



# Equity Valuation of **Distribuidora Internacional de Alimentación (DIA)**

Francisco Lemos

Dissertation written under the supervision of Professor  
José Tudela Martins

Dissertation submitted in partial fulfilment of requirements for the MSc in  
Finance, at the Universidade Católica Portuguesa, 27<sup>th</sup> of March 2018.

## Sumário Executivo

Nome do estudante: Francisco Lemos para o Msc in Finance da Católica Lisbon School of Business & Economics

Título: Equity Valuation of Distribuidora Internacional de Alimentación (DIA)

O objetivo desta dissertação é determinar o valor justo dos capitais próprios da Distribuidora Internacional de Alimentación. O setor do retalho de produtos alimentares foi investigado detalhadamente, bem como a empresa e o seu modelo de negócio. A Revisão Literária apresenta uma discussão de diferentes abordagens teóricas de avaliação de empresas e considera que o método dos fluxos de caixa descontados com soma das partes e uma avaliação por múltiplos são os métodos mais apropriados para avaliar a empresa. Com esta avaliação, é razoável assumir que as ações da empresa estão cotadas abaixo do seu valor intrínseco, €4,79, o que representa um potencial de valorização de 11,3% e, assim, uma recomendação de “compra”. Esta avaliação é também comparada com um *equity research* do BPI, focando-se nas metodologias e pressupostos usados em ambos os trabalhos.

## **Abstract**

Student name: Francisco Lemos for the MSc in Finance in Católica Lisbon School of Business & Economics

Title: Equity Valuation of Distribuidora Internacional de Alimentación (DIA)

The aim of this dissertation is to determine the fair value of Distribuidora Internacional de Alimentación equity. The retail food sector was research in detail, as well as the company and its business model. The Literature Review presents a discussion of different valuation theoretical approaches and it considers that a sum of the parts discounted cash flow valuation and a multiple valuation are the most accurate methods to evaluate the company. With this evaluation, it is reasonable to assume that the company's shares are trading below their intrinsic value, €4,79, which represents a 11,3% potential appreciation and, thus, a “buying” recommendation. This valuation is also compared with an *equity research* from BPI, focusing on the methodologies and assumptions used on both works.

Key words: Equity valuation; Enterprise value; DCF valuation; Retail food; DIA

## **Acknowledgments**

This dissertation is the final step of the MSc in Finance of Católica Lisbon School of Business & Economics and it represents two years of hard work, interesting challenges and personal enrichment. I am sure that this journey will provide an invaluable milestone in my personal development and professional career.

I would like to express my gratitude to Professor José Carlos Tudela, for his availability and useful guidance throughout this process; to my colleagues, for all the fruitful insights and discussions; and to my Family and friends for all the demonstrations of love and support.

# Table of contents

Sumário Executivo .....	2
Abstract .....	3
Acknowledgments .....	4
Table of contents .....	5
List of figures .....	8
1 Introduction .....	10
2 Literature Review .....	11
2.1 Discounted Cash Flow valuation .....	11
2.1.1 Free Cash Flow to the Firm .....	12
2.1.2 Free Cash Flow to Equity .....	13
2.1.3 Capital Cash Flow .....	13
2.1.4 Adjusted Present Value .....	13
2.2 Discount rate .....	15
2.2.1 Cost of equity .....	15
2.2.2 Weighted Average Cost of Capital .....	19
2.3 Explicit period and terminal value .....	22
2.4 Relative Valuation .....	22
2.5 Contingent claim valuation .....	24
2.6 Accounting and liquidation valuation .....	24
3 Industry Overview and Macroeconomic Outlook .....	25
3.1 Food retail business .....	25
3.1.1 Iberia .....	25
3.1.2 Emerging Markets .....	28
3.1.3 International trends and the future of grocery retail .....	29
3.2 Macroeconomic outlook .....	30

3.2.1	Iberia.....	30
3.2.2	Emerging Markets .....	32
4	Company Overview.....	34
4.1	History .....	34
4.2	Ownership structure.....	35
4.3	Business model.....	35
4.4	Financial analysis .....	38
4.4.1	Operating performance.....	38
5	Business Plan & Cost of Capital Assumptions .....	43
5.1	Business plan assumptions .....	43
5.1.1	Sales .....	43
5.1.2	Operating costs and EBITDA margin .....	48
5.1.3	Capital expenditures and depreciations.....	48
5.1.4	Goodwill.....	49
5.1.5	Investment in working capital .....	49
5.1.6	Debt, cash and interest income and expenses .....	51
5.1.7	Tax loss carryforwards .....	52
5.2	Cost of capital assumptions .....	52
6	Valuation .....	54
6.1	Discounted cash flow valuation.....	54
6.1.1	Base Case .....	54
6.1.2	Sensitivity analysis.....	55
6.2	Relative valuation .....	56
6.3	Comparison with BPI Markets Research.....	57
6.3.1	Valuation methodology .....	57
6.3.2	Main assumptions.....	58
7	Conclusion.....	60

8	References .....	61
	Appendix .....	64
	Appendix I.....	64
	Appendix II .....	65
	Appendix III.....	66
	Appendix IV.....	67
	Appendix V .....	68
	Appendix VI.....	69
	Appendix VII.....	71
	Appendix VIII .....	73
	Appendix IX.....	74

**List of figures**

Figure 2.1 - Equity risk premium formula with country risk premium..... 19

Figure 2.2 – Types of multiples ..... 23

Figure 3.1 - Sales in Spain grocery retailers by channel, in Million USD (source: Euromonitor) ..... 26

Figure 3.2 - Spain grocery retailers market share 2017 (source: Statista) ..... 26

Figure 3.3 - Portugal grocery retailers market share 2017 (source: BPI Equity Research) ..... 27

Figure 3.4 - CAGR in grocery retailers in Portugal by channel, 2013-18f (source: Planet Retail) ..... 27

Figure 3.5 - Market share of private labels in Portugal, 2009-13 (source: Nielsen)..... 28

Figure 3.6 - Spain historical and forecasted real GDP growth and inflation (source: IMF) .... 30

Figure 3.7 - Unemployment rate and retail sales growth in Spain (source: National Statistics Institute of Spain and Bloomberg) ..... 31

Figure 3.8 – Portugal historical and forecasted real GDP growth and inflation (source: IMF)31

Figure 3.9 - Unemployment rate and retail sales growth in Spain (source: National Statistics Institute of Portugal and Bloomberg)..... 32

Figure 3.10 - Argentina historical and forecasted real GDP growth and inflation (source: IMF) ..... 32

Figure 3.11 - Brazil historical and forecasted real GDP growth and inflation (source: IMF) . 33

Figure 3.12 - Historical and estimated FX rates for Argentina and Brazil (source: Bloomberg) ..... 33

Figure 4.1 - DIA private labels by market in 2016 ..... 36

Figure 4.2 - DIA's neighborhood store network format ..... 36

Figure 4.3 - DIA's larger store network formats ..... 37

Figure 4.4 - Historical consolidated income statement (2013 - 2017) ..... 39

Figure 4.5 - Iberia historical operating indicators (2013 - 2017) ..... 39

Figure 4.6 - Historical sales growth in Iberia (2013 - 2017) ..... 40

Figure 4.7 - Emerging Markets historical operating indicators (2013 – 2017)..... 41

Figure 4.8 - Emerging Markets historical sales growth (2013 - 2017) ..... 41

Figure 4.9 - Historical operating costs as % of total operating costs (2013 – 2017) ..... 42

Figure 5.1 - Estimated LFL growth in Iberia ..... 44

Figure 5.2 - Estimated net store openings in Iberia..... 44

Figure 5.3 - Spain forecasted revenues (in million Euros)..... 45



Figure 5.4 - Portugal forecasted revenues (in million Euros) .....	45
Figure 5.5 - Estimated LFL growth in Emerging Markets.....	45
Figure 5.6 - Estimated net store openings in Emerging Markets .....	46
Figure 5.7 - Estimated FX rates .....	47
Figure 5.8 - Argentina forecasted revenues (in thousand Argentinean pesos).....	47
Figure 5.9 - Brazil forecasted revenues (in thousand Brazilian reais) .....	47
Figure 5.10 - Estimated DSI, DRO and DPO .....	50
Figure 5.11 - Estimated working capital by geographical segment .....	51
Figure 5.12 - Estimated net debt and net debt to EBITDA ratio (in thousand Euros) .....	51
Figure 5.13 - Estimated country risk premium by segment .....	53
Figure 5.14 - WACC assumptions .....	53
Figure 6.1 - Estimated FCFF in Iberia .....	54
Figure 6.2 - Estimated FCFF in Emerging Markets.....	55
Figure 6.3 - Sum of parts DCF valuation of DIA.....	55
Figure 6.4 - Equity value after sensitivity analysis to WACC and terminal value nominal growth rate .....	56
Figure 6.5 - Estimated multiples from peer group .....	57
Figure 6.6 - WACC comparison between both studies.....	58
Figure 6.7 - Assumptions comparison between both studies .....	59

# 1 Introduction

This Dissertation aims at valuing Distribuidora Internacional de Alimentación, S.A., (DIA) and estimate the intrinsic value of its shares. The company is a Spanish discount retailer with operation in Spain, Portugal, Argentina and Brazil, and it is also listed in the main Spanish stock exchange. This valuation is compared with an investment bank's *investment report* and the current market price; therefore, a recommendation is issued.

The structure of the Dissertation approaches the most common and relevant topics in an *equity research*, making available all the disclosed and necessary information for a sound valuation.

It begins by exploring the most important studies and publications about the *state-of-art* of enterprise valuation methodologies. Their advantages and disadvantages are discussed, and their application examined according to the characteristics of the company and the market. The goal of this chapter is to provide the fundamental tools to perform a plausible and robust valuation.

The second step of this document presents an overview of the food retail sector and the macroeconomic outlook, in order to foresee the principal trends and perspectives of the industry and how some critical may influence the company's performance in the future and, thus, its intrinsic value.

Afterwards, an in-depth analysis of the company is developed, focusing on its history and ownership structure, as well as its business model and historical operating performance. This chapter is essential to understand the goals of the company and its strategy to achieve them, because its future performance is influenced by the decisions taken today.

To conclude, the business plan and cost of capital assumptions are described and explained in order to understand the key value drivers of DIA's valuation. The final equity value of the company is presented, as well as the methodologies used to achieve it. The comparison with the investment bank's equity research is also shown, focusing on the methodologies and assumptions used in both valuations.

## **2 Literature Review**

Valuation assumes an important role in various fields of finance. From corporate finance and capital budgeting to portfolio management and investment analysis, passing through Mergers & Acquisitions valuation and litigation processes, firm valuation is used by managers, investors and academics.

In active portfolio management and investment analysis, analysts defend that the value of a business is associated with its growth potential, risk profile and ability to generate cash flows, so they look for companies that are traded below their intrinsic value, expecting to cash in a profit (Damodaran, 2006).

On the other hand, in mergers & acquisitions the buyer and the seller use firm valuation in order to help them defining the maximum and minimum prices, respectively, that they are willing to pay and sell for an asset (Fernandéz, 2007). Managers and decision makers use firm valuation to understand the impact of their decisions on the value of the company, in corporate finance and capital budgeting processes. Corporate finance focus on maximizing the value of the company (Damodaran, 2002).

In bankruptcy and litigation processes, it is necessary to calculate the value of the assets of the company in order to proceed to their alienation and satisfy all the stakeholder's claims.

Company valuation has different objectives according to the purposes it addresses. Different methodologies can be applied, each with different fundamentals and assumptions, although they share common characteristics (Damodaran, 2006). In this section the state-of-the-art of valuation methods are presented and their advantages and disadvantages discussed. The author suggests the categorization of different methodologies into four groups: 1) Discounted cash flows valuation; 2) Relative valuation; 3) Contingent claim valuation; and 4) Accounting and liquidation valuation.

### **2.1 Discounted Cash Flow valuation**

According to a survey conducted by Bancel and Mittoo (2014), the discounted cash flow (DCF) approach remains a favorite among European practitioners as a key tool for valuations complemented with other methods. The DCF approach relates the value of a company or an asset to the present value (PV) of the future cash flows it is expected to generate (Damodaran, 2002), as expressed in Formula 1. The discount factor used to translate the future cash flows

into today's value must represent the opportunity cost faced by the investors for investing their funds in a particular business instead of other entailing the same risk (Luehrman, 1997).

*Equation 2.1 – Present value rule*

$$Present\ Value = \sum_{t=1}^{t=n} \frac{CF_t}{(1+r)^t}$$

where n represents the life time of the asset,  $CF_t$  is the cash flow of the asset at period t, and r is the discount rate.

This approach is based on predictions, so a sensitivity analysis must be performed in order to compute three different scenarios (“base case”, “bull case” and “bear case” to examine the effects of changes in the underlying assumptions in the company's value (Steiger, 2010). The “base case” must reflect the company's best estimations at the date while the “bull case” and the “bear case” must represent the optimistic and pessimist assumptions, respectively.

Using a DCF methodology one might arrive at the value of the entire business, which is called the Enterprise Value, or at the value of the equity stake of the company which is an equity valuation. Koller et al. (2010) claims that the aim of the DCF model is to value the equity of a going concern by initially valuing the asset side of the balance sheet and subtracting the value of the interest-bearing debt. The value of total assets is the sum of the value of operations of the firm and “excess marketable securities”, that include cash that is not necessary for the operating activities of the firm. The value of operations is computed by summing the discounted free cash flows from operations at the WACC. Free cash flow is cash generated by the business of the firm after paying taxes on the business only, after capital expenditures and after investment in additional working capital, therefore it is cash available to distribute to all equity and debt holders of the company and for investment in excess marketable securities.

According to Oded and Michel (2007), there are four methods to value a company using the discounted cash flows approach: 1) Free Cash Flows to the Firm (FCF); 2) Cash Flows to the Equity (FCE); 3) Capital Cash Flows (CFC) and 4) Adjusted Present Value (APV). Each method is evaluated in the following.

### **2.1.1 Free Cash Flow to the Firm**

The FCF approach calculates the Enterprise Value by discounting the sum of the cash flows to all stock and debtholders in the firm at an adequate rate, the Weighted Average Cost of Capital (WACC). Free cash flow to the firm can be computed in the following way:

*Equation 2.2 - FCFF formula*

$$FCFF = EBIT * (1 - Tax\ rate) + Depreciation - Capex - \Delta Working\ Capital$$

Depreciation is not a cash cost, that is why it is added back to the EBIT

The cash flows do not reflect the tax-deductibility of interest since the discount rate, WACC, incorporates this characteristic by considering the after-tax cost of debt (Damodaran, 2002).

### **2.1.2 Free Cash Flow to Equity**

The FCFE approach assesses the equity value of the firm. Damodaran (2002) defines cashflows to equity as the “cashflows left over after meeting all financial obligations, including debt payments, and after covering capital expenditure and working capital needs”, so it is the cashflows that can be returned to shareholders.

*Equation 2.3 - FCFE formula*

$$FCFE = Net\ Income + Non - Capex + Depreciations - \Delta Working\ Capital + \Delta Net\ Debt$$

where change in net debt is the difference between new debt issued and the repayment of old debt.

As explained later in this chapter, free cash flow to equity must be discounted at the required rate of return by equityholders of the firm, which is also known as Cost of Equity (Ke).

### **2.1.3 Capital Cash Flow**

The Capital Cash Flow method calculates the value of the levered firm. Capital cash flows are cash flow to both equity and debt holders and are discounted back at the unlevered cost of equity to compute the value of the firm, according to Damodaran (2006). Ruback (2002) shows that the Capital Cash Flow approach arrives at a similar value as the FCFF method, therefore it will not be assessed in more detail.

### **2.1.4 Adjusted Present Value**

According to Luerhman (1997), the Adjusted Present Value method is less prone to errors, requires fewer assumptions and provides managerially relevant information about where the value comes from in comparison to the FCFF approach.

As stated by Damodaran (2006), using this method the Enterprise Value is obtained by valuing the company as if it is all financed by equity and adding up the value of debt benefits and costs. Benefits from using debt to fund the company's operations arise from the tax-deductibility of

interest expenses. At the same time, debt brings bankruptcy risks and, thus, its expected costs arise.

*Equation 2.4 - APV formula*

$$EV = \text{Value of business with 100\% equity financing} \\ + \text{PV of Expected Tax Benefits of Debt} + \text{Expected Bankruptcy Costs}$$

The calculation of the unlevered value of the firm is the first step in this approach, which is obtained in the following way:

*Equation 2.5 - Value of Unlevered Firm formula*

$$\text{Value of Unlevered Firm} = \sum_{t=1}^n \frac{FCFF_t}{(1 + k_u)^t}$$

where  $FCFF_t$  is the operating cash flow to the firm after-tax at time  $t$  and  $k_u$  is the unlevered cost of equity. Using this method, the company is valued as if it has no debt, which means that its free cash flow must be discounted at the unlevered cost of equity (Jennergren, 2011).

After calculating the value of unlevered firm, the present value of the benefits from holding debt must be calculated. The tax-deductibility of interest expenses assumes the form of tax shields and their present value is calculated as present in the formula below:

where  $K_d$  is the cost of debt. The choice of the appropriate discount factor is subject to many different interpretations in financial literature and there is no consensus among academics and financial analysts leading Copeland et al. (2000) to claim that “the financial literature does not provide a clear answer about which discount rate for the tax benefit of interest is theoretically correct”. If, on the one hand, Fernández (2004) argues that the value of the tax shields should be calculated as the difference of the value of the levered firm and the value of the unlevered firm, he arrives at a multiple of the unlevered cost of equity of the firm to the cost of debt that elevates the value of tax benefits much more than the conventional approach. On the other hand, Cooper and Nyborg (2006) disagree with Fernandez because it violates value-additivity and argue that the value of the interest tax shields is the present value of interest tax savings discounted at  $K_d$ .

The final step to conclude a valuation using the APV method is to compute the expected bankruptcy costs. These costs can be direct or indirect. Direct bankruptcy costs are, for example, lawyer fees. On the other hand, indirect bankruptcy costs are, for example, loss of bargaining

power with suppliers or loss of clients. Damodaran (2006) states that this component “poses the most significant estimation problems, since neither the probability of bankruptcy nor the bankruptcy costs can be estimated directly”.

Despite of that, the author suggests that the expected bankruptcy costs (ECB) are calculated as follows:

*Equation 2.6 - Expected Bankruptcy Costs formula*

$$ECB = Probability\ of\ Default * PV\ of\ Bankruptcy\ Costs$$

Damodaran (2006) suggests two ways to estimate the probability of default by either estimating the bond rating of the company and computing the empirical default probabilities at each level of debt or a statistical approach that is based on the firm’s intrinsic characteristics. On the other hand, it is very difficult to estimate bankruptcy costs. Damodaran states that “the magnitude of these costs can be examined in studies and can range from 10-25% of firm value”.

## **2.2 Discount rate**

The four DCF methods described in the previous section depend on different rates to discount the estimated cash flows that are described in the following section. The discount factor is the rate at which the estimated cash flows must be discounted to properly reflect the opportunity cost of an investment, in this case a firm. As mentioned before, by discounting the estimated cash flows at this rate one arrives at their present value.

### **2.2.1 Cost of equity**

According to Damodaran (2002), cost of equity is the “rate of return required by equity investors in the firm”. Although there are several risk and return models to compute the cost of equity, the three most prominent models are described with some detail: the Capital Asset Pricing Model (CAPM), the Fama-French three-factor model and the Arbitrage Pricing Theory.

The Capital Asset Pricing Model (Sharpe, 1964; Lintner, 1965; Mossin, 1966; Black, 1972) argues that the expected return of an asset is linearly related with its beta (correlation between the return of the asset and the return of the market portfolio). As evidence shows, it is the leading model among corporations and financial advisors according to Bruner, Eades, Harris and Higgins (1998). This model considers the risk-free rate; the market risk premium and asset’s sensitivity to non-diversifiable risk, as described below:

*Equation 2.7 - Cost of equity formula using CAPM*

$$K_e = R_f + \beta_e * (R_m - R_f)$$

Where  $R_f$  is the risk-free rate,  $\beta_e$  is the equity beta and  $R_m$  is the market rate of return, whereas  $(R_m - R_f)$  represents the market risk premium. Each of these elements are described and explained in the next chapters.

On the other hand, Fama-French three-factor model argues that expected returns can be forecasted as a function of systematic risk, market capitalization (SMB) and book-to-market ratio (HML). As Koller, Goedhart and Wessels (2005) states, Fama-French three-factor model considers that “equity returns are inversely related to the size of a company (as measured by market capitalization) and positively related to the ratio of a company’s book value to its market value of equity. This model is expressed in the formula below (Fama, French, 2004). Fama & French (2015) extended the formula by two further factors.

*Equation 2.8 - Cost of equity formula using Fama-French three factor model*

$$K_e = R_f + \beta_e * (R_m - R_f) + \beta_s * SMB + \beta_v * HML$$

Where  $\beta_s$  and  $\beta_v$  are the beta coefficients relating to *SMB* and *HML*, respectively, *SMB* is the return difference between small and big diversified portfolios and *HML* represents the return difference between of diversified portfolios with high and low book-to-market ratios.

Other alternative to compute the cost of equity is the Arbitrage Pricing Theory developed by Ross (1976) where the author computes the expected return of an asset as a linear relationship between various macroeconomic variables. Damodaran (2002) considers that while CAPM assumes that market risk is reflected in the market portfolio, APT “allows for multiple sources of market-wide risk and measures the sensitivity of investments to changes in each source”. Although resembling a “general version” of the Fama-French three-factor model, Koller, Goedhart and Wessels (2005) argue that there is no consensus “about how many factors there are, what the factors represent, or how to measure the factors”.

On the other hand, although Fama & French (1992) could not find strong evidence about the linear relationship between beta and the return of an asset, Amihud, Christensen and Mendelson (1992) and Kothari and Shanken (1995) did and Damodaran (2002) considers that CAPM is “the risk and return model that has been in use the longest and is still the standard in most real world analyses”. Therefore, it will be discussed in detail and its components will be analyzed in the next chapters.



### **2.2.1.1 Risk-free rate**

Damodaran (2008) defines risk as the variance around the expected return of an asset. Thus, a risk-free investment is one whose actual return is always equal to the expected return. Damodaran (2002) argues that an investment must bear no default risk and no reinvestment risk to be considered risk free.

The only securities that can meet these criteria are government securities because they control the printing of currency and, therefore, can act as a lender of last resort, guaranteeing the default free nature of the security; on the other hand, no reinvestment risk can only be assured by zero coupon bonds because, since there is no coupon, it cannot be reinvested at a different rate.

Additionally, Damodaran (2008) argues that the maturity of the risk-free security should be equal to the duration of the cash flows and it should pay in the same currency in order to handle inflation consistently. In the case of the Economic and Monetary Union, as none of the governments that comprise this union control the Euro money supply, investors perceive the yield of the 10-year German government bond as the risk-free rate.

### **2.2.1.2 Beta**

In CAPM, equity beta ( $\beta_e$ ), also known as levered beta, is the measure of the systemic risk of the asset or the asset's sensitivity to non-diversifiable risk, which can be obtained by computing the covariance between the asset's rate of return and the rate of return of the market portfolio. Rosenberg and Rudd (1982) states that one of the fundamental principles of the CAPM model is that investors can mitigate their idiosyncratic risk by diversifying their portfolios, so the market only rewards bearing market risk.

Beta is not directly observable in the market, so it must be estimated implying that one must develop a set of assumptions and methodologies. One of the most common methods to estimate the raw beta is to regress the stock return against the market portfolio return, and then "improve the estimate by using industry comparables and smoothing techniques" (Koller, Goedhart and Wessels, 2005). In this way, beta is the slope of the regression and it represents the sensitiveness of the stock price to market fluctuations (Fama & French, 2004).

Two questions that arise from this method: how long should be the time series and return interval for beta estimation and what should be the market portfolio?

Black, Jensen and Scholes (1982) utilized five years of previously monthly data to estimate the beta, while Alexander and Chervany (1980) considers a period of 4 to 6 years of monthly data.

On the other hand, Merton (1980) defends “using as long a historical time series as is available”. Damodaran (1999) considers that a longer time span has the advantage of having more observations in the regression, but the firm can also have changed its fundamental characteristics in the same time period. The objective is to estimate a beta that is a best fit for the future. Damodaran (1999) also considers that “the return interval most adequate is the monthly one” and “using more frequent return periods, such as daily and weekly returns, leads to systematic biases” (Koller, Goedhart and Wessels, 2005).

Regarding the benchmark portfolio, it is widely reckoned that a true market portfolio is unobservable, so a proxy is necessary. Koller, Goedhart and Wessels (2005) recommend a well-diversified portfolio represented by an equity index such as the S&P 500, for U.S. stocks, or, for example, the MSCI Europe Index, outside the United States. On the other hand, a local market index is a bad choice because most countries rely economically on just a few industries and, thus, the beta would represent a firm’s sensitivity to a particular industry, instead of measuring market-wide risk.

### ***2.2.1.3 Market risk premium***

Market risk premium is the difference between the expected return of the market and the risk-free rate and it must be estimated since it is unobservable. Koller, Goedhart and Wessels (2005) consider that “no single model for estimating the market risk premium has gained universal acceptance”, however it is reasonable to assume that expected return on riskier investments is higher than the expected return on safer investments, which means that “the expected return on any investment can be written as the sum of the risk-free rate and an extra return to compensate for the risk” (Damodaran, 2002).

Using the CAPM, Damodaran (2002) argues that the goal of the risk premium is to measure the excess return that investors demand, on average, to invest in the benchmark portfolio over the risk-free asset. Damodaran (2017) states equity risk premiums are estimated using one of three general approaches: 1) surveys to investors, managers and academic; 2) historical equity premium; or 3) implied equity premiums.

Surveys to investors, managers and academics are a very reasonable method to estimate the equity risk premium, because, on the one hand, “if the equity risk premium is what investors demand for investing in risky assets today, the most logical way to estimate it is to ask these investors what they require as expected returns”. On the other hand, managers engage in decisions supported by corporate finance, and they must deal with it on a daily basis, while

academics do not take part in any investing or corporate finance decision but provide the textbooks and papers that most practitioners back their numbers with.

The historical return of stocks over the yield of default-free securities, on an annual basis, might produce reasonable estimates in large and diversified stock markets like the United States, but for short and less diversified markets, like emerging markets and even some European equity markets. There is no consensus on which time period to use to estimate the equity risk premium nor on whether to use a geometric or arithmetic average. Damodaran (2002) argues that, using this method, “the risk premium estimated in the US markets by different investment banks, consultants and corporations range from 4% at the lower end to 12% at the upper end.”

Implied equity premiums are derived from the market, which implies that the market is correctly priced. However, this methodology depends on the soundness of the model used and the availability and reliability of the inputs used. Moreover, it changed considerably over time.

#### ***2.2.1.4 Country risk premium***

The discount rate used to value non-US companies must consider the risk associated with the specific country. Damodaran (2002) argues that country specific risk is non-diversifiable, “either because the marginal investor is not globally diversified or because the risk is correlated across markets”.

Damodaran (2017) suggests calculating the market risk premium by adding the country risk premium to the mature market equity premium as follows:

*Figure 2.1 - Equity risk premium formula with country risk premium*

*Equity Risk Premium*

$$= \text{Base Premium for Mature Equity Market} + \text{Country Risk Premium}$$

The same author suggests using a market-based measure to estimate the country risk premium, such as the credit default swap spreads for each country.

#### ***2.2.2 Weighted Average Cost of Capital***

The WACC takes into consideration the aggregate risk of a company, because it combines the rates of return required by debt holders (cost of debt) and equity holders (cost of equity). The WACC is defined in the following way:

*Equation 2.9 - WACC formula*

$$WACC = \frac{D}{D + E}k_d(1 - t_c) + \frac{E}{D + E}k_e$$

where  $D$  is debt and  $E$  is equity and both are measured in market values.  $k_d$  is the cost of debt,  $t_c$  is the marginal tax rate and  $k_e$  is the cost of equity and has already been defined in detail.

It is important to note that this method includes the value of interest tax shields and bankruptcy costs, implicitly, by using the after-tax cost of debt (Damodaran, 2006). In addition, this method “assumes the company manages its capital structure to a target debt-to-value ratio” (Koller, Goedhart and Wessels, 2005).

In the following sections the remaining components of the WACC are described in detail.

### **2.2.2.1 Cost of debt**

Koller, Goedhart and Wessels (2005) argue that the cost of debt of an investment-grade company is the yield to maturity of the company’s long-term bonds. For these companies, this method is a good proxy because the probability of default is extremely low. To estimate the cost of debt, the following formula must be solved for yield to maturity (YTM):

*Equation 2.10 - YTM formula*

$$Price = \frac{Coupon}{(1 + YTM)} + \frac{Coupon}{(1 + YTM)^2} + \dots + \frac{Face + Coupon}{(1 + YTM)^N}$$

However, companies may have bank loans and other financial liabilities that are not traded in secondary market, therefore, computing the all-in cost of debt is a good proxy for the cost of total debt of the company. It is computed as follows:

*Equation 2.11 - All-in cost of debt formula*

$$All - in \text{ cost of debt} = Interest \text{ on bank loans and bonds} * Interest - bearing \text{ liabilities}$$

### **2.2.2.2 Tax rate**

Damodaran (2002) argues that there are two methods to compute the appropriate tax rate: 1) the effective tax rate; or, 2) the marginal tax rate. The effective tax rate is the average rate at which a company is taxed on its earned income, while the marginal tax rate is “the rate at which the last or the next dollar of income is taxed”. Damodaran (2002) argues that the difference between the two rates is explained by deferring taxes, tax credits and the use of different accounting standards for reporting and tax purposes. The author claims that since none of these

reasons hold in perpetuity, the effective tax rate may converge to the marginal tax rate in the long-run, so the marginal tax rate is the most robust assumption.

Multinational companies are taxed at different rates in different areas, based on the countries they are in. Damodaran (2002) proposes three distinct ways to overcome this problem:

1. Weighted average of the marginal tax rates with the proportions based upon the income generated in each of these countries by the firm. The main disadvantage of this approach is that weights may change over time if the income grows at different rates in different countries.
2. The second approach is to assume the marginal tax rate of the country in which the company is based on, with the premise that the income generated in other countries will be repatriated eventually to the country of origin when it will have to pay the marginal tax rate. This approach assumes the home country has the highest marginal tax rate.
3. The third approach is to assess each region's income separately and apply the correct marginal tax rate to each income stream. This is the safest method.

### ***2.2.2.3 Capital structure***

The last component to estimate the WACC is the capital structure which corresponds to the weights of debt and equity regarding enterprise value. Koller, Goedhart and Wessels (2005) defend using a target of debt and equity to enterprise value at market value (in opposition to book value), because “the WACC represents the expected return on an alternative investment with identical risk” and the company can repay debt and repurchase equity at any time, at market prices. Additionally, the current weights may or may not reflect the capital structure expected in perpetuity.

The authors suggest using a combination of three approaches to estimate the target capital structure:

1. Estimate the company's current capital structure at market values;
2. Investigate comparable companies' capital structure;
3. Review management's financial decisions and instigate about its implications.

### 2.3 Explicit period and terminal value

The value of the assets of a company is estimated in two distinct periods: during the explicit forecast period and after the explicit forecast period. The sum of present value of cash flow in both periods yields the value of operations:

*Equation 2.12 - Value of operations formula*

*Value of Operations*

$$\begin{aligned} &= \text{PV of Free Cash Flow during Explicit Forecast Period} \\ &+ \text{PV of Free Cash Flow after Explicit Forecast Period} \end{aligned}$$

The explicit forecast period is the limited number of years for which the company's cash flow is estimated. Koller, Goedhart and Wessels (2005) argue that the explicit forecast period must be long enough to capture transitory effects and for the company to reach a steady state, that is characterized by the company growing at a constant rate that must be equal or less than that of the aggregate economy. Therefore, an explicit forecast period of 10 to 15 years is recommended.

After the explicit forecast period, the company's operations are valued using the terminal value. The terminal value measures the liquidation value, if a finite life for the firm is assumed, or the value of a going concern in perpetuity using a stable growth model (Damodaran, 2002). Assuming the firm will reinvest its cash flows and, thus, will live beyond its explicit forecast period, the stable growth model should be used. It assumes the firm's cash flows will grow at a constant rate forever and it can be estimated as follows:

*Equation 2.13 - Terminal value formula*

$$\text{Terminal Value}_t = \frac{\text{Cash Flow}_{t+1}}{r - g}$$

where  $r$  is the discount rate and  $g$  is the rate at which the firm's cash flows will grow in perpetuity.

### 2.4 Relative Valuation

The second valuation methodology presented is the relative valuation. This method relies on the analysis of comparable traded companies' characteristics and establishing market multiples to assess the value of a firm (Henschke & Homburg, 2009). These multiples can be based on earnings, revenues, book value, and many more financial indicators, and some are industry-specific.

Goedhart et al. (2005) considers multiples valuation an adequate complementary valuation to the DCF method as it helps stress-testing the assumptions used in there. Damodaran (2006) enumerates the following steps to perform a relative valuation: 1) find a group of comparable companies (peer group); 2) generate comparable standardized prices by scaling the market prices to a common variable; and 3) adjust for differences across assets when comparing the standardized multiples.

Steiger (2008) defines comparable companies as the ones operating in the same industry and same geographical areas as the target company, as well as having the same expected growth rate, margins and returns on invested capital. The last criteria is the most challenging and complex to look for, but Alford (1992) showed that selecting the peer group based on the industry in which the companies operate is relatively effective.

Damodaran (2002) identifies four types of multiples indicated in the table below:

Figure 2.2 – Types of multiples

Earnings Multiples	Book Value Multiples	Revenue Multiples	Sectors-Specific Multiples
<ul style="list-style-type: none"> <li>- Price/Earnings Ratio (PE) and variants (PEG and relative PE)</li> <li>- Value/EBIT</li> <li>- Value/EBITDA</li> <li>- Value/FCFF</li> </ul>	<ul style="list-style-type: none"> <li>- Price/Book Value (of equity) (PBV)</li> <li>- Value/Book Value of Assets</li> <li>- Value/Replacement Cost (Tobin's Q)</li> </ul>	<ul style="list-style-type: none"> <li>- Price/Sales per share (PS)</li> <li>- Value/Sales</li> </ul>	<ul style="list-style-type: none"> <li>- Price/kWh</li> <li>- Price per ton of steel</li> </ul>

where Value refers to Enterprise Value.

Kaplan and Ruback (1995) argue that “there is no obvious method to determine which measure of performance – EBITDA, EBIT, net income, revenue, and so on – is the most appropriate for comparison”. Preference for certain types of multiples varies from industry to industry as Damodaran (2002; 2006) notes that capital intensive industries tend to opt for EV/EBITDA multiples. Lie and Lie (2002) concluded that “of the total enterprise value multiples, the asset multiple provides the most accurate and the sales multiple provides the least accurate estimates. The earnings-based multiples provide accuracy in between, and the multiple based on EBITDA provides better estimates than that based on EBIT”, after conducting an empirical study testing 10 different multiples with financial data from the fiscal year of 1998 of 8.621 companies.

Besides electing the better performing multiples to apply to the valuation, it is also necessary to choose between historical and forward-looking multiples. Forward-looking multiples should

use forecasts of financial indicators, instead of historical figures. Koller, Goedhart and Wessels (2005) argue that “forward-looking multiples are indeed more accurate predictors of value than historical multiples are” but they depend on the availability of financial projections. Lie and Lie (2002) and Liu, Nissim and Thomas (2002) corroborate this position, highlighting that “forward-looking earnings forecasts reflect value better than historical accounting information”.

## **2.5 Contingent claim valuation**

The contingent claim approach introduces managerial flexibility into firm valuation. Managers respond to future events in different ways and it is important to model the implications of these decisions into the value of the firm (Koller, Goedhart and Wessels, 2005). Koller, Goedhart and Wessels (2005) discuss two different contingent claim methods: real-option valuation approach, based on the Black-Scholes Option Pricing Model (Black and Scholes, 1972), and decision tree analysis approach, which relies on the binomial model. These models should be applied to assets with financial options’ characteristics, such as oil and mining reserves development and pharmaceutical patent. This is not the case of DIA Group’s assets, since, as Luehrman (1997) highlights, “the right to start, stop, or modify a business activity at some future time is different from the right to operate it now”, so this valuation method will not be examined any further.

## **2.6 Accounting and liquidation valuation**

A business can be valued as a going concern or as a collection of assets. Accounting and liquidation valuations, also known as asset-based valuation, focus on estimating the value of each asset separately. Accounting valuation is especially advocated by accountants that argue that the value of a company is the “weighted average of (i) capitalized current earnings (adjusted for dividends) and (ii) current book value” (Ohlson, 1995). On the other hand, Damodaran (2006) argues that asset-based valuations of companies with growth perspectives underestimate the value of these companies. Also, different accounting standards in different countries and industries make the comparability between companies very complex (Estridge and Lougee, 2007). It is also very important to notice that some companies can easily manipulate their financial reports resulting in a valuation that does not represent the reality of the company.

The liquidation valuation approach assumes that the assets of the company must be sold immediately and, as such, the assets may be sold at a discount. This method must only be applied in companies that face a solvency problem (Damodaran, 2006). As this is not DIA Group’s case, this method will not be analyzed any further.



### **3 Industry Overview and Macroeconomic Outlook**

Prior to proceeding to the valuation of DIA Group, it is crucial to understand the dynamics of the food retail market and the macroeconomic trends of the geographical areas where the company operates.

#### **3.1 Food retail business**

The food retail business assumes different channels and formats. Supermarkets, hypermarkets, discounters and convenience stores are the most common ones, each with distinct characteristics and focus. Hypermarket is the largest store format and shares the focus on assortment with supermarkets. Discounters, on the other hand, offer a smaller range of products with focus on prices and private-label. Convenience stores focus on proximity and offer a limited range of everyday goods.

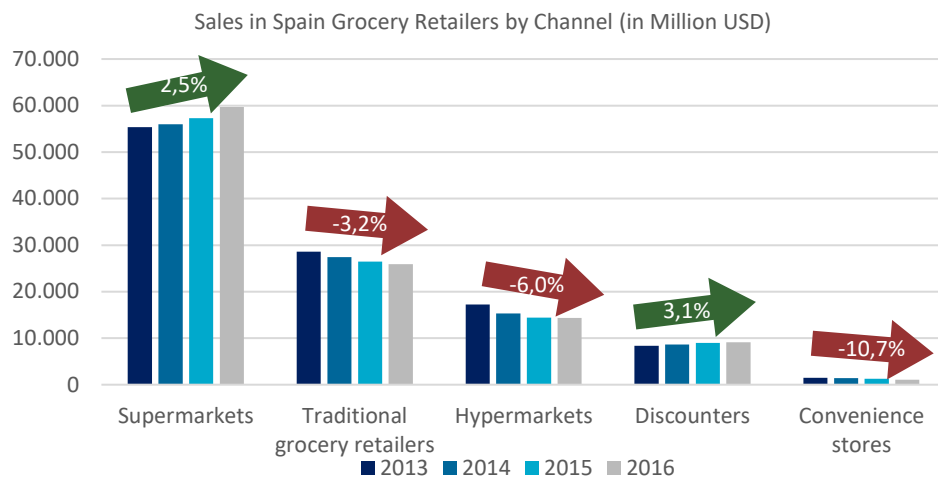
This business is distinguished by high sales turnover and low margins and it is a labor and capital-intensive industry. Sales growth is correlated with macroeconomic trends, namely GDP growth, inflation, demographics and private consumption but its broad and less discretionary product offerings makes it less cyclically affected by declining consumer spending. On the other hand, it is a highly competitive and fragmented industry, dominated by large players with relevant market share and scale, and customer loyalty is associated with strong brand recognition. The growth of the discount segment has pressured margins as traditional players have to lower prices to remain competitive.

Given their different risk/growth profiles and the company's strategy in each of the markets, DIA's operations can be divided in two segments: Iberia and Emerging Markets. The next sections approach the specificities of the sector in both geographical areas.

##### **3.1.1 Iberia**

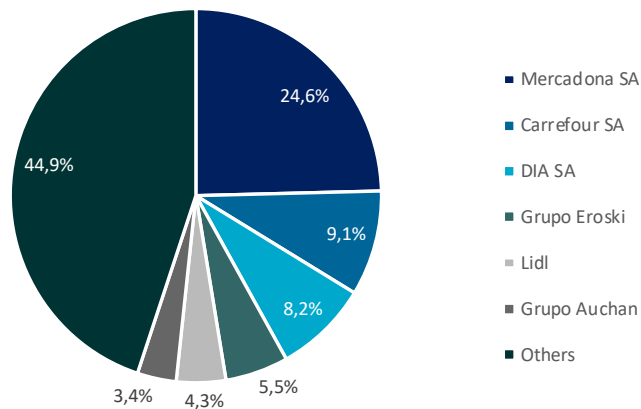
The years of economic recession affected considerably the food retail sector in Spain. With the stagnation of domestic demand, discounters and convenience stores are gaining relevance in the Spanish market with sales growing at a CAGR of 3,1% and 2,5%, respectively, from 2013 to 2016, revealing that consumers are becoming increasingly price-sensitive.

Figure 3.1 - Sales in Spain grocery retailers by channel, in Million USD (source: Euromonitor)



Spain has a mature and diversified market for food retail, offering a wide range of store formats and channels. The 6 larger groups account for less than 50% of the market share in 2016 and all of them are investing extensively in proximity and convenience formats, as well as in their fresh ranges and “price” image.

Figure 3.2 - Spain grocery retailers market share 2017 (source: Statista)

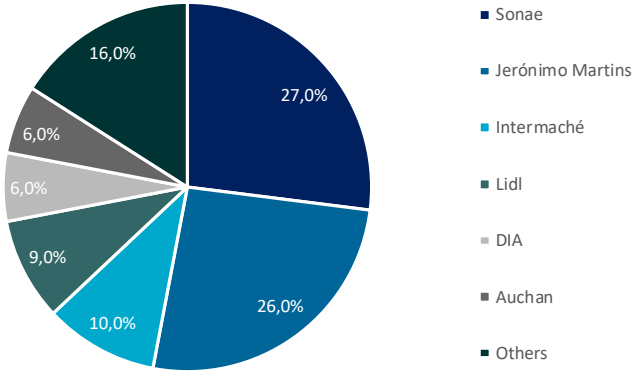


According to Euromonitor, private-label (PL) products accounted for 36% of sales in 2014 and their importance is unquestionable. The frequency of store visits and purchases is increasing as consumers prefer to purchase fresh products on a regular basis and seek proximity formats. However, as the Spanish economy recovers branded products are regaining importance.

In Portugal, the food retail sector is highly concentrated as the top 5 retail chains have roughly 78% of the market share. The recent economic downturn and the challenges associated with it

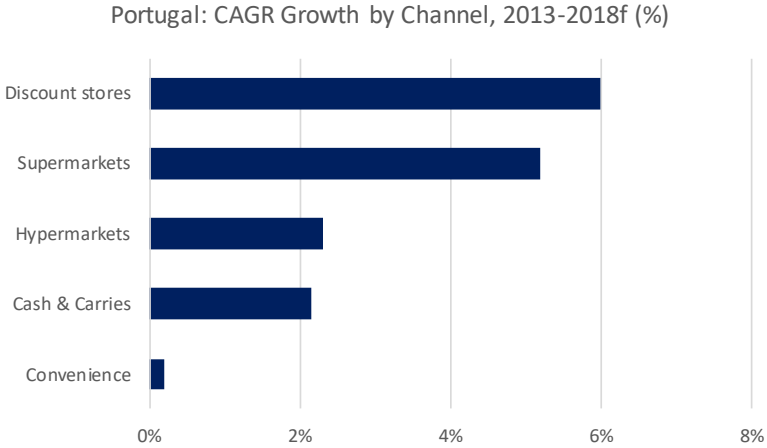
have polarized the sector with the two main players (Sonae and Jerónimo Martins) increasing market share.

Figure 3.3 - Portugal grocery retailers market share 2017 (source: BPI Equity Research)



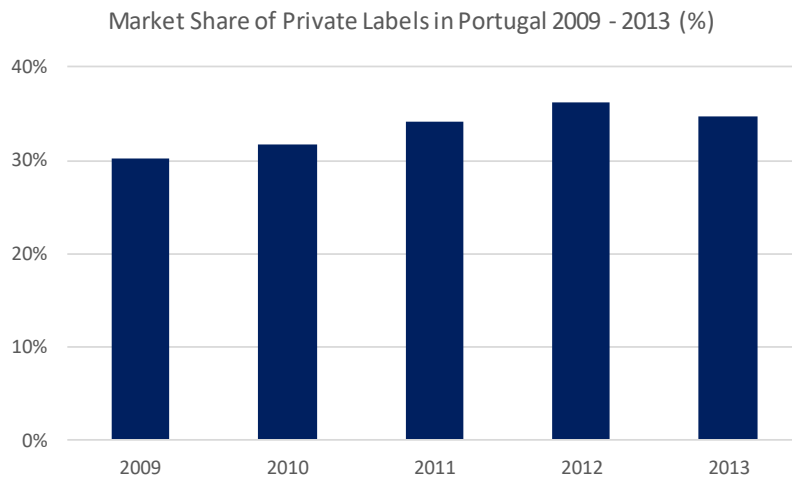
Despite the recent economic recession, food retail sales have proven resilient registering positive growth every year. Discounters and supermarkets have grown at an above 5% CAGR in the past 5 years.

Figure 3.4 - CAGR in grocery retailers in Portugal by channel, 2013-18f (source: Planet Retail)



Recent trends include a highly promotion-oriented market and the strategy has revealed effective. National brands have been supporting this promotion intensity and saw their long-term declining trend reverting to private labels. Nonetheless, private labels still represent a significant proportion.

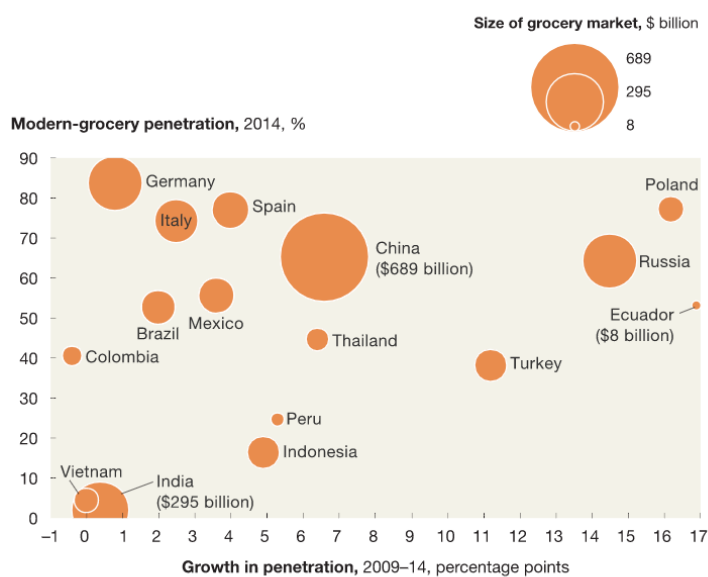
Figure 3.5 - Market share of private labels in Portugal, 2009-13 (source: Nielsen)



### 3.1.2 Emerging Markets

According to McKinsey, Emerging Markets traditional grocery formats have been proven resilient as global grocery giants struggle to find a sustainable strategy to profit from a largely unexplored consumer market. Multinational grocers relied on the modern formats that are working well in the developed world, but the macroeconomic and demographic reality is completely different. Hypermarkets prospered in the developed world thanks to a handful of conditions that emerging markets still do not benefit from in a large scale: affluent consumers, large middle class with decent wages and stable employment, widespread car ownership, among others.

Modern-trade penetration and growth vary widely by market.



In Brazil, the grocery retail market is developing and modernizing supported by a young, urban population and a fast-growing middle class. The market is highly fragmented as the largest five players compete with an immeasurable number of small and regional grocery chains. In 2015, according to Planet Retail, the top 10 retailers accounted for less than 40% of the total industry sales, but the market is shifting dynamically.

In 2013, the Brazilian discount sector captured around of 1% of the national grocery spending but it is expanding rapidly with leading discount players like Walmart, DIA and Econ. Private label penetration is low as its sales accounted for just an estimated 5% of consumer spending on food and drink, according to Nielsen research.

Global retailers face the same challenge in Argentina and in Brazil, as traditional formats still dominate the highly fragmented market. However, substantial growth has being seen in the modern grocery retail formats as the economy recovers from recession and deflation. Discounters are growing in popularity with international players rolling out their banners like Carrefour, Casino and DIA.

### ***3.1.3 International trends and the future of grocery retail***

Both developed economies and emerging markets face different challenges and opportunities with changing macroeconomic and demographic dynamics. In the Western world, ageing population, low inflation and stagnant growth present the main challenges for food retailers as competition increases. On the other hand, emerging economies present higher growth prospects with the increase of urban population, rise of the middle class and higher disposable income which suggests that modern grocery retailers will have to focus on proximity formats.

Changing consumer habits require constant adaptation from retailers with consumers increasingly more aware of health issues and demanding of fresh products. With this in mind, the market has been increasing its offerings of fresh and perishable products, like meat, fish, vegetables, fruit and bakery, while adapting store concepts to enhance customer experience.

The growth of discounters has put pressure on sales due to intense competition, decreased margins which led to cost cutting, ultimately harming innovation. To revert this trend, automation and robotics can substitute labor and increase operating efficiency. Technology can also feed managers with real time data with sensor and predictive analytics

The online grocery retail segment also represents an opportunity for retailers with consumer demand increasing rapidly in recent years. E-commerce improves customer experience by

finding the optimal balance between the digital platform and the physical infrastructure of bricks and mortar.

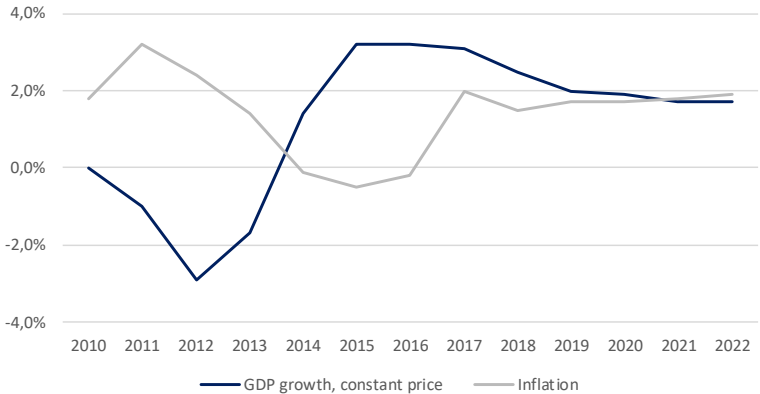
### 3.2 Macroeconomic outlook

#### 3.2.1 Iberia

Spain and Portugal have been considerably affected by the sovereign debt crisis and subsequent recession, which damaged severely the purchasing power of consumers in both countries.

In Spain, the burst of the housing market bubble led to a crisis in the banking sector, where the State had to bail out some banks to strengthen their balance sheets. This was followed by a credit crunch that led to unemployment and less disposable income, affecting economic growth.

Figure 3.6 - Spain historical and forecasted real GDP growth and inflation (source: IMF)



From 2009 to 2013, Spanish real GDP growth fell at a 1,4% CAGR. In 2010, the unemployment rate increased to 19,9%, having peaked at 26,1% three years later. Retail food sales decreased at a CAGR of 2,95% between 2008 and 2013, affected by the reduction of purchasing power of the Spanish population.

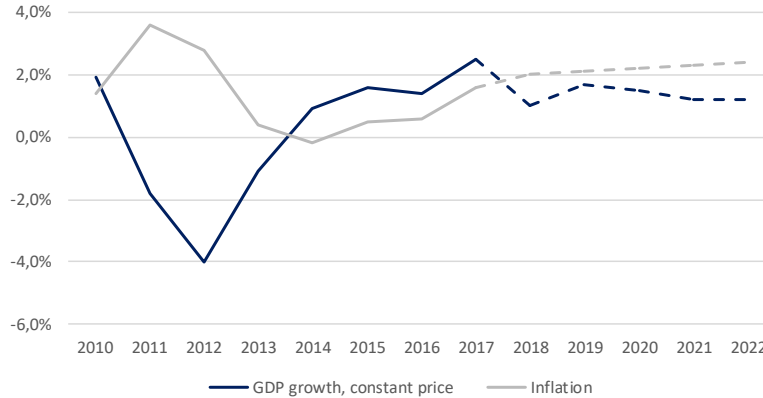
However, real GDP grew above 3% per annum in the past 3 years and the future seems optimistic with inflation back at normal levels and retail sales growth reflecting consumer confidence. IMF projections until 2022 indicate that real GDP growth and inflation will converge at roughly 2%.

Figure 3.7 - Unemployment rate and retail sales growth in Spain (source: National Statistics Institute of Spain and Bloomberg)



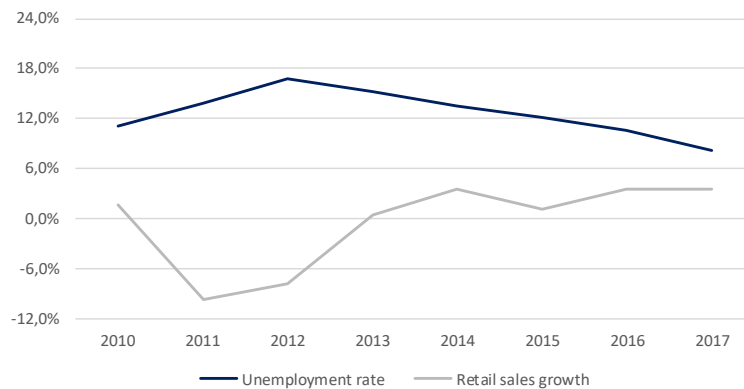
Portugal faced pressure from bonds market, after its credit rating have been downgraded to “junk”, to reduce the budget deficit by raising taxes and reducing public spending. The country was financially rescued and assisted by the IMF and EU in 2011. This inevitably led to a recession, with negative real GDP and retail sales growth, following Spain’s trend, resulting from lower purchasing power.

Figure 3.8 – Portugal historical and forecasted real GDP growth and inflation (source: IMF)



Portugal left the bailout programme in 2014 and regained access to financial markets, and, since then, real GDP growth has been growing at positive numbers and unemployment has been improving. Retail sales grew 3,6% in the past 2 years.

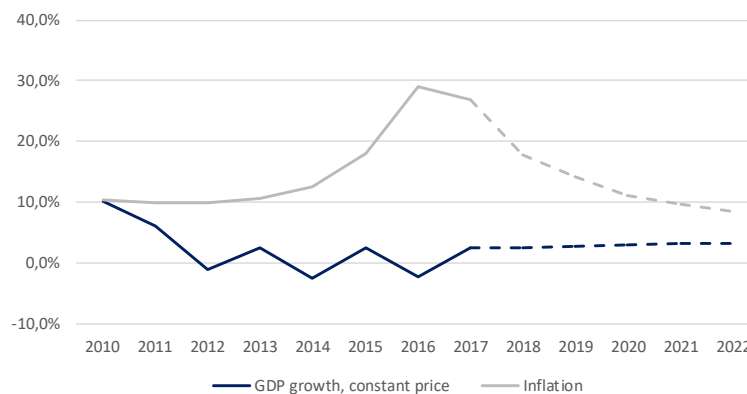
Figure 3.9 - Unemployment rate and retail sales growth in Spain (source: National Statistics Institute of Portugal and Bloomberg)



### 3.2.2 Emerging Markets

Emerging Markets economies are more volatile with periods of high growth followed by recessions. Argentina is no different to this: real GDP growth in the years between 2013 and 2016 was 2,4%, -2,5%, 2,6% and -2,20%, having increased its GDP in real terms again in 2017 by 2,5%. Since the 2008 financial crisis that growth was essentially propped up by expansionary monetary policies, resulting in double-digit inflation every year since then.

Figure 3.10 - Argentina historical and forecasted real GDP growth and inflation (source: IMF)



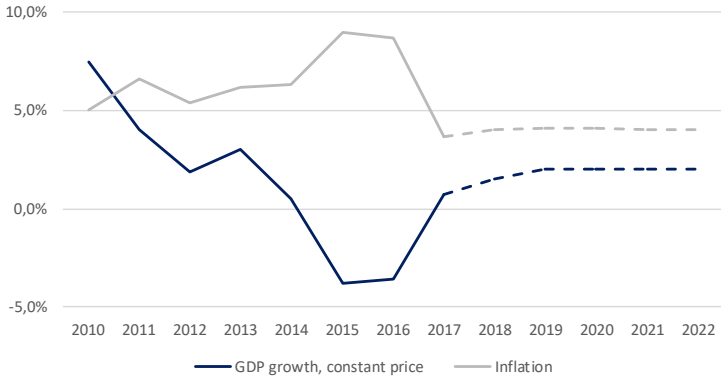
IMF projections until 2022 for Argentina are optimistic with real GDP growing around 3% per annum and inflation decreasing to 8,6% in 2022.

Brazil was considered one of the most attractive economies at the beginning of the millennium after the government took steps towards higher market liberalization, increasing business confidence and attracting foreign investment. After the 2008 financial crisis, Brazil recovered from a small recession in the following year with a 7,5% real GDP growth, however rising inflation led the government to ease expansionary policies, throwing the Brazilian economy



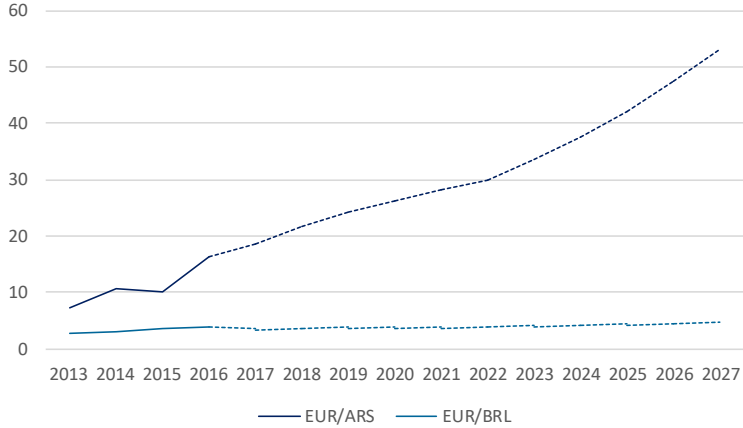
into recession until 2016. Last year, real GDP grew 0,7% and the IMF expects it grew at 2% per annum until 2022.

Figure 3.11 - Brazil historical and forecasted real GDP growth and inflation (source: IMF)



Monetary stimulus in Argentina and Brazil leads to inflation and, thus, devaluation of the currency. From 2012 to 2017, the Argentinean peso and the Brazilian real devalued, on average, 28% and 8% per annum, respectively, against the Euro and this represents the highest risk for foreign investors.

Figure 3.12 - Historical and estimated FX rates for Argentina and Brazil (source: Bloomberg)



## **4 Company Overview**

Distribuidora Internacional de Alimentación, S.A. (DIA) is a Spanish discount supermarket chain founded in 1979. It operates globally and its stores are currently located in Spain, Portugal, Brazil, Argentina and China. It is traded on Spain's principal stock exchange, Bolsa de Madrid, since July 2011 and it is a member of IBEX-35. In this section, the history of the company, as well as its business strategy, shareholder structure and financial analysis are presented.

### **4.1 History**

In 1979, DIA introduced the first discount store in the Spanish food retail market by opening its first store in Madrid. Five years later, the first DIA-branded product arrived on the shelves, which marked the creation of the company's corporate image. In 1989, DIA introduced franchise agreements to its business model with the inauguration of the first franchised store. DIA began its expansion in Spanish soil a year later after acquiring Dirsá, followed by the acquisition of Mercadodiario and Ahorro Popular chains in 1991 and 1992, respectively. By that time DIA had already opened more than 1,000 stores throughout Spain. DIA's internationalization began with the opening of a store in Portugal in 1993. Greece, Argentina and Turkey followed in 1995, 1997 and 1999, respectively, although Argentina remains the only of these countries where DIA operates nowadays. In 2000, DIA merged with the giant multinational retailer Carrefour opening the doors to the French market. DIA continued its expansion strategy with the opening of its first store in China in 2003.

In July 2011 several events marked what was one of the most important years in the Group's history: the spinoff from Carrefour and the IPO. DIA's shares were launched in Madrid's stock exchange for €3,5 apiece implying a market value of equity of €2,378 million. Six months later, DIA debut in IBEX 35 stock market index. The demerger allowed DIA to regain the control of its operations and fully focus on its growth strategy. In 2012 DIA discontinued its operations in Beijing, focusing on Shanghai. A year later, it successfully sold its stake in its Turkish subsidiary and bought Schlecker's operations in the Iberian market with 1130 stores, improving its proximity home and personal care (HPC) offer, while also diversifying its portfolio. In 2014, DIA sold its French subsidiary for an Enterprise Value of €600 million demonstrating its focus on emerging markets growth and the highly profitable and consolidated Iberian business. In the same year, DIA added more than 600 stores to its portfolio with the acquisition of El Árbol, a

fresh product specialist, and 160 Eroski stores. In 2017, DIA China operations were discontinued.

By the end of 2017, DIA operated 7.388 stores globally, of which 3.785 are franchised stores and the remaining 3.603 are fully integrated store, 38 warehouses worldwide and employed more than 42 thousand people directly.

## **4.2 Ownership structure**

DIA has 622,456,513 shares outstanding of the ordinary type and same class, entitling their holder to one vote per share. Over 80% of the shares are free-floating and the three major shareholders are: Baillie Gifford & Co. (8,92%), Blackrock Inc. (3,48%) and Black Creek Investment Management Inc. (2,61%), while 1,15% is held as treasury stock and is maintained in the balance sheet in order to cover potential distributions of shares to the Chief Executive Officer and the management team under the Long-Term Incentive Plan for 2016-2018. The Board of Directors is composed by 10 members that in all own 0,256% of the company and the same percentage of the voting rights.

## **4.3 Business model**

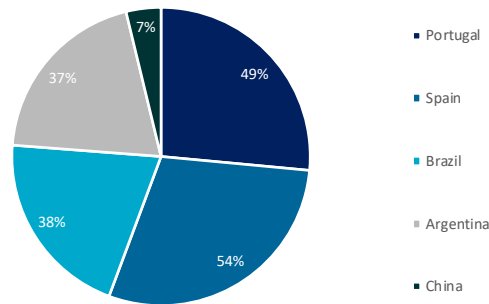
DIA is known for being the biggest Spanish discount supermarket chain and it focuses on the retail sale of food, personal care, health and household products, through owned or franchised self-service stores. The company plans to achieve organic growth by consolidating its main market (Iberia) and expanding in the Latin America market. Its strategic advantage is based on a price and proximity (2P) model, with a system of both owned and franchised stores, and strong operational efficiency.

The company benefits from having a very good price image among clients thanks to the minimum cost at which it operates. DIA invests in price to maintain this competitive edge and its private-label brands supports the low-price image among the customers in all geographies. The company currently has almost 8.000 SKUs <sup>1</sup>in the stores and they represent 46% of the sales, which makes it a core growth driver. The penetration of private-label brands is greater in Iberia than in the Emerging Market, as it is shown in Figure 4.1.

---

<sup>1</sup> SKUs – Store Keeping Unis

Figure 4.1 - DIA private labels by market in 2016



DIA also supports the low-price strategy with the loyalty program *Club DIA*. An initiative created in 1998 that has a reach of more than 37 million customers and gathers their preferences, making it a very useful tool to better manage the supply chain and the commercial offer. 76% of DIA's total sales were made using the loyalty card in 2016, which indicates the effectiveness of this strategy.

As mentioned earlier, **proximity** is the second pillar of DIA's 2P strategy (price and proximity). Approximately 86% of DIA's network consists of neighborhood stores. Those include:

Figure 4.2 - DIA's neighborhood store network format

	Sqm	SKU's	Main characteristics
<b>DIA Market</b>	400 - 700	2800	- Placed in densely neighbourhoods for everyday shopping - Large range of DIA's products available and perisahbles
<b>Minipreço (*)</b>			
<b>DIA Fresh</b>	150	n.a.	- Offer essentially based on perishables: fruit, vegetables, meat and fish selections and dairy products
<b>Fresh by DIA</b>			
<b>Clarel</b>	160 - 260	6000	- Specialized in health, beauty, household and personal care items
<b>Cada Dia</b>	n.a.	n.a.	- Placed in rural areas, offers the franchisees greater flexibility
<b>Mais Perto</b>			
<b>El Árbol</b>	400 - 1000	2500	- Proximity and closeness to the customer - Specialisation in fresh products and assisted sales in meat and fish in urban areas
<b>La Plaza</b>			

(\*) Located in rural/urban centres

DIA diversifies its offer and targets a different type of customer by running larger format stores, which account for the remaining 14% of the store network:

Figure 4.3 - DIA's larger store network formats

	Sqm	SKU's	Main characteristics
<b>DIA Maxi</b>	700 - 1000	3500	- Largest store format and includes customer parking
<b>Minipreço (**)</b>			- Adapted to larger and less frequent purchases
<b>Max Descuento</b>	1000	n.a.	- The cash & carry business line in Spain, specialized in the hotel and restaurant sectors

(\*\*) Located in the suburbs of cities

Another important differentiating factor of DIA's business model is its **franchise regime** that manages 51% of the store network worldwide. DIA cultivates a close relationship with the entrepreneurs from the beginning which is a key to this business model success. DIA's historical knowledge of the sector combined with its powerful logistics infrastructure as well as the strength of its brand allied with the franchisee local market expertise reflects the success of this business model. DIA currently is the leading franchiser in Iberia, the third in the distribution sector in Europe and the largest franchiser in Argentina, where 70% of the stores are franchises.

DIA combines three categories of stores in its network: COCO (Company Owned, Company Operated), COFO (Company Owned, Franchise Operated) and FOFO (Franchise Owned, Franchise Operated). COCO stores are important to test new concepts before replicating them to franchises and, although they still represent the 49% of the store network, DIA aims to transfer them to the franchised network. COFO stores were introduced in 2006 and DIA assumes the initial investment and then transfers the management of the store to the franchisee, while FOFO was the initial model of franchises of the company.

The process of transferring COCO stores to the franchised models has a positive impact in the financial performance of the company: on the one hand, DIA still acts as the commercial intermediary between suppliers and franchised stores, although "losing" a bit of the gross profit margin to the franchisee; on the other hand, franchisees support operating and personnel expenses (in case of COFO stores, DIA assumes rent expenses) and DIA obtains a higher EBITDA margin with franchised stores compared to COCO ones. This regime may also have some risk and disadvantages attached, because even though franchisees stores are supervised, there is a general loss of control that may result in deviations from the core strategy of the company, resulting in the deterioration of its image amongst clients.

DIA developed an IT system to support its 38 warehouses worldwide. This **logistics system** is designed to manage the global supply chain, from the supplier to the warehouses and the stores.

These warehouses, with a total area of almost 770.000 sqm, are placed closed to larger metropolis, resulting in lower fuel expenses.

DIA Group is also undergoing a **digital transformation** at all levels, whose main goals are approximation to the customer needs and improving efficiency. Optimizing decision-making processes by transforming data in knowledge is at the heart of the improvement of logistics chain processes, efficient store management and better understanding the customer needs. E-commerce projects and commercial digitalization were also central to DIA's strategy during 2016. DIA online store in currently serves 15 million customers in Spain and its competitive prices and promotional discounts, makes it lowest-priced in the entire company.

#### **4.4 Financial analysis**

The financial analysis is based on the data included in the Consolidated Annual Account from the last 5 complete fiscal years, from 2013 to 2017. The analysis is done both by segment and as a group, excluding France since DIA discontinued its operations in the country in 2014.

##### ***4.4.1 Operating performance***

DIA's net sales have grown at a CAGR of 2,06% since 2013. Over the same period, total selling area increased from 2,286 million of square meters with 6.463 stores to 2,7681 million square meters with 7.388 stores at a CAGR of 3,4%, implying that net sales per square meter of selling area has decreased.

During the same period, the net profit has decreased from €190,9M to €130,9M which reflects essentially the divestment from France in 2014 and, more recently, the discontinuation of DIA China operations. Following the same trend, operating costs decreased at a CAGR of 3,12% in the last 5 historical years. Operating costs include cost of goods sold, personnel costs and other operating costs. The consolidated income statement is shown in the figure 4.3 and it includes France operations.

Figure 4.4 - Historical consolidated income statement (2013 - 2017)

Consolidated Income Statement (in thousands of Euros)	2013	2014	2015	2016	2017
Total revenue	9.987.265	8.116.217	9.021.669	8.978.597	8.776.210
Operating expenses	(9.379.516)	(7.590.623)	(8.510.148)	(8.441.659)	(8.262.610)
<b>EBITDA</b>	<b>607.749</b>	<b>525.594</b>	<b>511.521</b>	<b>536.938</b>	<b>513.600</b>
Depreciations, amortizations and impairments	(282.129)	(201.687)	(237.379)	(241.879)	(266.527)
<b>EBIT</b>	<b>325.620</b>	<b>323.907</b>	<b>274.142</b>	<b>295.059</b>	<b>247.073</b>
Net finance costs	(39.196)	(40.709)	(56.026)	(51.939)	(60.750)
<b>Profit before tax from continuing operations</b>	<b>286.424</b>	<b>283.198</b>	<b>218.116</b>	<b>243.120</b>	<b>186.323</b>
Income tax	(95.495)	(74.556)	82.610	(69.119)	(55.350)
<b>Profit before tax from continuing operations</b>	<b>190.929</b>	<b>208.642</b>	<b>300.726</b>	<b>174.001</b>	<b>130.973</b>
Profit/(loss) after tax of discontinued operations	5.129	120.582	(1.477)	-	(21.434)
<b>NET PROFIT</b>	<b>196.058</b>	<b>329.224</b>	<b>299.249</b>	<b>174.001</b>	<b>109.539</b>

The next chapters present operating indicators by segment into more detail.

#### 4.4.1.1 Iberia

Iberia is the geographical segment where DIA's presence is most felt with 5.343 stores and a selling area of 2,027 million of square meters, which represents 72,3% of DIA's total store network. This operating segment also generates 63,9% of the revenues of the group. As it was mentioned before, this is the company's most mature market where it hopes to achieve organic growth through consolidation, once the company already has a relevant position in Spain and Portugal thanks to the numerous acquisitions it made in the past few years: in 2013, DIA acquired Schlecker operations in Spain and Portugal and immediately started operating 1.162 new stores; in 2014, DIA completed the acquisition of 451 El Árbol stores and 160 Eroski stores.

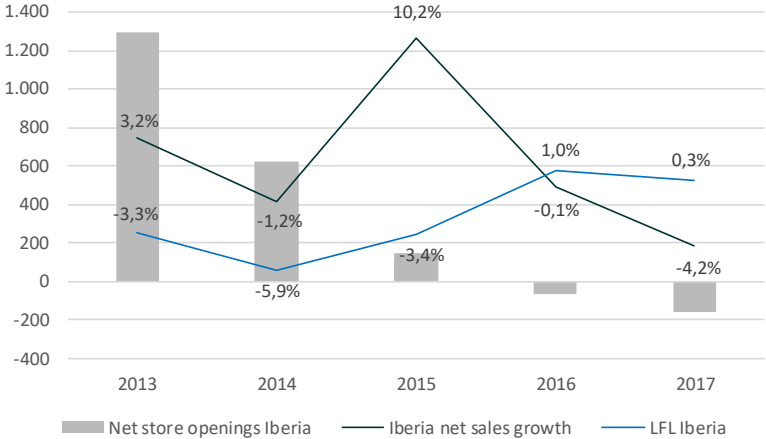
Figure 4.5 - Iberia historical operating indicators (2013 - 2017)

Iberia (in thousands of Euros)	2013	2014	2015	2016	2017
Number of stores	4.792	5.415	5.562	5.498	5.343
Net openings		623	147	(64)	(155)
Selling area (million of sqm)	1,6909	2,0549	2,1592	2,0968	2,0272
% growth selling area		21,5%	5,1%	-2,9%	-3,3%
Net sales per sqm	3,125	2,541	2,665	2,740	2,716
% growth selling area		-18,7%	4,9%	2,8%	-0,9%
<b>Net sales</b>	<b>5.283.695</b>	<b>5.221.558</b>	<b>5.754.500</b>	<b>5.745.948</b>	<b>5.505.621</b>
% growth		-1,2%	10,2%	-0,1%	-4,2%
<b>EBITDA</b>	<b>n.a.</b>	<b>443.883</b>	<b>414.462</b>	<b>433.641</b>	<b>374.868</b>
EBITDA margin (%)		8,5%	7,2%	7,5%	6,8%

From 2013 to 2017, net sales grew at a CAGR of 1,03% in Iberia, in a weak macroeconomic environment. This growth was achieved essentially through expansion and acquisitions as LFL sales registered an average of -2,3% over the same period. DIA opened 2.065 stores, net, from

2013 to 2015 and it reversed this tendency in the past 2 years by closing 219 underperforming stores, net. At the same time, the company invested in remodeling the acquired new stores and comparable sales growth was positive in the past 2 years. EBITDA margin has been decreasing from 8,5% in 2014 to 6,8% due essentially to the integration of new stores and competition. Data regarding EBITDA by segment is not available in DIA’s annual reports.

Figure 4.6 - Historical sales growth in Iberia (2013 - 2017)



**4.4.1.2 Emerging Markets**

In the Emerging Markets segment, both the macroeconomic scenario and the business environment are completely different from the Iberian ones. On the one hand, the economies of these three countries are much more volatile, altering between periods of higher growth and recession almost unpredictably; on the other hand, the retail market is much less saturated and there is room for expansion. In this segment, exchange rate fluctuations must also be considered, and, in some cases, they deeply affect the results.

Unlike Iberia, in EM the largest portion of sales growth comes from LFL, however it has also shown a considerable appetite for expansion net opening 210 stores from 2013 to 2016, on average. In 2017, DIA discontinued its operations in China, closing 379 there, while opening 123 stores, net, in Brazil and Argentina.



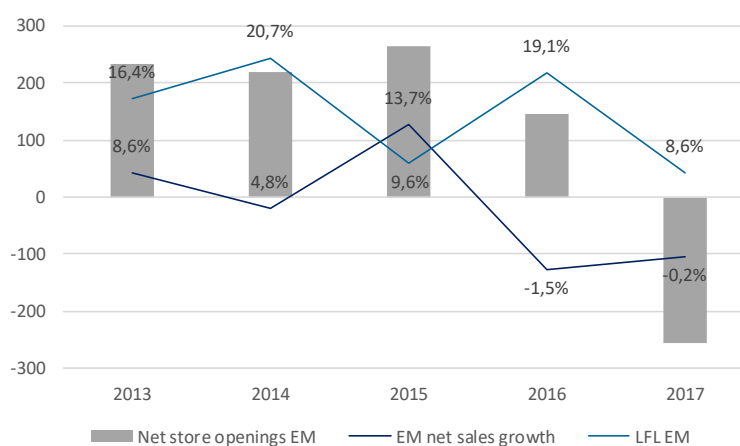
Figure 4.7 - Emerging Markets historical operating indicators (2013 – 2017)

Emerging Markets (in thousands of Euros)	2013	2014	2015	2016	2017
Number of stores	1.671	1.891	2.156	2.301	2.045
Net openings		220	265	145	(256)
Selling area (million of sqm)	0,5966	0,6719	0,8705	0,9399	0,7409
% growth selling area		12,6%	29,6%	8,0%	-21,2%
Net sales per sqm	4,462	4,152	3,643	3,321	4,204
% growth selling area		-7,0%	-12,3%	-8,8%	26,6%
<b>Net sales</b>	<b>2.661.886</b>	<b>2.789.409</b>	<b>3.170.800</b>	<b>3.121.673</b>	<b>3.114.929</b>
% growth		4,8%	13,7%	-1,5%	-0,2%
% growth ex-FX		29,9%	18,8%	25,7%	10,0%
<b>EBITDA</b>	<b>n.a.</b>	<b>81.771</b>	<b>97.059</b>	<b>103.297</b>	<b>138.732</b>
EBITDA margin (%)		2,9%	3,1%	3,3%	4,5%

In the past 5 years, net sales in this segment grew at a CAGR of 4,01%, although it would have increased an average of 21,1% per year over the same period without the impact of currency depreciation. In 2016 and 2017, net sales growth was negative by 1,5% and 0,2%, respectively, despite the fact that same currency growth registered double-digit figures in both years.

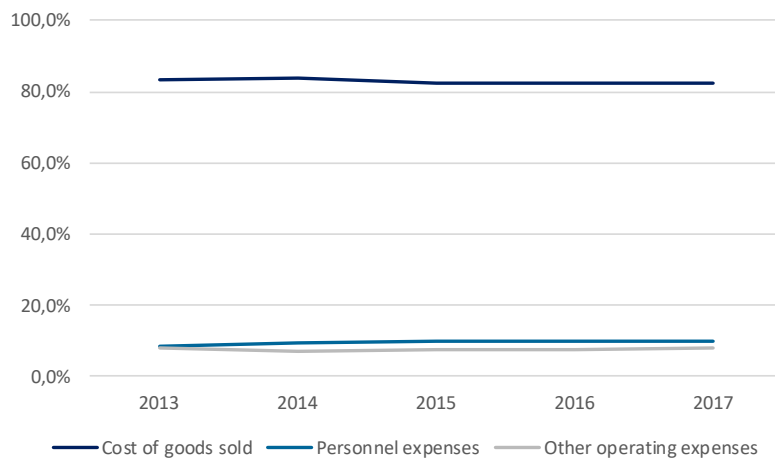
EBITDA margin was relatively stable from 2014 to 2016, ranging from 2,9% to 3,3%, but it increased to 4,5% in 2017 mainly due to the divestment in China. The lower EBITDA margin in this segment reflects a less efficient cost structure than in Iberia.

Figure 4.8 - Emerging Markets historical sales growth (2013 - 2017)



Operating costs have been stable as a % of total operating costs in the past 5 years. Cost of goods sold represents the highest proportion of operating expenses, oscillating between 82% and 84%, followed by personnel expenses and other operating costs, that represented 9,8% and 7,8% of the costs in 2017, respectively.

Figure 4.9 - Historical operating costs as % of total operating costs (2013 – 2017)



## 5 Business Plan & Cost of Capital Assumptions

In this section, the main assumptions that led to the elaboration of DIA Group's business plan and cost of capital are explained in detail. As it was mentioned before, DIA Group's operations are segmented in **Iberia** (Spain and Portugal) and **Emerging Markets** (Brazil and Argentina) given that there are considerable differences between these geographies concerning their risk/growth profiles and the strategy implement.

### 5.1 Business plan assumptions

#### 5.1.1 Sales

In the food retail business, sales growth can be divided in two different components: “**like-for-like**” (LFL) sales, corresponding to the year-on-year revenues growth of the stores already in place; and **expansion** growth, which corresponds to the revenue growth from new stores.

LFL sales is a vital indicator of sustainability of the current store network and it is mainly influenced by inflation (food inflation) and the competitive environment, while remodeling stores can also provide a boost in revenues in existing stores.

Expansion sales come exclusively from investing in new stores. To forecast this component of sales growth, the amount of annual net store openings/closings is assumed considering the historical trend and management plans for each country. The average store selling area of the last historical year (2016) is constant throughout the explicit period and the estimated amount of net store openings for the year is multiplied by the average store selling area, resulting in an net increase in selling area which is multiplied by last year's net sales per square meter. This results in an increase in net sales associate with expansion.

Sales growth is computed as follows:

*Equation 5.1 - Retail business sales growth formula*

$$\text{Sales growth} = (1 + \text{LFL growth}) * (1 + \text{expansion growth})$$

Forecasts of every country's inflation were obtained from IMF until 2022 and historical annual food inflation from the last decade was extracted from Bloomberg. Food inflation was forecasted until 2022 by regressing it with inflation in the past 10 years being food inflation the dependent variable. Since no data regarding Argentina's food inflation was found, its LfL sales growth is assumed to be driven by inflation.

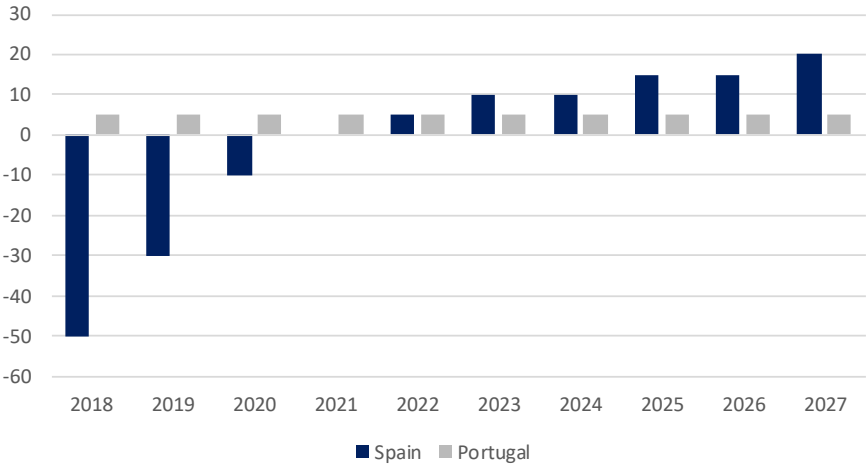
In Iberia, LFL sales are forecasted as a function of food inflation, price investment and investment in remodeling stores. Price competition represents the price investment considering the management strategy to compete for market share. On the other hand, investment in store remodeling is expected to boost sales. Both price investment and store remodeling impacts represent the perception of the author regarding the effect of these factors on DIA Iberia sales.

Figure 5.1 - Estimated LFL growth in Iberia

IBERIA	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Spain</b>										
Food inflation	1,62%	1,80%	1,80%	1,89%	1,97%	2%	2%	2%	2%	2%
Price investment	-5,75%	-5,50%	-5,25%	-5,00%	-4,75%	-4,50%	-4,25%	-4,00%	-3,75%	-3,75%
Remodeling	5,00%	4,50%	4,50%	4,00%	3,70%	3,46%	3,46%	3,20%	3,20%	3,00%
<b>Spain LFL growth</b>	<b>0,87%</b>	<b>0,80%</b>	<b>1,05%</b>	<b>0,89%</b>	<b>0,92%</b>	<b>0,96%</b>	<b>1,21%</b>	<b>1,20%</b>	<b>1,45%</b>	<b>1,25%</b>
<b>Portugal</b>										
Food inflation	1,62%	1,70%	1,78%	1,87%	1,95%	2%	2%	2%	2%	2%
Price investment	-5,00%	-5,00%	-5,00%	-4,00%	-4,00%	-3,50%	-3,50%	-3,50%	-3,50%	-3,00%
Remodeling	5,00%	5,00%	5,00%	4,00%	4,00%	3,50%	3,50%	3,00%	3,00%	2,20%
<b>Portugal LFL growth</b>	<b>1,62%</b>	<b>1,70%</b>	<b>1,78%</b>	<b>1,87%</b>	<b>1,95%</b>	<b>2,00%</b>	<b>2,00%</b>	<b>1,50%</b>	<b>1,50%</b>	<b>1,20%</b>

As it was mentioned before, growth through expansion has become secondary in this segment, with Spain net closing 66 and 162 store in 2016 and 2017, respectively. This trend is expected to remain in the first 3 year of projection in Spain, reverting in 2022 with 5 net store openings. DIA Portugal is expected to open 5 stores, net, per annum until the end of the explicit period.

Figure 5.2 - Estimated net store openings in Iberia



With these assumptions, net sales in Spain and Portugal are forecasted to grow at a CAGR of 1,03% and 2,48%, respectively, throughout the explicit period. Figures 5.3 and 5.4 show the forecasted revenues in detail for both countries.

Figure 5.3 - Spain forecasted revenues (in million Euros)

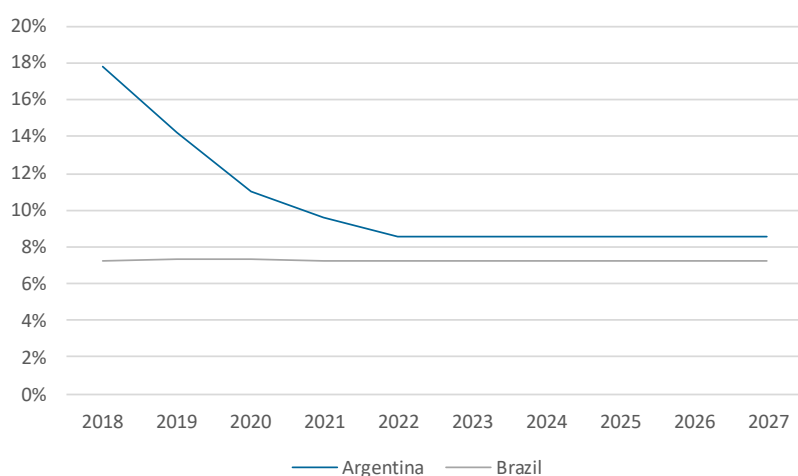
Spain Revenues	2017	2018	2019	2020	2025	2027
<b>LFL growth</b>		<b>0,87%</b>	<b>0,80%</b>	<b>1,05%</b>	<b>1,20%</b>	<b>1,25%</b>
Total sqm/total stores ratio	382,41	382,41	382,41	382,41	382,41	382,41
Net store openings/closings		-50	-30	-10	15	20
Number of stores	4.713	4.663	4.633	4.623	4.663	4.698
Net sqm increase/decrease		-19.121	-11.472	-3.824	5.736	7.648
Selling area (in millions sqm)	1,8023	1,7832	1,7717	1,7679	1,7832	1,7966
Total net sales/sqm ratio	2,68	2,70	2,72	2,75	2,90	2,98
<b>Net sales increase/decrease</b>		<b>-51.214</b>	<b>-31.000</b>	<b>-10.416</b>	<b>16.426</b>	<b>22.484</b>
<b>Expansion growth</b>		<b>-1,06%</b>	<b>-0,64%</b>	<b>-0,22%</b>	<b>0,32%</b>	<b>0,43%</b>
<b>SPAIN NET SALES</b>	<b>4.827.400</b>	<b>4.818.414</b>	<b>4.825.891</b>	<b>4.866.076</b>	<b>5.167.488</b>	<b>5.347.262</b>

Figure 5.4 - Portugal forecasted revenues (in million Euros)

Portugal Revenues	2017	2018	2019	2020	2025	2027
<b>LFL growth</b>		<b>1,62%</b>	<b>1,70%</b>	<b>1,78%</b>	<b>1,50%</b>	<b>1,20%</b>
Total sqm/total stores ratio	356,98	356,98	356,98	356,98	356,98	356,98
Net store openings/closings		5	5	5	5	5
Number of stores	630	635	640	645	670	680
Net sqm increase/decrease		1.785	1.785	1.785	1.785	1.785
Selling area (in millions sqm)	0,2249	0,2267	0,2285	0,2303	0,2392	0,2427
Total net sales/sqm ratio	3,02	3,06	3,12	3,17	3,48	3,57
<b>Net sales increase/decrease</b>		<b>5.383</b>	<b>5.470</b>	<b>5.562</b>	<b>6.113</b>	<b>6.296</b>
<b>Expansion growth</b>		<b>0,79%</b>	<b>0,79%</b>	<b>0,78%</b>	<b>0,75%</b>	<b>0,74%</b>
<b>PORTUGAL NET SALES</b>	<b>678.300</b>	<b>694.673</b>	<b>711.966</b>	<b>730.229</b>	<b>831.276</b>	<b>866.444</b>

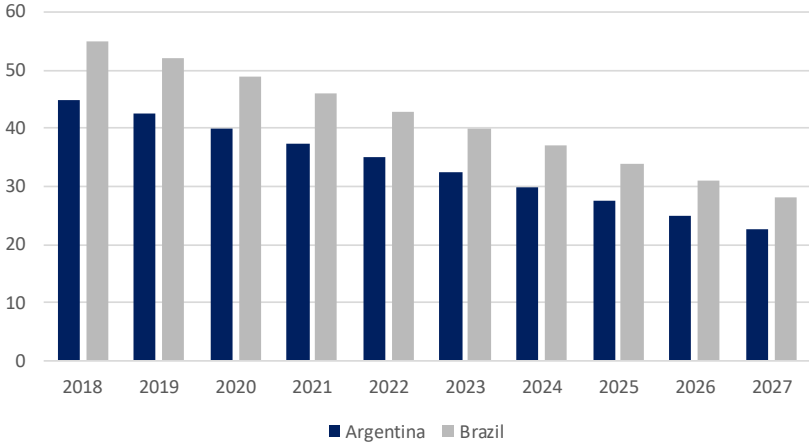
In Emerging Markets, as it was mentioned before, the market is not saturated presenting a good opportunity for rapid growth and gaining market share, so price competition is practically inexistent and remodeling stores is not on management plans. This means that LFL sales growth in Argentina and Brazil is assumed to be equal to food inflation in each country.

Figure 5.5 - Estimated LFL growth in Emerging Markets



Regarding expansion plans, estimated net store openings in the following years are in line with past years DIA’s expansion strategy, so expansion growth in developed economies is mainly driven by the Brazilian market during the forecasted period. In the first year of explicit period this segment is expected to see a net increase of 100 stores, led by Brazil whose contribution amounts to a net increase of 55 stores. This number reduces progressively throughout the projection period until it reaches 51 net store openings in 2027.

Figure 5.6 - Estimated net store openings in Emerging Markets



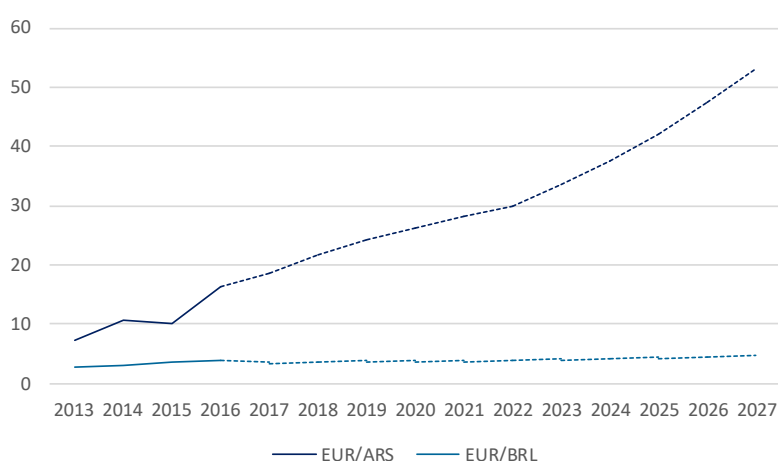
Local currencies in Emerging Markets shall continue to depreciate against the Euro and, thus, produce a negative impact in sales growth in this segment. In Argentina and Brazil, FX depreciation created a difference of 11,32 p.p. and 2,90 p.p. in the CAGR 2018-2027 of sales in local currency vs. Euro, but Emerging Markets net sales managed to grow at a 5,45% CAGR in the same period despite that. Future FX rates are estimated using IMF estimates through relative purchase power parity formula as follows:

Equation 5.2 - Relative purchasing power parity formula

$$EUR/ARS_{t+1} = EUR/ARS_t * \frac{(1 + \Pi_{ARS})}{(1 + \Pi_{EUR})}$$

being  $\Pi$  the inflation rate.

Figure 5.7 - Estimated FX rates



Using the assumptions mentioned above, net sales in Brazil and Argentina grow at a CAGR of 13,32% and 10,45%, respectively, throughout the explicit period. However, the convergence to Euros affects negatively the CAGR of net sales, which decreases to 7,54% and 2,02%, respectively, reflecting higher inflation rates in both countries, especially in Argentina. Figures 5.8 and 5.9 show the forecasted revenues in detail for both countries.

Figure 5.8 - Argentina forecasted revenues (in thousand Argentinean pesos)

Argentina Revenues	2017	2018	2019	2020	2025	2027
<b>LFL growth</b>		<b>17,80%</b>	<b>14,20%</b>	<b>11,00%</b>	<b>8,60%</b>	<b>8,60%</b>
Total sqm/total stores ratio	270,22	270,22	270,22	270,22	270,22	270,22
Net store openings/closings		45	42	39	24	18
Number of stores	930	975	1.017	1.056	1.206	1.245
Net sqm increase/decrease		12.160	11.349	10.538	6.485	4.864
Selling area (in millions sqm)	0,2513	0,2635	0,2748	0,2853	0,3259	0,3364
Total net sales/sqm ratio	102,93	120,41	136,80	151,29	228,19	268,46
<b>Net sales increase/decrease</b>		<b>1.251.589</b>	<b>1.366.483</b>	<b>1.441.617</b>	<b>1.364.837</b>	<b>1.203.726</b>
<b>Expansion growth</b>		<b>4,84%</b>	<b>4,31%</b>	<b>3,83%</b>	<b>2,03%</b>	<b>1,47%</b>
<b>NET SALES</b>	<b>25.866.171</b>	<b>31.721.938</b>	<b>37.592.937</b>	<b>43.169.777</b>	<b>74.363.821</b>	<b>90.314.372</b>
<b>NET SALES (in thousand Euros)</b>	<b>1.391.600</b>	<b>1.470.492</b>	<b>1.556.479</b>	<b>1.644.068</b>	<b>1.763.781</b>	<b>1.699.923</b>

Figure 5.9 - Brazil forecasted revenues (in thousand Brazilian reais)

Brazil Revenues	2017	2018	2019	2020	2025	2027
<b>LFL growth</b>		<b>7,23%</b>	<b>7,29%</b>	<b>7,29%</b>	<b>7,21%</b>	<b>7,21%</b>
Total sqm/total stores ratio	439,10	439,10	439,10	439,10	439,10	439,10
Net store openings/closings		55	52	49	34	28
Number of stores	1.115	1.170	1.222	1.271	1.471	1.530
Net sqm increase/decrease		24.151	22.833	21.516	14.930	12.295
Selling area (in millions sqm)	0,4896	0,5138	0,5366	0,5581	0,6459	0,6718
Total net sales/sqm ratio	12,66	13,48	14,42	15,43	21,65	24,83
<b>Net sales increase/decrease</b>		<b>305.776</b>	<b>307.786</b>	<b>310.269</b>	<b>301.993</b>	<b>285.038</b>
<b>Expansion growth</b>		<b>4,95%</b>	<b>4,44%</b>	<b>4,01%</b>	<b>2,37%</b>	<b>1,86%</b>
<b>NET SALES</b>	<b>6.173.390</b>	<b>6.925.196</b>	<b>7.737.731</b>	<b>8.611.972</b>	<b>13.986.456</b>	<b>16.678.398</b>
<b>NET SALES (in thousand Euros)</b>	<b>1.723.300</b>	<b>1.878.925</b>	<b>2.057.030</b>	<b>2.245.456</b>	<b>3.197.906</b>	<b>3.566.655</b>

Profit and loss statements for every country and consolidated, as well as the consolidated balance sheet and cash flow statement can be found from **Appendix 1 to VII**.

### ***5.1.2 Operating costs and EBITDA margin***

Cost of goods sold, personnel expenses and operating costs are a function of EBITDA of each country. Considering the weight of these costs in 2017, a percentage of the difference between net sales and EBITDA is allocated to each one of these items as follows:

- Cost of goods sold: 82,40%;
- Personnel expenses: 9,79%;
- Other operating costs: 7,81%.

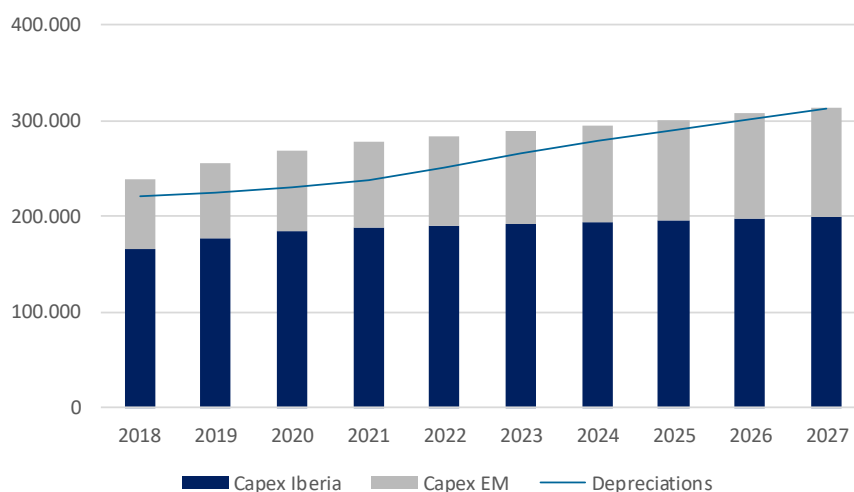
In both Iberia and Emerging Markets, EBITDA margins of segments in 2017 is not expected to change throughout the explicit period. In 2017, EBITDA margin was 6,81% and 4,45% in Iberia and Emerging Markets, respectively.

### ***5.1.3 Capital expenditures and depreciations***

Capital expenditures assume a vital role in growth and consolidation of every company in the food retail sector, since it is a capital-intensive business. Net property, plant and equipment (PP&E) and intangible assets were estimated as a function of net sales for each segment, which means that estimated Capex in Emerging Markets grows at a higher rate than in Iberia. Depreciation is estimated as a percentage of net PP&E and intangible assets, as, according to Koller, Goedhart and Wessels (2005), when detailed information about the assets and their depreciation schedules are not available, it provides a good forecast driver. Net PP&E represents 19,6% and 9,3% of Iberia and Emerging Market's net sales, respectively.



Equation 5.3 - Estimated capex and depreciations (in thousand Euros)



This capital expenditure policy is line with the management plan since it allows to open new stores in a sustained fashion and replace existing capacity. Moreover, acquisitions are not expected in the foreseeable future:

Equation 5.4 - Estimated net property, plant & equipment formula

$$Net\ PP\&E\ (t) = Net\ PP\&E\ (t - 1) + Capex\ (t) - Depreciations\ (t)$$

In the last year of the forecasted period, the amount spent in tangible and intangible assets (314,4 millions of Euros) is similar to the amount of depreciations and amortizations (313 million of Euros), which is line with the principle defended by Kaplan and Ruback (1995).

#### 5.1.4 Goodwill

As mentioned above, business acquisitions are not part of the DIA's business plan assumptions, which means the amount of goodwill is stable from 2016 until the end of the explicit period.

#### 5.1.5 Investment in working capital

Working capital items are forecasted based on historical days of sales, assuming that DIA will maintain its average past efficiency at managing trade payables, trade receivables and inventories, therefore, investment in working capital is a function of Days Receivables Outstanding (DRO)<sup>2</sup>, Days Payables Outstanding (DPO)<sup>3</sup> and Days Sales of Inventory (DSI)<sup>4</sup>.

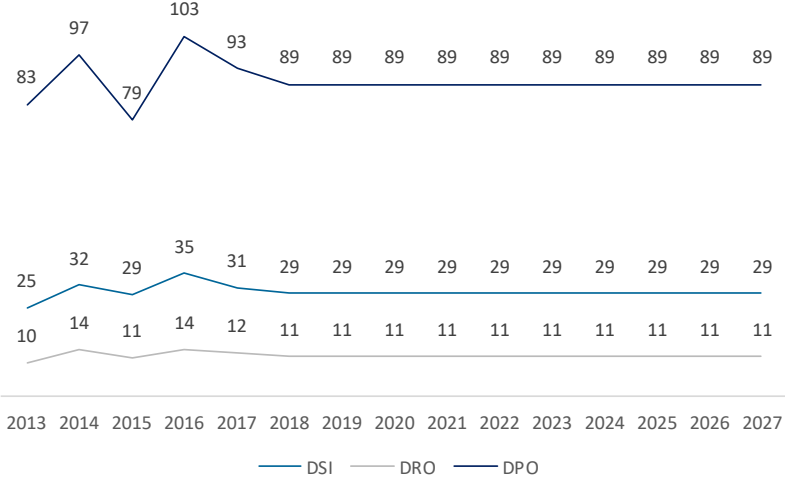
<sup>2</sup> DRO = Trade receivables / Net sales \* 365

<sup>3</sup> DPO = Trade payables / Cost of goods sold \* 365

<sup>4</sup> DSI = Inventory / Cost of goods sold \* 365

DIA’s trading conditions were kept relatively stable in the past few years and DRO, DPO and DSI were computed as an average of the last 5 year of operations.

Figure 5.10 - Estimated DSI, DRO and DPO

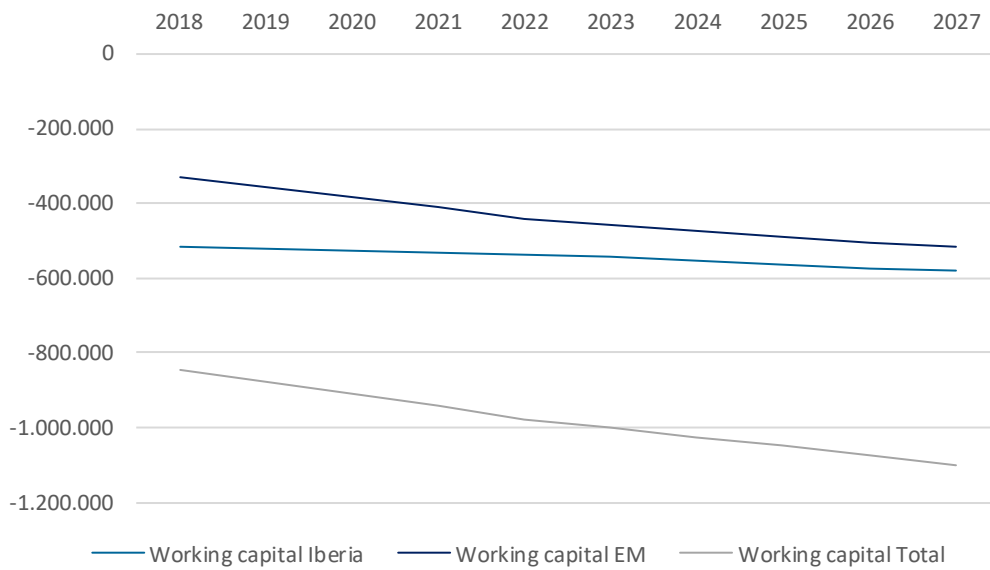


Current tax assets and liabilities are related with VAT to receive and pay, respectively, so both are projected as a percentage of last historical year’s EBITDA without personnel expenses and their fluctuations are incorporated in changes in working capital.

Current income tax liabilities are projected as a percentage of last historical year’s EBIT and their changes are subtracted from current income tax paid in the cash flow statement.

The company does not disclose information regarding working capital for each segment, so it was estimated based on the weight of net sales and cost of goods sold of each segment.

Figure 5.11 - Estimated working capital by geographical segment

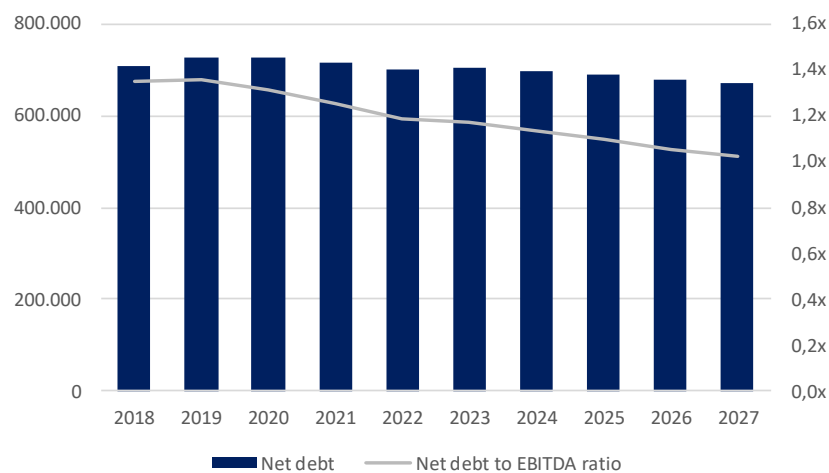


### 5.1.6 Debt, cash and interest income and expenses

According to reports, DIA’s capital structure target is measured as Net Debt to EBITDA and should be equal to 1. This target is assumed to lead to a capital structure of 0,28 Market Debt-to-Equity according to the yearly estimates of Enterprise Value.

In 2017, a debt reimbursement of 269,5 million Euros is expected, but since no reimbursement plan is known on DIA reports, the amount of debt outstanding is considered stable from 2017 until the end of the explicit period. At the end of the explicit period, DIA reaches the ideal Net Debt to EBITDA ratio. It is also assumed that DIA distributes all the cash generated the year before.

Figure 5.12 - Estimated net debt and net debt to EBITDA ratio (in thousand Euros)

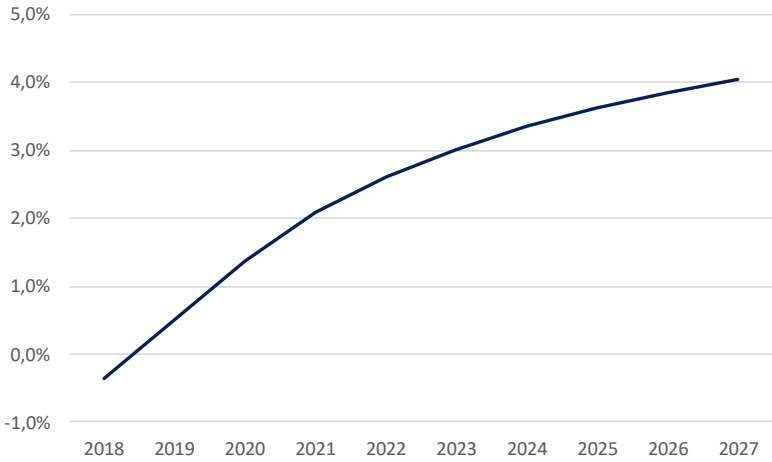


Interest expenses are computed as follows:

Equation 5.5 - Estimated interest expenses formula

$$\text{Interest expenses } (t) = \text{Debt Outstanding } (t - 1) * \text{Interest rate}$$

The interest rate considered for the forecasted period is the all-in cost of debt in 2016 of 3,13%. On the other hand, interest income is calculated by multiplying the interest rate by last year's amount of cash and cash equivalents. The interest rate used is the annualized 6-month Euribor interest rate from Bloomberg with a floor of 0%.



**5.1.7 Tax loss carryforwards**

According to DIA report, “from 2016 onwards, the Spanish consolidated tax group may offset tax loss carryforwards up to a maximum of 25% of taxable income prior to offset”. The amount of capitalized tax loss carryforwards in 2017 is €219,9 million and it is consecutively offset throughout the explicit period. This amount is included in “deferred tax assets” in the balance sheet.

**5.2 Cost of capital assumptions**

As mentioned earlier, the WACC is chosen to discount each segment cash flows. The risk-free rate (Rf) considered is the 10-year average of the yield to maturity of the German generic 10Y bund of Bloomberg. The cost of debt (Kd) assumed is the *all-in cost of debt* considered to calculate interest expenses. The asset beta (βL) considered to calculate the cost of equity is obtained by calculating the slope of the regression between DIA’s monthly stock returns and MSCI Europe Index monthly returns from July 2011 (DIA’s IPO) until December 2017. The effective tax rate (Tc) corresponds to the tax rate calculate for each segment while computing the Profit & Loss statement. The market risk premium (MRP) assumed reflects the average

premium of the US market over the risk-free rate and the country risk premium (CRP) considered corresponds to Credit Default Swaps spreads for each country as of January 2018 and, for each segment, the country risk premiums were weighted by the countries sales proportions, as presented in the following table:

Figure 5.13 - Estimated country risk premium by segment

	CRP	Weights
Spain	1,95%	87,40%
Portugal	2,56%	12,60%
<b>IBERIA</b>	<b>2,03%</b>	
Argentina	5,64%	43,90%
Brazil	3,08%	56,10%
<b>EMERGING MARKETS</b>	<b>4,20%</b>	

By applying the formula explained in the Literature Review section, a WACC of 8,65% and 9,39% was obtained for Iberia and Emerging Markets, respectively. The inputs used for computing the WACC are presented in the following table:

Figure 5.14 - WACC assumptions

	Rf	MRP	CRP	D/E	Tc	$\beta$ L	Ke	Kd	WACC
<b>IBERIA</b>			2,03%	0,28	25,17%	0,93	10,41%	3,1%	<b>8,65%</b>
<b>EMERGING MARKETS</b>	1,62%	6,00%	4,20%		34,43%		11,42%		<b>9,37%</b>

## 6 Valuation

In this section, the results from the discounted cash flow and relative valuation approaches are presented and a sensitivity analysis is performed.

### 6.1 Discounted cash flow valuation

#### 6.1.1 Base Case

In this section, the projections for both segments' Base Case are presented along with the correspondent Enterprise and Equity Values.

In the table below the Net Operating Profit Less Adjusted Taxes (NOPLAT) and FCFF projections for Iberia are presented. NOPLAT is expected to increase from €158 million in 2018 to €173,1 million in 2027, representing a CAGR of 1,02%. On the other hand, FCFF are expected to grow at a CAGR of 2,29% increasing from €142,8 million in 2018 to €175 million. Changes in working capital contribute positively for higher growth in FCFF.

Figure 6.1 - Estimated FCFF in Iberia

IBERIA DCF VALUATION <i>(in thousands of Euros)</i>	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	TV
EBIT	211.166	212.115	214.353	216.742	217.051	218.263	220.678	223.499	227.510	231.358	
Taxes	(53.132)	(53.368)	(53.940)	(54.549)	(54.634)	(54.945)	(55.560)	(56.272)	(57.283)	(58.252)	
<b>NOPLAT</b>	<b>158.033</b>	<b>158.746</b>	<b>160.414</b>	<b>162.193</b>	<b>162.418</b>	<b>163.318</b>	<b>165.118</b>	<b>167.226</b>	<b>170.227</b>	<b>173.106</b>	
Amortiations & Depreciations	164.205	164.943	166.684	168.541	173.063	177.283	181.238	184.941	188.434	191.717	
Changes in working capital	(13.231)	2.240	5.496	5.873	6.700	7.632	8.962	9.183	10.577	10.046	
Capex	(166.242)	(176.216)	(184.757)	(187.470)	(189.462)	(191.486)	(193.573)	(195.626)	(197.780)	(199.846)	
<b>FCFF</b>	<b>142.765</b>	<b>149.713</b>	<b>147.837</b>	<b>149.137</b>	<b>152.718</b>	<b>156.747</b>	<b>161.745</b>	<b>165.725</b>	<b>171.458</b>	<b>175.022</b>	<b>178.522</b>
Discount factor	1,0000	0,9204	0,8471	0,7797	0,7176	0,6605	0,6079	0,5595	0,5150	0,4740	
<b>Discounted cash flow</b>	<b>142.765</b>	<b>137.795</b>	<b>125.236</b>	<b>116.281</b>	<b>109.594</b>	<b>103.531</b>	<b>98.328</b>	<b>92.727</b>	<b>88.298</b>	<b>82.958</b>	<b>1.272.624</b>

For the Iberian segment, the terminal value growth rate weighted by sales is 3,64%. However, due to the competitive business environment in the sector, the terminal value nominal growth rate considered is 2%.

The NOPLAT and FCFF projections for the Emerging markets segment are presented in the table below. Similarly to the Iberian market, from 2018 to 2027 the FCFF is expected to grow at a higher CAGR (5,41%) than NOPLAT (2,67%) thanks to the positive contribution of changes in working capital. NOPLAT increases from €68,3 million in 2018 to €86,6 million in 2027 and FCFF grows from €56 million to €90,1 million over the same period.

Figure 6.2 - Estimated FCFE in Emerging Markets

EMERGING MARKETS DCF VALUATION <i>(in thousands of Euros)</i>	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	TV
EBIT	104.192	112.407	120.994	130.106	134.992	133.509	132.387	131.711	131.512	131.780	
Taxes	(35.929)	(38.749)	(41.695)	(44.820)	(46.493)	(45.953)	(45.535)	(45.268)	(45.163)	(45.218)	
<b>NOPLAT</b>	<b>68.263</b>	<b>73.658</b>	<b>79.299</b>	<b>85.286</b>	<b>88.499</b>	<b>87.556</b>	<b>86.852</b>	<b>86.443</b>	<b>86.348</b>	<b>86.562</b>	
Amortiations & Depreciations	44.985	48.532	52.239	56.173	65.122	73.646	81.719	89.274	96.289	102.784	
Changes in working capital	14.514	26.508	27.706	29.398	31.167	15.871	15.676	15.510	15.375	15.253	
Capex	(71.716)	(79.198)	(84.455)	(90.445)	(94.275)	(97.686)	(101.653)	(105.776)	(110.061)	(114.515)	
<b>FCFE</b>	<b>56.045</b>	<b>69.500</b>	<b>74.788</b>	<b>80.413</b>	<b>90.513</b>	<b>79.387</b>	<b>82.595</b>	<b>85.451</b>	<b>87.951</b>	<b>90.084</b>	<b>94.588</b>
Discount factor	1,0000	0,9143	0,8360	0,7644	0,6989	0,6390	0,5843	0,5342	0,4884	0,4466	
<b>Discounted cash flow</b>	<b>56.045</b>	<b>63.546</b>	<b>62.522</b>	<b>61.465</b>	<b>63.258</b>	<b>50.729</b>	<b>48.257</b>	<b>45.648</b>	<b>42.959</b>	<b>40.231</b>	<b>966.595</b>

The terminal value growth rate weighted by sales for the Emerging Markets geography is 7,6% but it is considered unrealistic, so the terminal value nominal growth rate assumed is 5%.

Considering the business plan and cost of capital assumptions presented in the section before to perform a DCF valuation, an estimated Enterprise Value of €3.871 million is arrived at by summing both Enterprise Values from the Iberian operations (€2.370 million) and the Emerging Markets segment (€1.501 million).

As of the reference date of 31<sup>st</sup> December of 2017, DIA has a total financial debt outstanding of €1.231 million and a total amount of €340 million of cash and cash equivalents, making a total net debt of €891 million. To arrive at the Equity Value, net debt must be subtracted from the Enterprise Value totaling €2.980 million of Equity Value.

DIA's share price is obtained by dividing the number of shares outstanding by its estimated intrinsic equity value resulting in a final share price of €4,79. This implies a 11,3% potential upside and, therefore, a "buy" recommendation.

Figure 6.3 - Sum of parts DCF valuation of DIA

<b>DCF Valuation (Sum of parts)</b> <i>(in thousands of Euros)</i>	
<b>Enterprise Value Iberia</b>	2.370.137
<b>Enterprise Value EM</b>	1.501.254
<b>Net debt</b>	(891.271)
<b>DIA Group Equity value</b>	<b>2.980.120</b>
# Shares	622.456.513
<b>Share price</b>	<b>4,79 €</b>
<b>Price @ Dec 31, 2016</b>	<b>4,30 €</b>
Potential upside	11,3%
Rating	Buy

### 6.1.2 Sensitivity analysis

Sensitivity analysis were performed in order to test DIA's share price reaction to variations in assumptions. Terminal value has a large impact on the Enterprise Values of both segments, so

terminal value nominal growth rate changes are tested relatively to the Base Case. The implications of variations in the cost of capital are also analyzed. The results are presented in the table below:

Figure 6.4 - Equity value after sensitivity analysis to WACC and terminal value nominal growth rate

Share price		WACC						
		-1,5%	-1,0%	-0,5%	Base Case	+0,5%	+1%	+1,5%
g (%)	-1,5%	5,36 €	4,82 €	4,36 €	3,97 €	3,64 €	3,34 €	3,08 €
	-1,0%	5,79 €	5,16 €	4,64 €	4,20 €	3,83 €	3,50 €	3,22 €
	-0,5%	6,33 €	5,58 €	4,97 €	4,47 €	4,05 €	3,68 €	3,37 €
	Base Case	7,01 €	6,09 €	5,37 €	4,79 €	4,30 €	3,90 €	3,55 €
	+0,5%	7,93 €	6,75 €	5,87 €	5,17 €	4,61 €	4,15 €	3,75 €
	+1%	9,24 €	7,64 €	6,51 €	5,65 €	4,98 €	4,44 €	3,99 €
	+1,5%	11,32 €	8,90 €	7,36 €	6,27 €	5,45 €	4,80 €	4,28 €

In the best-case scenario, the share price is equal to €11,32, amounting to an Equity Value of €7.044 million. In the worst-case scenario, the share price is equal to €3,08, amounting to an Equity Value of €1.918 million.

## 6.2 Relative valuation

The relative valuation of DIA's two geographical segments is based on historical and forward-looking multiples for Enterprise Value and earnings. Historical data refers to the fiscal year results of 2017 and forward-looking data refers to the first projection period, fiscal year of 2018.

The potential peer group to compute the multiples was built based on the peer group suggested by Thomson Reuters Eikon platform and all the data and multiples were extracted from the same platform. Information regarding the peer group extracted from Thomson Reuters Eikon can be found in Appendix VIII and three filters were applied in order to choose the most suitable companies: **geographical presence** in both developed and emerging markets, preferably in Europe and Latin America, respectively; focus on **discounters**; and, similar **fundamentals** and **financial indicators**, such as return on invest capital (ROIC), EBITDA margin and capital structure.

From the 7 potential peers elected, only X were selected for being part of the peer group. Koninklijke Ahold Delhaize NV was excluded because it only operated in developed markets, namely in North America. WM Morrison was excluded for the same reason and it is also a food manufacturer and distributor. To conclude, Sainsbury does not integrate the peer group because half of its operations are on retail banking and property investments segment.



Two EV multiples are used: EV/Sales and EV/EBITDA. Regarding earnings multiples, the historical and forward-looking P/E multiples and Price/Book value are considered. The averages and the medians of the different multiples used are presented in the table below:

Figure 6.5 - Estimated multiples from peer group

Company name	EV/Sales	EV/EBITDA	Historic P/E	Forward P/E	Price/Book value
Carrefour SA	0,35	6,38	14,40	10,83	8,93
Koninklijke Ahold Delhaize NV	0,40	5,62	18,97	12,31	1,53
Jeronimo Martins SGPS SA	0,66	11,58	27,00	20,04	6,12
Casino Guichard Perrachon SA	0,52	9,82	7,74	12,62	0,72
<b>Average</b>	<b>0,48</b>	<b>8,35</b>	<b>17,03</b>	<b>13,95</b>	<b>4,32</b>
<b>Median</b>	<b>0,46</b>	<b>8,10</b>	<b>16,69</b>	<b>12,46</b>	<b>3,83</b>

Total debt is subtracted from the Enterprise Value in order to arrive at the Equity Value of DIA. The forward-looking multiple result is discounted back to 2017 using the cost of capital, in this case WACC. In the table below the multiple valuation results are presented.

Multiple	Equity Value (millions of Euros)				Share price (Euros)			
	Median	Average	Minimum	Maximum	Median	Average	Minimum	Maximum
EV/Sales (historical)	3.038	3.256	2.147	4.801	4,88	5,23	3,45	7,71
EV/EBITDA (historical)	3.268	3.397	2.386	4.150	5,25	5,46	3,83	6,67
Price/Earnings (historical)	936	974	2.067	1.187	1,50	1,56	3,32	1,91
Price/Earnings (forward-looking)	1.688	1.995	1.349	3.256	2,71	3,21	2,17	5,23

Using these multiples, the equity value obtained range from €936 million to €3.397 million, taking only into account the medians and the averages of the multiples. As mentioned in the Literature Review section, capital intensive industries prefer EV/EBITDA multiples whose application gives a share price ranging from €5,25 to €5,46.

### 6.3 Comparison with BPI Markets Research

This paper's results are compared with an investment bank report from BPI published on the 29<sup>th</sup> of January 2018. The investment bank arrives at a price target of €5,00 and the share price on the same day was €4,55.

In this section, valuation methodologies used are analyzed, while the forecast assumptions are discussed and compared.

#### 6.3.1 Valuation methodology

The methodology used in BPI's investment research is equal to the one used in this dissertation, because both studies applied a sum of the parts DCF model by segment. The only difference is that BPI valued Argentina and Brazil separately.

For the DCF valuation, the bank report forecasts cash flows for an explicit period of 3 years, while the dissertation assumes an explicit period of 10 years.

### 6.3.2 Main assumptions

Starting by the cost of capital, the bank uses a WACC of 8,4% for Iberia, 10,2% for Brazil and 15,8% for Argentina, which compare with 8,01% and 9,13% for Iberia and Emerging Markets, respectively, in the thesis.

Figure 6.6 - WACC comparison between both studies

	Thesis		Investment Bank Research		
	Iberia	EM	Iberia	Brazil	Argentina
<b>Rf</b>	1,62%		3,25%		
<b>MRP</b>	6,00%		6,00%		
<b>CRP</b>	2,03%	4,20%	0,80%	2,72%	9,25%
<b>βL</b>	0,93		1		
<b>Tc</b>	25,17%	34,43%	25,00%	34,00%	35,00%
<b>D/EV</b>	21,9%		30,00%		
<b>Ke</b>	10,41%	11,42%	10,00%	12,00%	18,50%
<b>Kd</b>	3,13%		4,90%	9,00%	14,50%
<b>WACC</b>	<b>8,65%</b>	<b>9,37%</b>	<b>8,10%</b>	<b>10,20%</b>	<b>15,80%</b>

Despite the fact that BPI uses higher risk-free rate and cost of debt, the WACC estimated for Iberia is 55 bp lower than the one estimated in the thesis. For Emerging Markets, BPI also considers higher country risk premiums which result in higher WACC's.

Regarding cash flow, the comparison between the main assumption are presented in the table below:

Figure 6.7 - Assumptions comparison between both studies

<b>ASSUMPTIONS COMPARISON</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<i>(in million Euros)</i>			
<b>Net sales</b>			
Thesis	8.863	9.151	9.486
Investment research	8.676	9.079	9.559
<b>Variation</b>	<b>2,1%</b>	<b>0,8%</b>	<b>-0,8%</b>
<b>EBITDA</b>			
Thesis	525	538	554
Margin (%)	5,9%	5,9%	5,8%
Investment research	613	638	668
Margin (%)	7,1%	7,0%	7,0%
<b>Variation</b>	<b>-14,4%</b>	<b>-15,7%</b>	<b>-17,0%</b>
<b>Depreciation &amp; Amortization</b>			
Thesis	209	213	219
Investment research	245	255	264
<b>Variation</b>	<b>-14,6%</b>	<b>-16,3%</b>	<b>-17,1%</b>
<b>EBIT</b>			
Thesis	315	325	335
Investment research	304	338	359
<b>Variation</b>	<b>3,7%</b>	<b>-4,0%</b>	<b>-6,6%</b>
<b>Changes in working capital</b>			
Thesis	1	29	33
Investment research	5	40	51
<b>Variation</b>	<b>-74,3%</b>	<b>-28,1%</b>	<b>-34,9%</b>
<b>Capex</b>			
Thesis	238	255	269
Investment research	305	336	325
<b>Variation</b>	<b>-22,0%</b>	<b>-24,0%</b>	<b>-17,2%</b>

Thesis' assumptions are considerably more conservative than BPI's specially when it comes to EBITDA margins. Higher margins lead to higher EBITDA, despite only in 2020 BPI's forecasted net sales are higher than in the thesis's. Consequently, changes in working capital are also more beneficial in the investment bank's case.

Capital expenditures and depreciations & amortizations are also higher in the bank's estimates.

To conclude, although the bank uses higher WACCs to discount the cash flows, sales and EBITDA margins are higher, which in this case leads to a higher valuation.

See equity research report in Appendix IX.

## 7 Conclusion

This dissertation aims at establishing a fair price for Distribuidora Internacional de Alimentación, S.A. share, considering the previous analysis of the dynamics of the food retail sector and its macroeconomic drivers, and the fundamentals of the company taking into account its strategy for the future.

Both methods chosen to assess DIA's equity value produced different estimates but provide a comprehensive understanding of what shall be the company's value based on intrinsic characteristics and peers' fundamentals. The intrinsic valuation, based on the sum of the parts DCF model, gives the best estimate for DIA's fair value and results in a share price of €4,79. As the market is valuing DIA at €4,30, implying a 11,3% upside potential, a "buy" recommendation is issued.

The chosen investment bank, BPI, applied a similar methodology with different operational and cost of capital assumptions to value DIA's equity and arrived at a price for share of €5,00, revealing a more optimistic estimate. On the other hand, the market is more optimistic regarding DIA's equity value if the EV/EBITDA multiple is applied, yielding a share price range from €5,25 to €5,46.

It is important to emphasize that this is a theoretical exercise that represents essentially the author's best estimations for the future based on the information provided. Therefore, there are numerous factors that may change and cause significant impacts on the company's value, namely macroeconomic conditions, competitive environment and the company's strategy.

Concluding, DIA's market share seems underestimating the company's fair value and the author defends that DIA's stock should be trading at a higher price.

## 8 References

- Alexander, G. J. (1980). On the Estimation and Stability of Beta. *Journal of Financial and Quantitative Analysis, Vol. 15, Issue 1*, 123-137.
- Alford, A. W. (1992). The Effect of the Set of Comparable Firms on the Accuracy of the P/E Valuation Method. *Journal of Accounting Research*, 94-108.
- Amihud, Y. C. (1992). Further Evidence on the Risk-Return Relationship. *Research Paper no.1248, Graduate School of Business, Stanford University* .
- Bancel, F., & Mittoo, U. R. (2014). The Gap Between Theory and Practice of Corporate Valuation: Survey of European Experts. *Journal of Applied Corporate Finance, Vol. 26, Issue 4*, 106-117.
- Black, F. (1972). Capital Market Equilibrium with Restricted Borrowing. *The Journal of Business, Vol. 45, Issue 3*, 444-455.
- Black, F. J. (1972). The Capital Asset Pricing Model: Some Empirical Tests. *Studies in the Theory of Capital Markets, Michael C. Jensen, ed. Praeger Publishers Inc.* .
- Bruner, R., Eades, K., Harris, R., & Higgins, R. (1988). Best Practices in Estimating the Cost of Capital: Survey and Synthesis. *Financial Practice and Education, Vol. 8, Issue 1*, 13-28.
- Cooper, I., & Nyborg, K. (2006). The Value of Tax Shields is Equal to the Present Value of Tax Shields. *Journal of Finance and Economics, Vol. 40, No. 2*.
- Copeland, T., Koller, T., & Murrin, J. (2000). *Valuation – Measuring and Managing the Value of Companies, 3rd edition*. New York: Wiley & Sons.
- Damodaran, A. (1999). Estimating Risk Parameters. *Stern School of Business, New York University*.
- Damodaran, A. (2002). *Investment Valuation, 2nd Edition*. Wiley.
- Damodaran, A. (2006). Valuation Approaches and Metrics: a Survey of the Theory and Evidence". *Stern School of Business, New York University*.
- Damodaran, A. (2008). What is the riskfree rate? A Search for the Basic Building Block. *Stern School of Business*.

- Damodaran, A. (2017). Equity Risk Premiums (ERP): Determinants, Estimation and Implication - The 2017 Edition. *Stern School of Business, New York University*.
- Estridge, J., & Lougee, B. (2007). Measuring Free Cash Flow for Equity Valuation: Pitfalls and Possible Solutions. *Journal of Applied Corporate Finance, Vol. 19, Issue 2*, 60-71.
- Fama, E. F., & French, K. R. (1992). The Cross-Section of Expected Stock Returns. *The Journal of Finance, Vol. 47, Issue 2*, 427-465.
- Fama, E. F., & French, K. R. (2004). The Capital Asset Pricing Model: Theory and Evidence. *Journal of Economic Perspectives, Vol. 18, Issue 3*, 25-46.
- Fama, E. F., & French, K. R. (2015). A Five-Factor Asset Pricing Model. *Journal of Financial Economics, Vol. 116, Issue 1*, 1-22.
- Fernández, P. (2004). 80 Common Errors in Company Valuation. *IESE Business School*.
- Fernández, P. (2007). Company Valuation Methods: The Most Common Errors in Valuations. *IESE Business School*.
- Henschke, S. a. (2009). Equity Valuation Using Multiples: Controlling for Differences Between Firms. *University of Cologne Working Paper*.
- Jennergren, L. P. (2011). A Tutorial on the Discounted Cash Flow Model for Valuation of Companies. *Stockholm School of Economics*.
- Kaplan, S. N. (1995). The Valuation of Cash Flow Forecasts: An Empirical Analysis. *The Journal of Finance, Vol. 50, Issue 4*, 1059-1093.
- Koller, T. G. (2005). *Valuation: Measuring and Managing the Value of Companies, Fourth Edition*. New Jersey: John Wiley & Sons.
- Koller, T., & Goedhart, M. &. (2010). *Valuation: Measuring and Managing the Value of Companies, 5th edition*. John Wiley & Sons .
- Kothari, S. a. (1995). In Defense of Beta. *Journal of Applied Corporate Finance, Vol. 8, Issue 1*, 53-58.
- Lie, E. a. (2002). Multiples Used to Estimate Corporate Value. *Financial Analysts Journal, Vol. 58*, 44-54.

- Lintner, J. (1965). The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets. *The Review of Economics and Statistics*, Vol. 47, Issue 1, 13-37.
- Liu, J. N. (2002). Equity Valuation Using Multiples. *Journal of Accounting Research*, Vol. 40, Issue 1, 135-172.
- Luerhamn, T. A. (1997). Using APV: A Better Tool for Valuing Operations. *Harvard Business Review*, Vol. 75, Issue 3, 145.
- Luerhman, T. (1997). What's It Worth? A General Manager's Guide to Valuation. *Harvard Business Review*, Vol. 75, Issue 4, 132-142.
- Merton, R. (1980). On estimating the expected return on the market. An exploratory investigation. *Journal of Financial Economics*, Vol. 8, 323-361.
- Mossin, J. (1966). Equilibrium in a Capital Asset Market. *Econometrica*, Vol. 43, Issue 4, 768-783.
- Oded, J., & Michel, A. (2007). Reconciling DCF Valuation Methodologies. *Journal of Applied Finance*, Vol. 17, Issue 2,, 21-32.
- Ohlson, J. A. (1995). Earnings, Book Values, and Dividends in Equity Valuation. *Contemporary Accounting Research*, Vol. 11, 661-687.
- Rosenberg, B. a. (1982). The Corporate Uses of Beta. *Chase Financial Quartely*, Vol. 1, Issue 4 .
- Ross, S. A. (1976). The Arbitrage Theory of Capital Asset Pricing. *Journal of Economic Theory*, 341-360.
- Ruback, R. S. (2002). Capital Cash FLOws: A Simple Approach to Valuing Risky Cash Flows. *Financial Management (Willey-Blackwell)*, Summer 2002, Vol. 31, Issue 2, 85.
- Sharpe, W. F. (1964). apital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. *Journal of Finance*, Vol. 19, Issue 3, 425-442.

# Appendix

## Appendix I

<b>SPAIN PROFIT &amp; LOSS</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>4.818.414</b>	<b>4.825.891</b>	<b>4.866.076</b>	<b>4.909.161</b>	<b>4.959.748</b>
Net sales	4.818.414	4.825.891	4.866.076	4.909.161	4.959.748
<b>Total operating costs</b>	<b>(4.490.342)</b>	<b>(4.497.309)</b>	<b>(4.534.758)</b>	<b>(4.574.910)</b>	<b>(4.622.052)</b>
Cost of goods sold	(3.700.153)	(3.705.895)	(3.736.753)	(3.769.839)	(3.808.686)
Personnel expenses	(439.623)	(440.305)	(443.971)	(447.902)	(452.518)
Operating costs	(350.566)	(351.110)	(354.034)	(357.168)	(360.849)
<b>EBITDA</b>	<b>328.073</b>	<b>328.582</b>	<b>331.318</b>	<b>334.251</b>	<b>337.696</b>
<i>% growth</i>		0,2%	0,8%	0,9%	1,0%
Depreciations and amortizations	(136.531)	(137.145)	(138.592)	(140.137)	(143.896)
<b>EBIT</b>	<b>191.541</b>	<b>191.437</b>	<b>192.725</b>	<b>194.114</b>	<b>193.799</b>
<i>% growth</i>		-0,1%	0,7%	0,7%	-0,2%
Financing income	0	1.299	3.226	4.962	6.408
Financing costs	(38.578)	(30.135)	(30.135)	(30.135)	(30.135)
<b>EBT</b>	<b>152.963</b>	<b>162.601</b>	<b>165.816</b>	<b>168.941</b>	<b>170.072</b>
<i>% growth</i>		6,3%	2,0%	1,9%	0,7%
Corporate income tax	(28.681)	(30.488)	(31.091)	(31.677)	(31.889)
<b>NET INCOME</b>	<b>124.282</b>	<b>132.113</b>	<b>134.726</b>	<b>137.265</b>	<b>138.184</b>

<b>SPAIN PROFIT &amp; LOSS</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>5.018.259</b>	<b>5.089.982</b>	<b>5.167.488</b>	<b>5.259.039</b>	<b>5.347.262</b>
Net sales	5.018.259	5.089.982	5.167.488	5.259.039	5.347.262
<b>Total operating costs</b>	<b>(4.676.579)</b>	<b>(4.743.419)</b>	<b>(4.815.648)</b>	<b>(4.900.966)</b>	<b>(4.983.181)</b>
Cost of goods sold	(3.853.617)	(3.908.695)	(3.968.214)	(4.038.518)	(4.106.265)
Personnel expenses	(457.856)	(464.400)	(471.471)	(479.824)	(487.874)
Operating costs	(365.106)	(370.324)	(375.963)	(382.624)	(389.042)
<b>EBITDA</b>	<b>341.679</b>	<b>346.563</b>	<b>351.840</b>	<b>358.074</b>	<b>364.080</b>
<i>% growth</i>	1,2%	1,4%	1,5%	1,8%	1,7%
Depreciations and amortizations	(147.406)	(150.694)	(153.772)	(156.677)	(159.406)
<b>EBIT</b>	<b>194.274</b>	<b>195.869</b>	<b>198.068</b>	<b>201.397</b>	<b>204.674</b>
<i>% growth</i>	0,2%	0,8%	1,1%	1,7%	1,6%
Financing income	7.854	8.576	9.587	10.520	11.437
Financing costs	(30.135)	(30.135)	(30.135)	(30.135)	(30.135)
<b>EBT</b>	<b>171.993</b>	<b>174.310</b>	<b>177.519</b>	<b>181.782</b>	<b>185.975</b>
<i>% growth</i>	1,1%	1,3%	1,8%	2,4%	2,3%
Corporate income tax	(32.249)	(32.683)	(33.285)	(34.084)	(34.870)
<b>NET INCOME</b>	<b>139.744</b>	<b>141.627</b>	<b>144.234</b>	<b>147.698</b>	<b>151.105</b>



## Appendix II

<b>PORTUGAL PROFIT &amp; LOSS</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>694.673</b>	<b>711.966</b>	<b>730.229</b>	<b>749.515</b>	<b>769.878</b>
Net sales	694.673	711.966	730.229	749.515	769.878
<b>Total operating costs</b>	<b>(647.374)</b>	<b>(663.490)</b>	<b>(680.510)</b>	<b>(698.482)</b>	<b>(717.459)</b>
Cost of goods sold	(533.453)	(546.733)	(560.757)	(575.567)	(591.204)
Personnel expenses	(63.381)	(64.958)	(66.625)	(68.384)	(70.242)
Operating costs	(50.541)	(51.799)	(53.128)	(54.531)	(56.013)
<b>EBITDA</b>	<b>47.298</b>	<b>48.476</b>	<b>49.719</b>	<b>51.032</b>	<b>52.419</b>
<i>% growth</i>		2,5%	2,6%	2,6%	2,7%
Depreciations and amortizations	(27.674)	(27.798)	(28.091)	(28.405)	(29.167)
<b>EBIT</b>	<b>19.625</b>	<b>20.678</b>	<b>21.628</b>	<b>22.628</b>	<b>23.252</b>
<i>% growth</i>		5,4%	4,6%	4,6%	2,8%
Financing income	0	0	0	0	0
Financing costs	0	0	0	0	0
<b>EBT</b>	<b>19.625</b>	<b>20.678</b>	<b>21.628</b>	<b>22.628</b>	<b>23.252</b>
<i>% growth</i>		5,4%	4,6%	4,6%	2,8%
Corporate income tax	(5.185)	(5.463)	(5.714)	(5.978)	(6.143)
<b>NET INCOME</b>	<b>14.440</b>	<b>15.215</b>	<b>15.914</b>	<b>16.650</b>	<b>17.109</b>

<b>PORTUGAL PROFIT &amp; LOSS</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>791.153</b>	<b>812.969</b>	<b>831.276</b>	<b>849.949</b>	<b>866.444</b>
Net sales	791.153	812.969	831.276	849.949	866.444
<b>Total operating costs</b>	<b>(737.285)</b>	<b>(757.617)</b>	<b>(774.677)</b>	<b>(792.078)</b>	<b>(807.451)</b>
Cost of goods sold	(607.541)	(624.295)	(638.353)	(652.692)	(665.359)
Personnel expenses	(72.183)	(74.174)	(75.844)	(77.548)	(79.053)
Operating costs	(57.561)	(59.148)	(60.480)	(61.838)	(63.039)
<b>EBITDA</b>	<b>53.867</b>	<b>55.353</b>	<b>56.599</b>	<b>57.871</b>	<b>58.994</b>
<i>% growth</i>	2,8%	2,8%	2,3%	2,2%	1,9%
Depreciations and amortizations	(29.878)	(30.544)	(31.168)	(31.757)	(32.310)
<b>EBIT</b>	<b>23.990</b>	<b>24.808</b>	<b>25.431</b>	<b>26.114</b>	<b>26.683</b>
<i>% growth</i>	3,2%	3,4%	2,5%	2,7%	2,2%
Financing income	0	0	0	0	0
Financing costs	0	0	0	0	0
<b>EBT</b>	<b>23.990</b>	<b>24.808</b>	<b>25.431</b>	<b>26.114</b>	<b>26.683</b>
<i>% growth</i>	3,2%	3,4%	2,5%	2,7%	2,2%
Corporate income tax	(6.338)	(6.554)	(6.719)	(6.899)	(7.050)
<b>NET INCOME</b>	<b>17.652</b>	<b>18.254</b>	<b>18.712</b>	<b>19.214</b>	<b>19.634</b>

## Appendix III

<b>ARGENTINA PROFIT &amp; LOSS</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>1.470.492</b>	<b>1.556.479</b>	<b>1.644.068</b>	<b>1.734.196</b>	<b>1.827.014</b>
Net sales	1.470.492	1.556.479	1.644.068	1.734.196	1.827.014
<b>Total operating costs</b>	<b>(1.404.999)</b>	<b>(1.487.157)</b>	<b>(1.570.844)</b>	<b>(1.656.958)</b>	<b>(1.745.642)</b>
Cost of goods sold	(1.157.754)	(1.225.454)	(1.294.414)	(1.365.374)	(1.438.453)
Personnel expenses	(137.555)	(145.599)	(153.792)	(162.223)	(170.905)
Operating costs	(109.690)	(116.104)	(122.637)	(129.361)	(136.284)
<b>EBITDA</b>	<b>65.493</b>	<b>69.323</b>	<b>73.224</b>	<b>77.238</b>	<b>81.372</b>
<i>% growth</i>		5,8%	5,6%	5,5%	5,4%
Depreciations and amortizations	(15.079)	(16.268)	(17.511)	(18.830)	(21.830)
<b>EBIT</b>	<b>50.414</b>	<b>53.054</b>	<b>55.713</b>	<b>58.408</b>	<b>59.542</b>
<i>% growth</i>		5,2%	5,0%	4,8%	1,9%
Financing income	0	0	0	0	0
Financing costs	0	0	0	0	0
<b>EBT</b>	<b>50.414</b>	<b>53.054</b>	<b>55.713</b>	<b>58.408</b>	<b>59.542</b>
<i>% growth</i>	↗ #REF!	5,2%	5,0%	4,8%	1,9%
Corporate income tax	(17.645)	(18.569)	(19.499)	(20.443)	(20.840)
<b>NET INCOME</b>	<b>32.769</b>	<b>34.485</b>	<b>36.213</b>	<b>37.965</b>	<b>38.702</b>

<b>ARGENTINA PROFIT &amp; LOSS</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>1.810.930</b>	<b>1.789.680</b>	<b>1.763.781</b>	<b>1.733.714</b>	<b>1.699.923</b>
Net sales	1.810.930	1.789.680	1.763.781	1.733.714	1.699.923
<b>Total operating costs</b>	<b>(1.730.274)</b>	<b>(1.709.971)</b>	<b>(1.685.226)</b>	<b>(1.656.498)</b>	<b>(1.624.212)</b>
Cost of goods sold	(1.425.789)	(1.409.058)	(1.388.668)	(1.364.995)	(1.338.391)
Personnel expenses	(169.401)	(167.413)	(164.990)	(162.178)	(159.017)
Operating costs	(135.084)	(133.499)	(131.567)	(129.325)	(126.804)
<b>EBITDA</b>	<b>80.656</b>	<b>79.709</b>	<b>78.556</b>	<b>77.216</b>	<b>75.711</b>
<i>% growth</i>	-0,9%	-1,2%	-1,4%	-1,7%	-1,9%
Depreciations and amortizations	(24.687)	(27.393)	(29.926)	(32.277)	(34.454)
<b>EBIT</b>	<b>55.968</b>	<b>52.316</b>	<b>48.630</b>	<b>44.939</b>	<b>41.257</b>
<i>% growth</i>	-6,0%	-6,5%	-7,0%	-7,6%	-8,2%
Financing income	0	0	0	0	0
Financing costs	0	0	0	0	0
<b>EBT</b>	<b>55.968</b>	<b>52.316</b>	<b>48.630</b>	<b>44.939</b>	<b>41.257</b>
<i>% growth</i>	-6,0%	-6,5%	-7,0%	-7,6%	-8,2%
Corporate income tax	(19.589)	(18.311)	(17.020)	(15.729)	(14.440)
<b>NET INCOME</b>	<b>36.379</b>	<b>34.005</b>	<b>31.609</b>	<b>29.210</b>	<b>26.817</b>

## Appendix IV

<b>BRAZIL PROFIT &amp; LOSS</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>1.878.925</b>	<b>2.057.030</b>	<b>2.245.456</b>	<b>2.448.274</b>	<b>2.666.083</b>
Net sales	1.878.925	2.057.030	2.245.456	2.448.274	2.666.083
<b>Total operating costs</b>	<b>(1.795.242)</b>	<b>(1.965.413)</b>	<b>(2.145.448)</b>	<b>(2.339.232)</b>	<b>(2.547.340)</b>
Cost of goods sold	(1.479.324)	(1.619.550)	(1.767.902)	(1.927.585)	(2.099.072)
Personnel expenses	(175.761)	(192.422)	(210.048)	(229.020)	(249.395)
Operating costs	(140.156)	(153.442)	(167.497)	(182.626)	(198.874)
<b>EBITDA</b>	<b>83.684</b>	<b>91.616</b>	<b>100.009</b>	<b>109.042</b>	<b>118.742</b>
<i>% growth</i>		9,5%	9,2%	9,0%	8,9%
Depreciations and amortizations	(29.905)	(32.263)	(34.728)	(37.343)	(43.292)
<b>EBIT</b>	<b>53.779</b>	<b>59.353</b>	<b>65.281</b>	<b>71.698</b>	<b>75.450</b>
<i>% growth</i>		10,4%	10,0%	9,8%	5,2%
Financing income	0	0	0	0	0
Financing costs	0	0	0	0	0
<b>EBT</b>	<b>53.779</b>	<b>59.353</b>	<b>65.281</b>	<b>71.698</b>	<b>75.450</b>
<i>% growth</i>		10,4%	10,0%	9,8%	5,2%
Corporate income tax	(18.285)	(20.180)	(22.196)	(24.377)	(25.653)
<b>NET INCOME</b>	<b>35.494</b>	<b>39.173</b>	<b>43.085</b>	<b>47.321</b>	<b>49.797</b>

<b>BRAZIL PROFIT &amp; LOSS</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
<i>(in thousand Euros)</i>					
<b>Total operating income</b>	<b>2.840.238</b>	<b>3.017.575</b>	<b>3.197.906</b>	<b>3.381.014</b>	<b>3.566.655</b>
Net sales	2.840.238	3.017.575	3.197.906	3.381.014	3.566.655
<b>Total operating costs</b>	<b>(2.713.739)</b>	<b>(2.883.177)</b>	<b>(3.055.477)</b>	<b>(3.230.430)</b>	<b>(3.407.802)</b>
Cost of goods sold	(2.236.188)	(2.375.810)	(2.517.789)	(2.661.955)	(2.808.114)
Personnel expenses	(265.686)	(282.275)	(299.144)	(316.272)	(333.638)
Operating costs	(211.865)	(225.093)	(238.544)	(252.203)	(266.051)
<b>EBITDA</b>	<b>126.499</b>	<b>134.397</b>	<b>142.429</b>	<b>150.584</b>	<b>158.852</b>
<i>% growth</i>	6,5%	6,2%	6,0%	5,7%	5,5%
Depreciations and amortizations	(48.959)	(54.326)	(59.348)	(64.012)	(68.329)
<b>EBIT</b>	<b>77.540</b>	<b>80.072</b>	<b>83.081</b>	<b>86.573</b>	<b>90.523</b>
<i>% growth</i>	2,8%	3,3%	3,8%	4,2%	4,6%
Financing income	0	0	0	0	0
Financing costs	0	0	0	0	0
<b>EBT</b>	<b>77.540</b>	<b>80.072</b>	<b>83.081</b>	<b>86.573</b>	<b>90.523</b>
<i>% growth</i>	2,8%	3,3%	3,8%	4,2%	4,6%
Corporate income tax	(26.364)	(27.224)	(28.248)	(29.435)	(30.778)
<b>NET INCOME</b>	<b>51.177</b>	<b>52.847</b>	<b>54.833</b>	<b>57.138</b>	<b>59.745</b>

## Appendix V

CONSOLIDATED PROFIT & LOSS	2013	2014	2015	2016	2017	2018	2019	2020
<i>(in thousand Euros)</i>								
<b>Total operating income</b>	<b>9.987.265</b>	<b>8.116.217</b>	<b>9.021.669</b>	<b>8.978.597</b>	<b>8.776.210</b>	<b>8.862.505</b>	<b>9.151.366</b>	<b>9.485.829</b>
Net sales	9.844.338	8.010.967	8.925.454	8.867.621	8.620.550	8.862.505	9.151.366	9.485.829
Other income	142.927	105.250	96.215	110.976	155.660	-	-	-
<b>Total operating costs</b>	<b>(9.379.516)</b>	<b>(7.590.623)</b>	<b>(8.510.148)</b>	<b>(8.441.659)</b>	<b>(8.262.610)</b>	<b>(8.337.957)</b>	<b>(8.613.370)</b>	<b>(8.931.559)</b>
Cost of goods sold	(7.821.780)	(6.350.654)	(7.018.881)	(6.942.007)	(6.808.596)	(6.870.684)	(7.097.631)	(7.359.827)
Personnel expenses	(820.273)	(704.940)	(847.233)	(846.103)	(808.943)	(816.320)	(843.284)	(874.436)
Operating costs	(737.463)	(535.029)	(644.034)	(653.549)	(645.071)	(650.953)	(672.455)	(697.297)
<b>EBITDA</b>	<b>607.749</b>	<b>525.594</b>	<b>511.521</b>	<b>536.938</b>	<b>513.600</b>	<b>524.548</b>	<b>537.997</b>	<b>554.269</b>
<i>% growth</i>						2,1%	2,6%	3,0%
Depreciations and amortizations	(266.886)	(184.604)	(214.026)	(232.953)	(235.512)	(209.190)	(213.475)	(218.922)
Impairments	(4.601)	(5.525)	(11.013)	(13.262)	(13.287)	-	-	-
Losses on disposal of fixed assets	(10.642)	(11.558)	(12.340)	4.336	(17.728)	-	-	-
<b>EBIT</b>	<b>325.620</b>	<b>323.907</b>	<b>274.142</b>	<b>295.059</b>	<b>247.073</b>	<b>315.358</b>	<b>324.522</b>	<b>335.347</b>
<i>% growth</i>						27,6%	2,9%	3,3%
Financing income	9.717	16.550	9.265	12.089	4.830	-	1.299	3.226
Financing costs	(48.913)	(57.259)	(65.291)	(64.028)	(65.580)	(38.578)	(30.135)	(30.135)
<b>EBT</b>	<b>286.424</b>	<b>283.198</b>	<b>218.116</b>	<b>243.120</b>	<b>186.323</b>	<b>276.780</b>	<b>295.686</b>	<b>308.438</b>
<i>% growth</i>						48,5%	6,8%	4,3%
Corporate income tax	(95.495)	(74.556)	82.610	(69.119)	(55.350)	(69.795)	(74.700)	(78.500)
Profit/(loss) after discontinued operations	5.129	120.582	(1.477)	-	(21.434)	-	-	-
<b>NET INCOME</b>	<b>196.058</b>	<b>329.224</b>	<b>299.249</b>	<b>174.001</b>	<b>109.539</b>	<b>206.985</b>	<b>220.986</b>	<b>229.938</b>

CONSOLIDATED PROFIT & LOSS	2021	2022	2023	2024	2025	2026	2027
<i>(in thousand Euros)</i>							
<b>Total operating income</b>	<b>9.841.145</b>	<b>10.222.723</b>	<b>10.460.579</b>	<b>10.710.206</b>	<b>10.960.451</b>	<b>11.223.717</b>	<b>11.480.284</b>
Net sales	9.841.145	10.222.723	10.460.579	10.710.206	10.960.451	11.223.717	11.480.284
Other income	-	-	-	-	-	-	-
<b>Total operating costs</b>	<b>(9.269.582)</b>	<b>(9.632.494)</b>	<b>(9.857.877)</b>	<b>(10.094.183)</b>	<b>(10.331.027)</b>	<b>(10.579.972)</b>	<b>(10.822.646)</b>
Cost of goods sold	(7.638.366)	(7.937.414)	(8.123.136)	(8.317.858)	(8.513.023)	(8.718.160)	(8.918.129)
Personnel expenses	(907.530)	(943.060)	(965.126)	(988.261)	(1.011.449)	(1.035.822)	(1.059.581)
Operating costs	(723.686)	(752.019)	(769.615)	(788.064)	(806.555)	(825.990)	(844.936)
<b>EBITDA</b>	<b>571.563</b>	<b>590.229</b>	<b>602.701</b>	<b>616.022</b>	<b>629.424</b>	<b>643.745</b>	<b>657.638</b>
<i>% growth</i>	3,1%	3,3%	2,1%	2,2%	2,2%	2,3%	2,2%
Depreciations and amortizations	(224.715)	(238.185)	(250.929)	(262.957)	(274.215)	(284.723)	(294.500)
Impairments	-	-	-	-	-	-	-
Losses on disposal of fixed assets	-	-	-	-	-	-	-
<b>EBIT</b>	<b>346.849</b>	<b>352.044</b>	<b>351.772</b>	<b>353.065</b>	<b>355.209</b>	<b>359.022</b>	<b>363.138</b>
<i>% growth</i>	3,4%	1,5%	-0,1%	0,4%	0,6%	1,1%	1,1%
Financing income	4.962	6.408	7.854	8.576	9.587	10.520	11.437
Financing costs	(30.135)	(30.135)	(30.135)	(30.135)	(30.135)	(30.135)	(30.135)
<b>EBT</b>	<b>321.676</b>	<b>328.317</b>	<b>329.491</b>	<b>331.506</b>	<b>334.661</b>	<b>339.407</b>	<b>344.439</b>
<i>% growth</i>	4,3%	2,1%	0,4%	0,6%	1,0%	1,4%	1,5%
Corporate income tax	(82.475)	(84.525)	(84.539)	(84.772)	(85.272)	(86.147)	(87.138)
Profit/(loss) after discontinued operations	-	-	-	-	-	-	-
<b>NET INCOME</b>	<b>239.201</b>	<b>243.792</b>	<b>244.952</b>	<b>246.734</b>	<b>249.389</b>	<b>253.260</b>	<b>257.301</b>

## Appendix VI

CONSOLIDATED BALANCE SHEET	2013	2014	2015	2016	2017	2018	2019	2020
<i>(in thousand Euros)</i>								
<b>ASSETS</b>								
Property, plant & equipment	1.601.651	1.270.356	1.372.010	1.469.078	1.363.963	1.387.308	1.416.804	1.453.978
Goodwill	454.388	464.642	558.063	557.818	553.129	553.129	553.129	553.129
Other intangible assets	45.613	32.567	34.763	37.505	42.709	36.941	37.779	38.819
Investments accounted for using the equity method	787	0	92	185	974	974	974	974
Other non-current financial assets	24.739	28.995	66.945	58.657	75.013	75.013	75.013	75.013
Consumer loans from financial activities	555	363	458	401	0	0	0	0
Deferred tax assets	57.667	147.890	271.480	314.273	253.983	244.423	234.260	223.897
<b>Non-current assets</b>	<b>2.185.400</b>	<b>1.944.813</b>	<b>2.303.811</b>	<b>2.437.917</b>	<b>2.289.771</b>	<b>2.297.788</b>	<b>2.317.959</b>	<b>2.345.810</b>
Inventories	544.867	553.119	562.489	669.592	569.644	553.841	572.135	593.271
Trade and other receivables	264.008	296.759	272.484	330.207	294.930	277.468	286.511	296.983
Consumer loans from financial activities	5.698	6.362	6.548	6.220	1.070	1.070	1.070	1.070
Current tax assets	77.651	64.347	69.474	71.087	64.717	65.614	67.591	69.912
Current income tax assets	0	42.593	49.663	8.832	369	0	0	0
Other current financial assets	10.714	12.144	15.718	19.734	18.430	18.430	18.430	18.430
Other assets	14.112	7.836	7.815	8.140	7.387	7.387	7.387	7.387
Non-current assets held for sale	6.100	10	0	0	39.663	39.663	39.663	39.663
Cash and cash equivalents	262.037	199.004	154.627	364.600	340.193	255.002	233.724	236.192
<b>Current assets</b>	<b>1.185.187</b>	<b>1.182.174</b>	<b>1.138.818</b>	<b>1.478.412</b>	<b>1.336.403</b>	<b>1.218.474</b>	<b>1.226.512</b>	<b>1.262.908</b>
<b>Total assets</b>	<b>3.370.587</b>	<b>3.126.987</b>	<b>3.442.629</b>	<b>3.916.329</b>	<b>3.626.174</b>	<b>3.516.262</b>	<b>3.544.472</b>	<b>3.608.718</b>
<b>EQUITY AND LIABILITIES</b>								
Share capital	65.107	65.107	62.246	62.246	62.246	62.246	62.246	62.246
Retained earnings	-80.220	19.271	-6.328	201.367	203.784	292.280	247.356	234.799
Own shares	-	(58.864)	(53.561)	(66.571)	(60.359)	(60.359)	(60.359)	(60.359)
Other equity instruments	(10.510)	22.827	11.647	21.013	10.773	10.773	10.773	10.773
Net profit	209.259	329.229	299.221	174.043	109.539	206.985	220.986	229.938
<b>Total equity</b>	<b>183.636</b>	<b>377.570</b>	<b>313.225</b>	<b>392.098</b>	<b>325.983</b>	<b>511.925</b>	<b>481.002</b>	<b>477.397</b>
Provisions	72.570	86.100	51.503	45.841	42.556	42.556	42.556	42.556
Borrowings	913.000	732.444	1.295.230	1.243.007	1.231.464	961.945	961.945	961.945
Other financial liabilities	164.924	143.728	163.585	137.427	151.356	151.356	151.356	151.356
Deferred tax liabilities	57.978	2.749	3.193	44.109	2.206	2.206	2.206	2.206
Current tax liabilities	141.837	82.440	92.939	85.494	85.692	86.879	89.498	92.571
Current income tax liabilities	18.702	8.747	4.111	15.505	10.913	15.663	16.733	17.454
Trade and other payables	1.786.884	1.693.113	1.518.843	1.952.848	1.710.828	1.678.555	1.734.000	1.798.056
Liabilities directly associated with non-current assets held for sale	31.056	96	0	0	65.176	65.176	65.176	65.176
<b>Total liabilities</b>	<b>3.186.951</b>	<b>2.749.417</b>	<b>3.129.404</b>	<b>3.524.231</b>	<b>3.300.191</b>	<b>3.004.337</b>	<b>3.063.470</b>	<b>3.131.321</b>
<b>Total equity and liabilities</b>	<b>3.370.587</b>	<b>3.126.987</b>	<b>3.442.629</b>	<b>3.916.329</b>	<b>3.626.174</b>	<b>3.516.262</b>	<b>3.544.472</b>	<b>3.608.718</b>

CONSOLIDATED BALANCE SHEET (in thousand Euros)	2021	2022	2023	2024	2025	2026	2027
<b>ASSETS</b>							
Property, plant & equipment	1.493.497	1.524.130	1.546.730	1.562.261	1.571.739	1.576.181	1.576.564
Goodwill	553.129	553.129	553.129	553.129	553.129	553.129	553.129
Other intangible assets	39.925	41.123	41.953	42.848	43.749	44.720	45.660
Investments accounted for using the equity method	974	974	974	974	974	974	974
Other non-current financial assets	75.013	75.013	75.013	75.013	75.013	75.013	75.013
Consumer loans from financial activities	0	0	0	0	0	0	0
Deferred tax assets	213.338	202.708	191.959	181.064	169.969	158.608	146.985
<b>Non-current assets</b>	<b>2.375.877</b>	<b>2.397.077</b>	<b>2.409.758</b>	<b>2.415.289</b>	<b>2.414.574</b>	<b>2.408.625</b>	<b>2.398.324</b>
Inventories	615.724	639.830	654.801	670.497	686.229	702.765	718.885
Trade and other receivables	308.107	320.054	327.500	335.316	343.150	351.393	359.425
Consumer loans from financial activities	1.070	1.070	1.070	1.070	1.070	1.070	1.070
Current tax assets	72.378	75.030	76.720	78.504	80.294	82.188	84.030
Current income tax assets	0	0	0	0	0	0	0
Other current financial assets	18.430	18.430	18.430	18.430	18.430	18.430	18.430
Other assets	7.387	7.387	7.387	7.387	7.387	7.387	7.387
Non-current assets held for sale	39.663	39.663	39.663	39.663	39.663	39.663	39.663
Cash and cash equivalents	244.840	260.107	255.741	264.213	272.915	283.040	290.731
<b>Current assets</b>	<b>1.307.599</b>	<b>1.361.570</b>	<b>1.381.312</b>	<b>1.415.080</b>	<b>1.449.139</b>	<b>1.485.936</b>	<b>1.519.621</b>
<b>Total assets</b>	<b>3.683.475</b>	<b>3.758.647</b>	<b>3.791.070</b>	<b>3.830.369</b>	<b>3.863.713</b>	<b>3.894.561</b>	<b>3.917.945</b>
<b>EQUITY AND LIABILITIES</b>							
Share capital	62.246	62.246	62.246	62.246	62.246	62.246	62.246
Retained earnings	228.231	221.864	205.450	192.919	173.378	147.463	115.228
Own shares	(60.359)	(60.359)	(60.359)	(60.359)	(60.359)	(60.359)	(60.359)
Other equity instruments	10.773	10.773	10.773	10.773	10.773	10.773	10.773
Net profit	239.201	243.792	244.952	246.734	249.389	253.260	257.301
<b>Total equity</b>	<b>480.092</b>	<b>478.316</b>	<b>463.062</b>	<b>452.313</b>	<b>435.427</b>	<b>413.383</b>	<b>385.189</b>
Provisions	42.556	42.556	42.556	42.556	42.556	42.556	42.556
Borrowings	961.945	961.945	961.945	961.945	961.945	961.945	961.945
Other financial liabilities	151.356	151.356	151.356	151.356	151.356	151.356	151.356
Deferred tax liabilities	2.206	2.206	2.206	2.206	2.206	2.206	2.206
Current tax liabilities	95.835	99.347	101.585	103.947	106.318	108.825	111.264
Current income tax liabilities	18.204	18.579	18.646	18.760	18.938	19.207	19.492
Trade and other payables	1.866.105	1.939.165	1.984.538	2.032.110	2.079.790	2.129.907	2.178.760
Liabilities directly associated with non-current assets held for s	65.176	65.176	65.176	65.176	65.176	65.176	65.176
<b>Total liabilities</b>	<b>3.203.383</b>	<b>3.280.330</b>	<b>3.328.008</b>	<b>3.378.056</b>	<b>3.428.285</b>	<b>3.481.177</b>	<b>3.532.756</b>
<b>Total equity and liabilities</b>	<b>3.683.475</b>	<b>3.758.647</b>	<b>3.791.070</b>	<b>3.830.369</b>	<b>3.863.713</b>	<b>3.894.561</b>	<b>3.917.945</b>

## Appendix VII

<b>CASH FLOW CONSOLIDATED</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<i>(in thousand Euros)</i>					
<b>Operating activities</b>					
<b>Profit before income tax</b>	<b>276.780</b>	<b>295.686</b>	<b>308.438</b>	<b>321.676</b>	<b>328.317</b>
<b>Adjustments to P&amp;L:</b>	<b>247.768</b>	<b>242.311</b>	<b>245.832</b>	<b>249.888</b>	<b>261.912</b>
Amortization and depreciation	209.190	213.475	218.922	224.715	238.185
Finance income	-	(1.299)	(3.226)	(4.962)	(6.408)
Finance expenses	38.578	30.135	30.135	30.135	30.135
<b>Adjustments to working capital:</b>	<b>(63.684)</b>	<b>(45.523)</b>	<b>(45.328)</b>	<b>(47.254)</b>	<b>(47.142)</b>
Changes in trade and other receivables	17.462	(9.044)	(10.471)	(11.124)	(11.946)
Changes in inventories	15.803	(18.294)	(21.135)	(22.453)	(24.106)
Changes in trade and other payables	(32.273)	55.445	64.056	68.049	73.060
Current income tax paid	(64.676)	(73.630)	(77.778)	(81.726)	(84.149)
<b>Net cash flows from/(used in) operating activities</b>	<b>460.864</b>	<b>492.474</b>	<b>508.941</b>	<b>524.309</b>	<b>543.087</b>
<b>Investing activities</b>					
Acquisition of intangible assets	(3.768)	(10.591)	(11.062)	(11.413)	(11.968)
Acquisition of property, plant and equipment	(234.190)	(244.823)	(258.150)	(266.502)	(271.769)
Interest received	-	1.299	3.226	4.962	6.408
<b>Net cash flows from/(used in) investing activities</b>	<b>(237.958)</b>	<b>(254.115)</b>	<b>(265.986)</b>	<b>(272.953)</b>	<b>(277.329)</b>
<b>Financing activities</b>					
Dividends paid	-	(229.501)	(210.352)	(212.573)	(220.356)
Borrowings repaid/made	(269.519)	-	-	-	-
Interest paid	(38.578)	(30.135)	(30.135)	(30.135)	(30.135)
<b>Net cash flows from/(used in) financing activities</b>	<b>(308.097)</b>	<b>(259.637)</b>	<b>(240.487)</b>	<b>(242.708)</b>	<b>(250.491)</b>
<b>Net changes in cash and cash equivalents</b>	<b>(85.191)</b>	<b>(21.277)</b>	<b>2.468</b>	<b>8.648</b>	<b>15.267</b>
<b>Cash and cash equivalents at 1st of January</b>	<b>340.193</b>	<b>255.002</b>	<b>233.724</b>	<b>236.192</b>	<b>244.840</b>
<b>Cash and cash equivalents at 31st of December</b>	<b>255.002</b>	<b>233.724</b>	<b>236.192</b>	<b>244.840</b>	<b>260.107</b>

<b>CASH FLOW CONSOLIDATED</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
<i>(in thousand Euros)</i>					
<b>Operating activities</b>					
<b>Profit before income tax</b>	<b>329.491</b>	<b>331.506</b>	<b>334.661</b>	<b>339.407</b>	<b>344.439</b>
<b>Adjustments to P&amp;L:</b>	<b>273.210</b>	<b>284.516</b>	<b>294.763</b>	<b>304.338</b>	<b>313.199</b>
Amortization and depreciation	250.929	262.957	274.215	284.723	294.500
Finance income	(7.854)	(8.576)	(9.587)	(10.520)	(11.437)
Finance expenses	30.135	30.135	30.135	30.135	30.135
<b>Adjustments to working capital:</b>	<b>(61.517)</b>	<b>(60.598)</b>	<b>(60.980)</b>	<b>(60.540)</b>	<b>(62.151)</b>
Changes in trade and other receivables	(7.447)	(7.815)	(7.835)	(8.242)	(8.033)
Changes in inventories	(14.971)	(15.696)	(15.732)	(16.536)	(16.119)
Changes in trade and other payables	45.373	47.572	47.680	50.116	48.854
Current income tax paid	(84.473)	(84.658)	(85.093)	(85.878)	(86.853)
<b>Net cash flows from/(used in) operating activities</b>	<b>541.184</b>	<b>555.424</b>	<b>568.444</b>	<b>583.205</b>	<b>595.487</b>
<b>Investing activities</b>					
Acquisition of intangible assets	(11.979)	(12.446)	(12.867)	(13.377)	(13.786)
Acquisition of property, plant and equipment	(277.193)	(282.780)	(288.535)	(294.464)	(300.575)
Interest received	7.854	8.576	9.587	10.520	11.437
<b>Net cash flows from/(used in) investing activities</b>	<b>(281.318)</b>	<b>(286.650)</b>	<b>(291.815)</b>	<b>(297.321)</b>	<b>(302.925)</b>
<b>Financing activities</b>					
Dividends paid	(234.096)	(230.167)	(237.792)	(245.624)	(254.736)
Borrowings repaid/made	-	-	-	-	-
Interest paid	(30.135)	(30.135)	(30.135)	(30.135)	(30.135)
<b>Net cash flows from/(used in) financing activities</b>	<b>(264.231)</b>	<b>(260.302)</b>	<b>(267.927)</b>	<b>(275.759)</b>	<b>(284.871)</b>
<b>Net changes in cash and cash equivalents</b>	<b>(4.366)</b>	<b>8.472</b>	<b>8.702</b>	<b>10.125</b>	<b>7.690</b>
<b>Cash and cash equivalents at 1st of January</b>	<b>260.107</b>	<b>255.741</b>	<b>264.213</b>	<b>272.915</b>	<b>283.040</b>
<b>Cash and cash equivalents at 31st of December</b>	<b>255.741</b>	<b>264.213</b>	<b>272.915</b>	<b>283.040</b>	<b>290.731</b>



## Appendix VIII

Company name	Peers	Market Cap	Revenues	EBITDA	EBITDA margin	EBITDA margin 5y average	Debt to EV	Net Debt to EBITDA	ROIC
<b>Distribuidora Internacional de Alimentacion SA</b>		<b>3.213.049.718</b>	<b>10.393.847.970</b>	<b>587.244.533</b>	<b>6,44%</b>	<b>7,22%</b>	<b>33,09%</b>	<b>1,74</b>	<b>17,87%</b>
Carrefour SA	X	16.764.659.386	94.651.073.671	4.121.110.177	4,98%	4,89%	52,28%	3,38	8,00%
Koninklijke Ahold Delhaize NV	X	27.297.437.086	75.108.395.269	3.575.483.600	6,84%	6,95%	23,87%	0,40	8,72%
Jeronimo Martins SGPS SA	X	12.169.566.778	19.315.049.257	905.874.685	5,89%	6,12%	4,79%	0,00	20,63%
Casino Guichard Perrachon SA	X	6.732.174.659	45.509.881.547	1.861.858.705	4,92%	6,49%	55,85%	3,69	6,10%
Etablissements Franz Colruyt NV		7.812.422.863	10.717.386.253	778.438.012	7,70%	7,96%	0,32%	0,00	16,98%
WM Morrison Supermarkets PLC		6.998.458.408	22.847.869.962	1.040.059.217	5,08%	5,53%	25,48%	1,15	6,40%
J Sainsbury PLC		7.144.043.107	37.773.246.625	1.561.283.100	4,89%	5,57%	35,91%	0,53	6,15%

# Appendix IX



## Equity

### Company Report

## DIA

RETAIL / Spain

29 Jan. 18 (07:29)

### L1 reinforcing the M&A appeal; Tough outlook

DIA offers an interesting M&A angle. Tough ST earnings momentum mainly due to Iberia (Selling Area, Competition)

**An interesting M&A angle:** L1 acquired a 10% stake in Jul'17 and has recently disclosed a further 15%. This has awakened DIA's M&A appeal, despite L1 ruling out a takeover bid at this stage. DIA is a relevant player in Iberia (ranked 2<sup>nd</sup>) and has interesting assets in LatAm (5<sup>th</sup> in Brazil). The Spanish food retail market remains fragmented and we see some potentially value accretive consolidation scenarios in Iberia.

**Still, a new strategy in Iberia is needed:** Sales density has declined from €3.6k/sqm (avg in 2008-12) to c€2.7k in FY17<sup>F</sup>. Stores have been remodelled but at a slow pace. DIA started to focus on the larger formats in 2015 (to be concluded by 2018) and it has recently decided to refurbish the smaller concepts (800 stores/year; 5 years to reach 100%). The announced sales uplift is attractive (high single-digit and double-digit for the smaller and larger stores) but the impact on sales has been lagging expectations. We think the remodelling efforts should move faster and stores services be improved. This would create some ST pain (CF and P/L) but also change the investment case.

**Tough S/T earnings outlook:** Competition has recently increased in Spain (55% of sales) which should keep pressuring margins. Selling area evolution should remain negative in 1H18 proving some inability to turnaround sales momentum. The Brazilian unit has been struggling due to a tough consumer backdrop and deflation.

**Price Target cut to €5.00 (-4%), Neutral maintained:** We have incorporated DIA's FY guidance (-2%) and FX evolution (-2%). We think DIA will trade with some M&A premium but changes eventually triggered by L1 should take some time to become visible.

## NEUTRAL

Prev. Neutral

Medium Risk

**Price Target € 5.00**

Previous € 5.20

### Company Profile

	DIA SM / DIDA.MC
Bloomberg/Reuters	€ 4.55
Close Price at 24-Jan	€ 3.9 - 6
52-Week range	2,833
Market Cap (€ mn)	622.5
Shares Out (mn)	26.0
ADV (€ mn)	80%
Free Float	

Market Multiples	2017 <sup>F</sup>	2018 <sup>F</sup>	2019 <sup>F</sup>
PE	17.1	16.2	14.3
EV/Sales	0.4	0.4	0.4
EV/EBITDA	7.0	6.7	6.2
EV/EBIT	9.8	10.0	9.6
DY	4.6%	4.8%	5.3%
FCFE Yield (%)	0.8%	4.8%	6.3%
FCFF Yield (%)	5.1%	7.2%	8.9%
FBV	6.9	6.3	5.7

Source: Bloomberg, BPI Equity Research.

### DIA vs. IBEX



Source: Bloomberg

analis.is.caixabank.es / bpiequity.bpi.pt

Estimates	2014	2015	2016	2017 <sup>F</sup>	2018 <sup>F</sup>	2019 <sup>F</sup>	2020 <sup>F</sup>
Sales (€ mn)	8,011	8,925	8,868	8,553	8,676	9,079	9,559
EBITDA (€ mn)	585	610	625	611	613	638	668
Margin (%)	7.3%	6.8%	7.0%	7.1%	7.1%	7.0%	7.0%
NP (€ mn)	265	252	244	228	221	231	246
EPS (€)	0.41	0.40	0.39	0.37	0.36	0.37	0.40
DPS (€)	0.16	0.19	0.20	0.21	0.22	0.24	0.27
Capex (€ mn)	321	411	333	306	305	336	325
Adj. FCF (€ mn)	8	159	504	190	266	329	359
Net debt (€ mn)	533	1,132	878	987	989	960	899
Net Debt/EBITDA	1.0	2.3	1.7	1.9	1.8	1.6	1.4

Source: Company, BPI Equity Research (F)



Team leader:

**Jose Rito**

Jose.manuel.rito@bpi.pt

Phone 351 22 607 3142



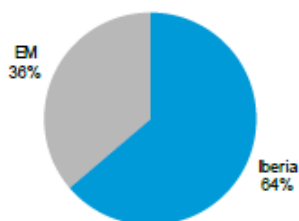
**Bruno Bessa**

bruno.filipe.bessa@bpi.pt

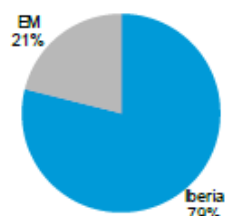
Phone 351 22 607 3183

**DIA at a Glance**

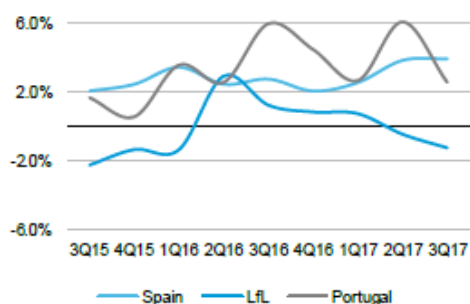
9M17 Sales Breakdown (€6.5bn)



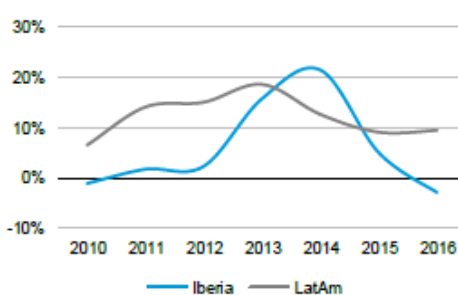
9M17 Rec. EBITDA Breakdown (€432mn)



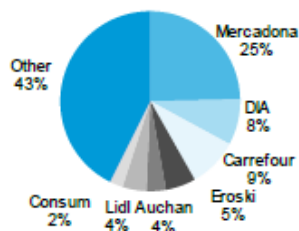
LfL Performance vs. Food Retail Sales: Spain and Portugal



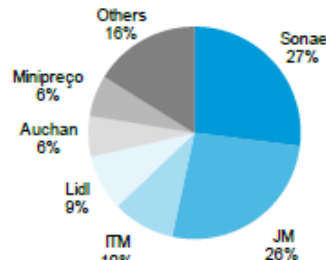
DIA's Selling Area Evolution



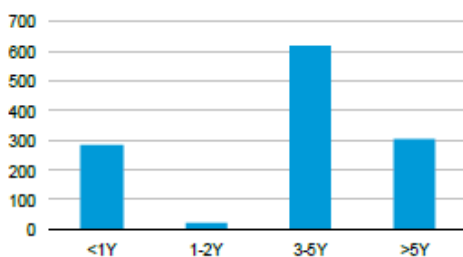
FMCG (1) Retail Market Share in Spain (2017)



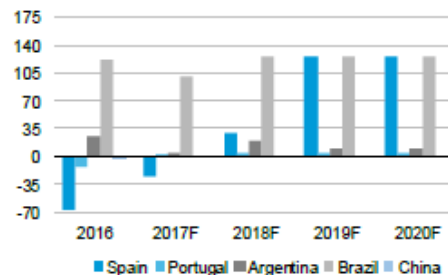
Modern Retail mkt share - Portugal (2016)



DIA's Refinancing Needs (€ mn)



DIA's New Openings Evolution (#)



(1) Fast Moving Consumer Goods.

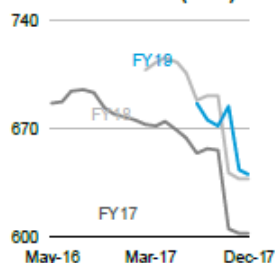
Source: DIA, National Statistics Institutes of Portugal and Spain, BPI Equity Research.

### Consensus and Stock Momentum

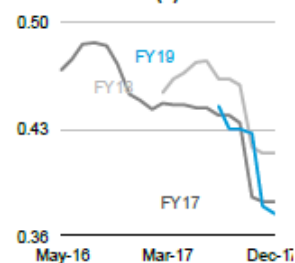
#### BPI estimates/Consensus

	2017	2018	2019
Revenues	-2%	-4%	-4%
EBITDA	3%	1%	0%
EBIT	10%	4%	1%
Net Profit	-4%	-7%	-10%
Net Debt	11%	15%	22%

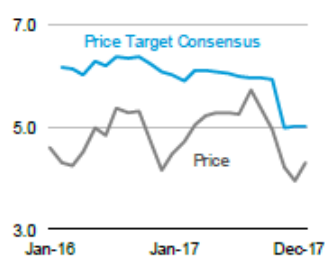
#### EBITDA Consensus (€ mn)



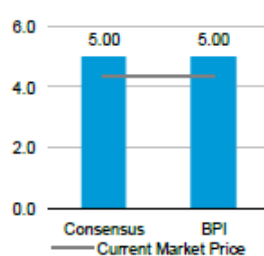
#### EPS Consensus (€)



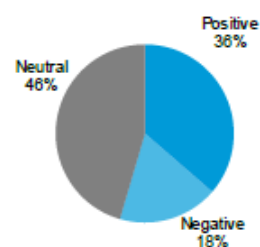
#### Market Price Rating (€)



#### Fair Value Comparison (€)



#### Market Recommendations



Source: Bloomberg, BPI Equity Research.

### BPI Equity Research Forecasts

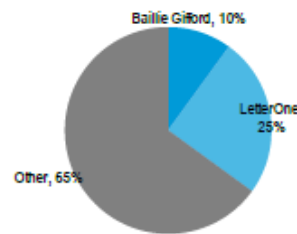
	2016	2017 <sup>f</sup>	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>		Iberia	Brazil	Argentina
<b>Iberia</b>						Re	10.0%	12.0%	18.5%
Sales (€ mn)	5746	5525	5578	5679	5823	Rf	3.25%	3.25%	3.25%
LFL	0.8%	0.0%	0.7%	1.0%	1.0%	CRP	0.80%	2.72%	9.25%
Nr of stores	5498	5478	5513	5643	5773	Beta Equity	1.0	1.0	1.0
Rec. EBITDA (€ mn)	508	475	470	479	488	Mkt Premium	6.0%	6.0%	6.0%
R. EBITDA mg	8.8%	8.6%	8.4%	8.4%	8.4%	Rd	4.9%	9.0%	14.5%
<b>Brazil</b>						Tax Rate	25.0%	34.0%	35.0%
Sales (€ mn)	1612	1706	1791	1999	2223	D/EV	30.0%	30.0%	30.0%
LFL	9.3%	-1.0%	4.0%	5.0%	5.0%	WACC	8.1%	10.2%	15.8%
Nr of stores	1050	1150	1275	1400	1525	g	1.0%	3.0%	5.0%
EUR/BRL	3.86	3.61	3.94	4.00	4.05	Perp. R. EBITDA mg	8.4%	5.5%	5.5%
R. EBITDA mg	3.3%	3.9%	4.2%	4.3%	4.5%				
<b>Argentina</b>									
Sales (€ mn)	1311	1321	1307	1401	1513				
LFL	34.2%	15.0%	20.0%	15.0%	7.0%				
Nr of stores	872	877	897	907	917				
EUR/ARS	16.35	18.75	23.00	25.00	25.00				
R. EBITDA mg	4.8%	5.2%	5.2%	5.2%	5.3%				

Source: Bloomberg, BPI Equity Research.

Financials

P&L (€ mn)	2014	2015	2016	2017 <sup>f</sup>	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>	CAGR 16-20 <sup>f</sup>
Revenues	8011	8925	8868	8553	8676	9079	9559	2%
EBITDA	508	488	527	526	548	593	623	4%
EBITDA adj.	585	610	625	611	613	638	668	2%
EBITDA adj. mg.	7.3%	6.8%	7.0%	7.1%	7.1%	7.0%	7.0%	
Depreciation & others	185	214	233	235	245	255	264	3%
EBIT	324	274	295	291	304	338	359	5%
EBIT adj.	401	396	393	376	369	383	404	1%
Net financial results	-41	-56	-52	-62	-61	-63	-63	5%
Income tax	75	-83	69	63	68	77	83	5%
Others	121	-1	0	-15	0	0	0	n.s.
Minority interests	0	0	0	0	0	0	0	n.s.
Net Profit reported	329	299	174	151	175	198	214	5%
Net Profit adj.	265	252	244	228	221	231	246	0%

Shareholder structure



Source: JMT.

Balance Sheet (€ mn)	2014	2015	2016	2017 <sup>f</sup>	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>	CAGR 16-20 <sup>f</sup>
Net Intangibles	497	593	595	595	595	595	595	0%
Net Fixed Assets	1270	1372	1469	1540	1600	1681	1742	4%
Net Financials	82	119	129	129	129	129	129	0%
Inventories	553	562	670	615	622	650	684	1%
ST Receivables	378	362	375	371	385	411	440	4%
Other Assets	148	271	314	299	284	264	244	-6%
Cash & Equivalents	199	163	365	100	100	102	163	-18%
Total Assets	3127	3443	3916	3650	3716	3832	3997	1%
Equity & Minorities	378	313	392	413	450	497	545	9%
MLT Liabilities	619	990	1111	1108	1108	1108	1108	0%
o.w. Debt	533	921	1062	1062	1062	1062	1062	0%
ST Liabilities	2131	2139	2413	2129	2158	2226	2344	-1%
o.w. Debt	200	374	181	25	27	0	0	n.s.
o.w. Payables	1563	1477	1899	1792	1815	1895	1996	1%
Equity+Min. + Liabilities	3127	3443	3916	3650	3716	3832	3997	1%

Market Multiples

	PE17 <sup>f</sup>	PE18 <sup>f</sup>
DIA	17.1	16.2
Carrefour	17.5	16.4
Casino	17.4	14.7
Ahold	14.1	12.6
Tesco	16.1	16.4
Metro	24.8	16.6
Morrison	18.8	17.7
Sainsbury	13.8	12.5
Colruyt	20.2	18.3
Axtod	23.1	22.1
Avg (W. Europe)	18.4	16.4

1) DIA's multiples include one-off costs

Source: Bloomberg and BPI Equity Research.

Cash flow (€ mn)	2014	2015	2016	2017 <sup>f</sup>	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>
+ EBITDA	508	488	527	526	548	593	623
- Chg in Net W.C.	250	247	-251	60	-5	-40	-51
- Income Taxes	259	-36	28	59	52	55	60
= Operating Cash Flow	-1	276	750	407	501	578	614
- Growth Capex	155	226	141	110	102	127	110
- Replacement Capex	166	185	191	197	203	209	215
- Net Fin. Inv.	0	0	10	15	0	0	0
= Cash Flow after Inv.	-321	-135	408	86	196	242	289
- Net Fin. Exp.	41	56	52	62	61	63	63
- Dividends Paid	104	117	122	131	137	151	166
+/- Equity	0	0	0	0	0	0	0
Other	584	-291	19	-3	0	0	0
=Change in Net Debt	-118	599	-253	110	2	-28	-60
Net Debt (+)/Net Cash (-)	533	1132	878	987	989	960	899

Sensitivity Analysis (€/sh)

	-0.5%	Δg	+0.5%
-0.5%	5.00	5.50	6.00
ΔWACC	4.60	5.00	5.50
+0.5%	4.30	4.60	5.00

Source: BPI Equity Research.

Valuation Summary

	% EV
Iberia (DCF; 8.1% WACC)	2816 68%
Emerging Markets	1354 32%
Argentina (DCF; 15.8% WACC)	350 8%
Brazil (DCF; 10.2% WACC)	1003 24%
China (DCF; 9.0% WACC)	0 0%
EV	4170 100%
Net Debt YE18 (1)	1114
Fin. Investments	66
Total Equity Value	3122
# Shares (mn)	622
YE18 Price target (€)	5.00

(1) Adjusted by B/S provisions, the NPV of tax credits, factoring and Net Debt seasonality

Source: BPI Equity Research.

Growth, per share data and ratios	2014	2015	2016	2017 <sup>f</sup>	2018 <sup>f</sup>	2019 <sup>f</sup>	2020 <sup>f</sup>
Sales growth	-19%	11%	-1%	-4%	1%	5%	5%
EBITDA Adj. growth	-9%	4%	2%	-2%	0%	4%	5%
EPS Adj. growth	12%	-5%	-3%	-7%	-3%	4%	7%
Avg. # sh (mn)	651.1	622.5	622.5	622.5	622.5	622.5	622.5
Basic EPS	0.32	0.48	0.28	0.27	0.28	0.32	0.34
EPS Adj. Fully diluted	0.41	0.40	0.39	0.37	0.36	0.37	0.40
DPS	0.16	0.19	0.20	0.21	0.22	0.24	0.27
Payout	35.6%	40.8%	75.1%	90.8%	86.5%	83.8%	85.5%
ROCE (after tax)	20.9%	18.3%	16.6%	16.5%	15.9%	16.0%	16.2%
ROE	117.3%	86.6%	49.3%	37.6%	40.5%	41.9%	41.0%
Gearing (ND/EBITDA)	14.5%	30.7%	23.8%	26.7%	26.8%	26.0%	24.4%
Net Debt/EBITDA	1.0x	2.3x	1.7x	1.9x	1.8x	1.6x	1.4x

Source: Company data and BPI Equity Research (F).

This research report is only for private circulation and only partial reproduction is allowed, subject to mentioning the source. This research report is based on information obtained from sources which we believe to be credible and reliable, but is not guaranteed as to accuracy or completeness. This research report does not have regard to specific investment objectives, financial situation and the particular needs of any specific person who may receive it. Investors should seek financial advice regarding the appropriateness of investing in any securities or investment strategies discussed or recommended in this research report and should understand that the statements regarding future prospects may not be realized. Unless otherwise stated, all views (including estimates, forecasts, assumptions or perspectives) herein contained are solely expression of BPI's Equity Research department and are subject to change without notice. Recommendations and opinions expressed are our current opinions as of the date referred on this research report and they may change in the period of time between the dates on which the said opinion or recommendation were formulated and made public. Current recommendations or opinions are subject to change as they depend on the evolution of the company and subsequent alterations to our estimates, forecasts, assumptions, perspectives or valuation method used. The valuation models are systematically reviewed and validated, particularly with regard to the method of valuation and assumptions used. Investors should also note that income from such securities, if any, may fluctuate and that each security's price or value may rise or fall. Accordingly, investors may receive back less than initially invested. There are no pre-established policies regarding frequency, update or change in recommendations issued by BPI Equity Research. The same applies to our coverage policy. Past performance is not a guarantee for future performance. BPI Group accepts no liability of any type for any indirect or direct loss arising from the use of this research report. For further information concerning BPI Research recommendations and valuations, please visit [www.bpi.pt/equity](http://www.bpi.pt/equity).

This research report did not have any specific recipient. The company subject of the recommendation was unaware of the recommendation or did not validate the assumptions used, before its public disclosure.

Each Research Analyst responsible for the content of this research report certifies that, with respect to each security or issuer covered in this report: (1) all of the views expressed accurately reflect his/her personal views about those securities/issuers; and (2) no part of his/her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report. There are no conflicts of interests between BPI or its Analysts and the issuer covered, except when mentioned in the Report. The Research Analysts do not hold any shares representing the capital of the companies of which they are responsible for compiling the Research Report, except when mentioned in the Report. BPI Analysts may participate in meetings to prepare BPI's involvement in placing or assisting in public offers of securities issued by the company that is the subject of the recommendation, which will be disclosed in the research report.

BPI has complied policies and procedures applicable to the investment recommendations activity. Such document is available for consultation on request.

In November 2007, Banco BPI has celebrated an "Equity Swap" contract with Sonae Investments with strictly financial settlements (Cash Settled Share Swap Transaction), to cover the inherent risk in the acquisition of 6.64% of Sonae's share capital, at a price of €2.06 per share. In this contract, the periodic repercussion over Sonae Investments of the amounts corresponding to Sonae share price changes relative to the above-mentioned price was agreed as well as the amounts equivalent to the proceeds to be received by Banco BPI under the exercise of rights inherent to these shares. The contract had a maximum maturity of 3 years, and it was successively extended on October 2010, November 2013, November 2014, and November 2015. In November 2016, this contract has been extended for an additional 12 month period, up until November 2017, automatically extended for successive 12 (twelve) month period if neither party notifies to the non-renewal. Till November 2017, neither party notified the non-renewal, and therefore the contract was automatically extended for an additional 12 month period, over currently a total of 104,442,164 SONAE shares, corresponding to 5,22% of its share capital.

Banco BPI and/or Banco Português de Investimento have participated, as a syndicate member and/or providing assistance services to the issuer/ offeror, in the capital market operation of Mota Engil. Banco Português de Investimento has participated providing assistance services to Ibercol on the acquisition of the entire share capital of Eat-Out Group.

In November 2016, Banco Português de Investimento acted as a Joint Bookrunner in the private sale performed by "Amorim International Participations, BV" and "Investmark Holdings, BV" of 13.300.000 shares of Corticeira Amorim, representing at such date 10% of Corticeira Amorim's share capital, through an Accelerated Bookbuilding process.

BPI Group may provide corporate finance and other investment banking services to the companies referred to in this report.

Amongst the companies covered by BPI Equity Research, BPI Group has qualified stakes in Ibercol, Impresa, NOS SGPS, The Navigator Company and Sonae SGPS.

BPI Group, members of the board, or BPI Group employees, may hold a position or any other financial interest in issuer's covered by BPI Equity Research, subject to change, which shall be disclosed when relevant for assessing the objectivity of the recommendation.

BPI's activity is supervised by both Banco de Portugal (the Portuguese Central Bank) and by the CMVM (Stock Exchange Regulator).

Within the framework of a contractual joint venture agreement entered into on May 3rd 2017 between BPI and CaixaBank, S.A. (which holds 64,5% of Banco BPI, that fully owns BPI's share capital), (1) BPI authorized CaixaBank, S.A. to distribute this report to CaixaBank's clients, and (2) strictly for the referred distribution purpose, BPI and CaixaBank agreed on CaixaBank's logo being inserted in this report's header.

This research report has been prepared and is issued exclusively by BPI under its sole responsibility. CaixaBank, S.A. has not been involved in the preparation and issuance of this report, not being therefore responsible for its content.

**INVESTMENT RATINGS AND RISK CLASSIFICATION (12 MONTH TOTAL RETURN):**

	Low Risk	Medium Risk	High Risk
Buy	>15%	>20%	>30%
Neutral	>5% and < 15%	>10% and <20%	>15% and < 30%
Underperform	< 5%	< 10%	< 15%

These investment ratings are not strict and should be taken as a general rule. Risk rating ("Low", "Medium", "High") is defined based on two criteria: Blended cost of equity (relative approach within coverage) and a Qualitative assessment (analyst evaluation of the factors affecting the investment risk, which are not captured by the valuation methodology).

**INVESTMENT RATINGS STATISTICS**

As of 29<sup>th</sup> December BPI Equity Research investment ratings were distributed as follows:

Buy	38%
Neutral	38%
Underperform	17%
Accept Bid	2%
Under Revision/Restricted	4%
Total	100%

**BANCO PORTUGUÊS DE INVESTIMENTO, S.A.**
**Oporto Office**

Rua Tenente Valadim, 284  
4100-478 Porto

Phone: (351) 22 607 3100

**Madrid Office**

Pº de la Castellana, 40-bis-3ª  
28046 Madrid

Phone: (34) 91 328 9800