating its next move. (Retailytics, 2017)

According to LZ Retailytics forecasts, Mercadona will grow by 3.9% over the next five years, outperforming the market and further increasing their economic and financial advantages with respect to competitors.

I believe that Mercadona should prolong as possible high investment with the goal of increasing the number of stores and improving online-sales service. This will lead to an increase in sales, a reduction of costs through economies of scale and will increase customer loyalty for the moment when competition starts investing in this market. If the stores opened in Portugal in 2019 gave good

results, further expanding in Portugal would be a really good idea due to proximity with Spain (reducing costs) and the fact that customers are likely to have similar shopping habits, improving market response.

Carrefour and DIA have managed to become the second and third companies with higher market share in the groceries industry in Spain, but, low return on investment and excessive liabilities predict a complicated future in both the short and long runs. Having said this, the future looks more promising for Carrefour than it does for DIA since, despite worse profitability, higher sales, better liquidity and better solvency resulting from lower levels of debt will allow the company to invest when required and adjust to upcoming market trends.

I believe that these results will help Carrefour consolidate in second position of the Spanish grocery market, while the continuous population decrease and the consequent reduction in sales should be a motivator to solve the actual management problems and an increasing challenge for DIA.

Most of the problems shown by both Carrefour and DIA result from their capital structures, so in order to improve future performance both companies should reduce the percentage of debt (especially current liabilities) through capital expansions. This will reduce the amount of interests and bond repayments which comprised the majority of their cash flows, and will progressively allow for an increase in investment. Additionally, decreasing the amount of liabilities will improve people's opinion on both companies and will allow for more long-term investment without having to consider paying-back dates.

To reduce costs, and given that average sells per store are much lower than Mercadona's, I would close the stores with lowest sales. Even if this could reduce returns in the short term, the cash received in the process along with less personnel expenses would allow to concentrate investment in the rest of stores (high and medium-level sales) and online sales, increasing customer satisfaction and loyalty, and improving the brand's general perception.

The predictions made in this thesis became true when DIA finished 2018 as the worst year in its history despite a capital increase of 600 million, with 325 million euros in losses, negative net value of 166 million (technical bankruptcy) and losing 87% of its value in the Spanish share market.



Carrefour also lost a total of 561 million euros, but an important increase in investment rose total amounts of sales in both South America and Asia. Alexandre Bompard, announced a cost optimization strategy to improve margins in the future.

Finally, Mercadona continued improving with a total increase in sales of 6% and an increase in net profit of 373 million. The company's objective for 2019 is to increase sales an additional 3.7% and hire over 1000 employees, what will lead to a net profit reduction of 27% due to the transformation profit the company is overcoming.

In conclusion, I believe that the Spanish grocery market has one clear leader which will continue increasing market share in the short and medium runs, but competition is not yet defeated and if they could solve the actual management problems, the future holds many opportunities in a continuously evolving industry.

## 5. Bibliography

Financial Statements:

Mercadona [online]. Available at: [2017](#), [2016](#), [2015](#)

Carrefour [online]. Available at: [2017](#), [2016](#), [2015](#)

DIA [online]. Available at: [2017](#), [2016](#), [2015](#)

Books:

Leopold A. Bernstein & John J. Wild (1998) *Financial Statement Analysis: Theory, Application, and Interpretation*. 6<sup>th</sup> ed: Irwin/McGraw-Hill

Thomas R. Robinson, Hennie van Greuning, Elaine Henry & Michael A. Broihahn (2009) *International Financial Statement Analysis*. 1<sup>st</sup> ed: Wiley

Nicolas Schmidlin (2014) *The Art of Company Valuation and Financial Statement Analysis*. 1<sup>st</sup> edition: Wiley

Clyde P. Stickney, Paul R. Brown & James M. Wahlen (2004) *Financial Reporting and Statement Analysis: A Strategic Perspective*. 5<sup>th</sup> ed: Thomson South-West

Studies:

Ministerio de Agricultura. *Principales indicadores y ratios más significativos de la industria alimentaria Española*, 2017 [online]

Available at: [https://www.mapa.gob.es/es/alimentacion/temas/industria-agroalimentaria/indicadoresyratiosnacionalyccaa2015\\_ok\\_tcm30-87450.pdf](https://www.mapa.gob.es/es/alimentacion/temas/industria-agroalimentaria/indicadoresyratiosnacionalyccaa2015_ok_tcm30-87450.pdf)

KPMG. *Retos y perspectivas de la industria de alimentación y bebidas en España*, 2014 [online]

Available at: <https://assets.kpmg/content/dam/kpmg/pdf/2015/07/retos-perspectivas-industria-alimentacion-espana.pdf>

EAE. *La situación de la gran distribución en el mercado de consumo*, 2018 [online]

Available at: <https://www.eae.es/actualidad/compra-hace-mayoritariamente-supermercados-tienda-tradicional-destaca-alimentos-frescos>

Instituto Nacional de Estadística (INE). *Population Projection for Spain 2014 – 2064*, 2014 [online]

Available at: [http://www.ine.es/en/prensa/np870\\_en.pdf](http://www.ine.es/en/prensa/np870_en.pdf)

LZ Retailytics. *Analyst Review. Spain: Seeking a challenger to Mercadona*, 2017 [online]

Available at: <https://www.retailytics.com/hubfs/AnalystView/Spain-Seeking-a-Challenger-to-Mercadona.pdf>

USDA Foreign Agricultural Service. *Spain: Retail Food*, 2017 [online]

Available at: [https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods\\_Madrid\\_Spain\\_12-20-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods_Madrid_Spain_12-20-2017.pdf)

Nielsen. *The future of grocery: E-commerce, Digital Technology and changing shopping preferences around the world*, 2015 [online]

Available at: <https://www.nielsen.com/content/dam/niensenglobal/vn/docs/Reports/2015/Nielsen>

Asociación de Consumidores y Usuarios. *Informe anual de supermercados*, 2017 [online]

Available at: [www.ocu.org/supermercados](http://www.ocu.org/supermercados)

IE University. *Neither Amazon or Mercadona: the future of food retail y Amazon*, 2018 [online]

Available at: <https://www.ie.edu/insights/articles/neither-amazon-nor-mercadona-the-future-of-food-retail-is-amazon/>

Articles:

*Estos son los mejores supermercados de España, según los consumidores*, La Vanguardia, 2017 [online]

Available at: <https://www.lavanguardia.com/comer/materia-prima/20170504/422274246296/mejores-supermercados-espanoles-informe-consumidores.html>

*Mercadona convierte en modelo su relación con los proveedores*, Expansión, 2016 [online]

Available at: <http://www.expansion.com/empresas/distribucion/2016/11/09/58219be7e5fdea45668b45de.html>

*¿Cuántos supermercados caben en España?*, El Independiente, 2018 [online]

Available at: <https://www.elindependiente.com/economia/2018/09/30/cuantos-supermercados-caben-en-espana/>

*De 1997 a 2019: así ha pasado Mercadona de ser un ultramarinos a dar el salto al extranjero*, ABC Comunidad Valenciana, 2019 [online]

Available at: [https://www.abc.es/espana/comunidad-valenciana/abci-1977-2016-diez-fechas-claves-para-entender-modelo-exito-mercadona-201603021235\\_noticia.html](https://www.abc.es/espana/comunidad-valenciana/abci-1977-2016-diez-fechas-claves-para-entender-modelo-exito-mercadona-201603021235_noticia.html)

*Supermercados DIA. Así ha sido la evolución del grupo de distribución.* La información, 2019 [online]

Available at: <https://www.lainformacion.com/empresas/distribucion/supermercados-dia-historia-y-evolucion-grupo-distribucion/6342808/>

## 6. Annex

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### FORMULAS USED TO COMPUTE THE RATIOS

Gross profit = EBIT / Sales revenue

Net profit = EBIT – interest expense – taxes

Net assets turnover = Sales revenue / total assets

Return on Investment (ROI) = (EBIT / total assets) \* 100

Return on Equity (ROE) = (EBIT / total equity) \* 100

Cost of debt = (Interest expense / total liabilities)

Current ratio = Current assets / current liabilities

Cash ratio = (Cash + cash equivalents) / current liabilities

Acid test = (Current assets – inventories) / current liabilities

Period of inventories turnover = Sales revenue / inventories

Period of receivables turnover = Accounts receivable \* 365 / Sales revenue

Period of payables turnover = Accounts payable \* 365 / Cost of goods sold

Total debt to total assets = Total liabilities / total assets

Total debt to total equity = Total liabilities / total equity

Short-term debt ratio = Current liabilities / total equity

Long-term debt ratio = Non-current liabilities / total equity

<b>MERCADONA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016-&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Gross profit	1,91%	4,05%	4,25%	-52,81%	-4,63%
Net profit	1,53%	3,21%	3,21%	-52,27%	0,17%
<b>CARREFOUR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Gross profit	0,89%	2,54%	2,90%	-65,00%	-12,61%
Net profit	-0,46%	1,17%	1,46%	-139,34%	-20,08%
<b>DIA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Gross profit	2,16%	2,99%	2,44%	-27,65%	22,25%
Net profit	1,27%	2,01%	3,37%	-36,69%	-40,43%

Table 1: gross and net profit. Source: own making based on financial statements

<b>MERCADONA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Net assets turnover	2,48	2,41	2,48	2,90%	-2,82%
Return on Investment (ROI)	4,76	9,80	10,58	-51,44%	-7,37%
Cost of debt	2,39	5,08	6,09	-52,95%	-16,58%
Return on Equity (ROE)	7,86	16,35	18,45	-51,90%	-11,39%
<b>DIA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Net assets turnover	2,37	2,29	2,59	3,49%	-11,58%
Return on Investment (ROI)	5,14	6,85	6,34	-25,03%	8,18%
Cost of debt	1,68	2,04	2,62	-17,65%	-22,14%
Return on Equity (ROE)	57,16	66,05	69,64	-13,47%	-5,14%
<b>CARREFOUR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Net assets turnover	1,65	1,56	1,70	5,77%	-8,24%
Return on Investment (ROI)	1,46	3,98	4,95	-63,20%	-19,63%
Cost of debt	1,73	1,34	1,73	29,10%	-22,54%
Return on Equity (ROE)	5,76	16,18	20,91	-64,42%	-22,63%

Table 2: profitability ratios. Source: own making based on financial statements



<b>MERCADONA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Current ratio	1,21	1,33	1,29	-9,26%	3,04%
Cash ratio	0,88	1,03	1,03	-15,39%	0,42%
Acid test	0,98	1,11	1,09	-11,61%	2,01%
<b>CARREFOUR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Current ratio	0,82	0,76	0,78	6,87%	-1,63%
Cash ratio	0,16	0,13	0,12	18,24%	7,90%
Acid test	0,53	0,48	0,49	8,91%	-1,65%
<b>DIA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Current ratio	0,55	0,58	0,51	-4,61%	13,53%
Cash ratio	0,15	0,16	0,07	-7,32%	121,31%
Acid test	0,30	0,28	0,25	6,68%	15,46%

Table 3: liquidity ratios. Source: own making based on financial statements

<b>MERCADONA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Period of inventories turnover	16,90	17,40	16,60	-2,87%	4,82%
Period of receivables turnover	2,40	2,30	1,80	4,35%	27,78%
Period of payables turnover	53,20	51,40	56,40	3,50%	-8,87%
<b>CARREFOUR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Period of inventories turnover	38,90	42,20	38,10	-7,82%	10,76%
Period of receivables turnover	12,70	12,70	10,70	0,00%	18,69%
Period of payables turnover	110,30	124,00	107,60	-11,05%	15,24%
<b>DIA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Period of inventories turnover	30,50	36,10	29,20	-15,51%	23,63%
Period of receivables turnover	9,30	7,00	9,05	32,86%	-22,65%
Period of payables turnover	106,10	110,00	98,40	-3,55%	11,79%

Table 4: activity ratios. Source: own making based on financial statements

<b>MERCADONA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Equity	60,51%	59,94%	57,34%	0,95%	4,53%
Current liabilities	38,51%	38,94%	41,27%	-1,10%	-5,63%
Non-current liabilities	0,98%	1,12%	1,40%	-12,48%	-19,77%
<b>CARREFOUR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Equity	25,43%	24,58%	23,67%	3,44%	3,88%
Current liabilities	48,26%	51,38%	49,49%	-6,07%	3,81%
Non-current liabilities	26,31%	24,04%	26,85%	9,46%	-10,45%
<b>DIA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Equity	8,99%	10,38%	9,10%	-13,37%	14,05%
Current liabilities	63,18%	60,22%	62,04%	4,91%	-2,93%
Non-current liabilities	27,83%	29,40%	28,86%	-5,34%	1,87%

Table 5: capital structure. Source: own making based on financial statements

<b>MERCADONA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Total debt to total assets	0,395	0,401	0,427	-1,42%	-6,10%
Total debt to total equity	0,653	0,668	0,744	-2,35%	-10,17%
Short-term debt ratio	0,636	0,650	0,720	-2,03%	-9,73%
Long-term debt ratio	0,016	0,019	0,024	-13,30%	-23,25%
<b>CARREFOUR</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Total debt to total assets	0,746	0,754	0,763	-1,12%	-1,20%
Total debt to total equity	2,932	3,068	3,226	-4,41%	-4,89%
Short-term debt ratio	1,898	2,090	2,091	-9,20%	-0,06%
Long-term debt ratio	1,035	0,978	1,134	5,81%	-13,80%
<b>DIA</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2016 -&gt; 2017</b>	<b>2015 -&gt; 2016</b>
Total debt to total assets	0,910	0,896	0,909	1,55%	-1,41%
Total debt to total equity	10,124	8,637	9,991	17,21%	-13,55%
Short-term debt ratio	7,028	5,804	6,819	21,09%	-14,89%
Long-term debt ratio	3,096	2,833	3,172	9,27%	-10,68%

Table 6: solvency ratios. Source: own making based on financial statements