



Companhia Brasileira de Distribuição: A Potential M&A Target for Koninklijke Ahold Delhaize

Giacomo Polisenà

Dissertation written under the supervision of professor

António Luís Borges de Assunção

Dissertation submitted in partial fulfilment of requirements for the MSc in Finance,
at the Universidade Católica Portuguesa, June 2022.

Abstract

Title: Companhia Brasileira de Distribuição: A Potential M&A Target for Koninklijke Ahold Delhaize

Author: Giacomo Polisena

In an environment where performance metrics reward fast-growing figures, companies should be aware of all the expansion opportunities that may arise. The purpose of this thesis is to evaluate the potential cross-border merger or acquisition between Koninklijke Ahold Delhaize (Ahold Delhaize) and Companhia Brasileira de Distribuição. Literature will be reviewed to suggest the best transaction methods, financing, and valuation models. Furthermore, the market will be analysed to provide an overview of the current and expected trends, recommending the best strategies to foster inorganic growth. The assessment of the Food and Grocery Retail (F&GR) and Online Retail (OR) industries will indicate South America as the most promising region. The segmentation and competition of this macroeconomic landscape will be examined to evaluate Ahold Delhaize's entry in the new market. The two companies' business model, strategy and performance will be explored, and their value computed through the Discounted Cash Flow and the Relative Valuation approaches. The output will show the firms' intrinsic value, suggesting whether to sell, hold or buy their stock. In order to estimate the stand-alone business, the target's financial statements will be standardized through the Purchasing Power Parity model. Comparable deals as well as industry medians will be employed to determine synergies and acquisition fees. This, in turn, will be adopted to define the transaction price range and the proper premium to be paid. Finally, the deal's limitations and main conclusions will be presented, together with potential alternative targets.

Keywords: merger, acquisition, M&A, valuation, synergy.

Resumo

Título: Companhia Brasileira de Distribuição: Um potencial alvo de M&A para a Koninklijke Ahold Delhaize

Autor: Giacomo Polisená

Num ambiente onde as métricas de desempenho recompensam números de rápido crescimento, as empresas devem estar conscientes de todas as oportunidades de expansão. O objectivo desta tese é avaliar a potencial fusão ou aquisição transfronteiriça entre a Koninklijke Ahold Delhaize (Ahold Delhaize) e a Companhia Brasileira de Distribuição. Além disso, a literatura será revista para sugerir os melhores métodos de transacção, financiamento, e modelos de avaliação. O mercado será analisado para fornecer uma visão geral das tendências actuais e esperadas, recomendando as melhores estratégias para fomentar o crescimento inorgânico. A avaliação das indústrias de Retalho Alimentar e de Mercearia (F&GR) e Retalho Online (OR) indicará a América do Sul como região mais promissora. A segmentação e concorrência deste panorama macroeconómico será examinada para avaliar a entrada da Ahold Delhaize no novo mercado. O modelo de negócios, estratégia e desempenho das duas empresas serão explorados, e o seu valor calculado através das abordagens de Fluxo de Caixa Descontado e de Avaliação Relativa. A produção mostrará o valor intrínseco das empresas, sugerindo se devem vender, deter ou comprar as suas acções. A fim de estimar o negócio, as demonstrações financeiras serão padronizadas através do modelo de Paridade de Poder de Compra. Serão utilizados negócios comparáveis, bem como mediadores da indústria para determinar sinergias e taxas de aquisição. Isto, por sua vez, será adoptado para definir a gama de preços de transacção e prémio adequado a ser pago. Finalmente, serão apresentadas as limitações e principais conclusões do negócio, juntamente com potenciais alvos alternativos.

Palavras-chave: fusão, aquisição, M&A, avaliação, sinergia.

Acknowledgements

First and foremost, I would like to thank Professor António Luís Borges de Assunção for his mentoring, motivation, enthusiasm, and patience throughout the completion of this dissertation. It was a great honour to conduct this dissertation under his guidance.

I would also like to extend my gratitude to my family and friends who supported me around the globe. Thanks for never letting me down and for staying close when most needed – for this, I will be forever grateful.

Last but not least, I would like to thank my flatmates Nicola and Roberto, for putting up with me throughout the completion of this dissertation.

Thank you all.

Table of Contents

Abstract.....I

Resumo.....II

Acknowledgements.....III

List of Abbreviation.....VII

List of Equation.....IX

List of Figures.....X

List of Tables.....XI

1. Introduction.....1

2. Literature Review.....1

 2.1 Introduction to M&A.....1

 2.2 Cross-border Deals.....3

 2.3 Drivers of M&A.....4

 2.4 Synergies.....5

 2.5 Financing Method.....5

 2.6 Valuation.....6

 2.6.1 DCF Model.....6

 2.6.1.1 Free Cash Flow to the Firm (FCFF).....7

 2.6.1.2 Weighted Average Cost of Capital (WACC).....8

 2.6.1.2.a Market Value of Debt (D).....8

 2.6.1.2.b Cost of Debt (R_d).....8

 2.6.1.2.c Cost of Equity (R_e).....9

 2.6.1.2.d Risk-free Rate (R_f).....9

2.6.1.2.e	Levered Beta (β_L).....	9
2.6.1.2.f	Market Risk Premium (MRP).....	10
2.6.1.2.g	Country Risk Premium (CRP).....	10
2.6.2	Relative Valuation.....	10
3.	Market Analysis.....	11
3.1	Global Overview.....	11
3.2	Food and Grocery Retail (F&GR) Industry.....	13
3.2.1	Overview and Performance.....	13
3.2.2	Competition.....	14
3.2.3	Product and Geographic Segmentation.....	14
3.3	Online Retail (OR) Industry.....	15
3.3.1	Overview and Performance.....	15
3.3.2	Competition.....	16
3.3.3	Segmentation.....	17
4.	Company Analyses.....	18
4.1	Koninklijke Ahold Delhaize.....	18
4.1.1	Overview.....	18
4.1.2	SWOT Analysis.....	19
4.1.3	Historical Performance.....	20
4.2	Companhia Brasileira de Distribuição.....	24
4.2.1	Overview.....	24
4.2.2	SWOT Analysis.....	25
4.2.3	Historical Performance.....	26
5.	Company Valuations.....	29

5.1	Koninklijke Ahold Delhaize.....	29
5.1.1	DCF Valuation.....	29
5.1.1.1	Financial Projections.....	29
5.1.1.2	FCFF.....	31
5.1.1.3	WACC.....	31
5.1.2	Relative Valuation.....	33
5.1.3	Valuation Summary.....	34
5.2	Companhia Brasileira de Distribuição.....	35
5.2.1	DCF Valuation.....	35
5.2.1.1	Financial Projections.....	35
5.2.1.2	FCFF.....	36
5.2.1.3	WACC.....	37
5.2.2	Relative Valuation.....	38
5.2.3	Valuation Summary.....	39
6.	Stand-alone Business.....	40
6.1	Combined Firm without Synergies.....	40
6.2	Combined Firm with Synergies.....	41
6.3	Transaction.....	42
6.3.1	Premium.....	42
6.3.2	Transaction Fees.....	43
6.3.3	Transaction and Integration.....	44
7.	Limitations and Alternative Targets.....	45
8.	Conclusion.....	46
	Appendix.....	48
	References.....	64

List of Abbreviation

BLN	Billion
BRL	Brazilian Reais
CAGR	Compound Annual Growth Rate
CAPM	Capital Asset Pricing model
CAPEX	Capital Expenditures
COGS	Cost of Goods Sold
CRP	Country Risk Premium
D&A	Depreciation and Amortization
D	Market Value of Debt
DCF	Discounted Cash Flow
E	Market Value of Equity
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
EUR	Euro
EV	Enterprise Value
F&GR	Food and Grocery Retail
FAO	Food and Agriculture Association
FCFF	Free Cash Flow to the Firms
GDP	Gross Domestic Product
M&A	Merger and Acquisition(s)
MI&EI	Minority Interest and Extraordinary Items
MNL	Million
MRP	Market Risk Premium
MSCI	Morgan Stanley Capital International
NI&II	Net Interest and Investment Income
OECD	Organisation for Economic Co-operation and Development
OOE	Other Operating Expenses
OOI	Other Operating Income

OR	Online Retail
PE	Price-to-Earnings
PP&E	Property, Plant and Equipment
PS	Price-to-Sales
ROA	Return on Assets
ROE	Return on Equity
S&P	Standard and Poor's
SG&A	Selling, General and Administrative Expenses
TV	Terminal Value
US	United States
USD	United States Dollar
UK	United Kingdom
WACC	Weighted Average Cost of Capital
12M F EV/EBITDA	12-Month Forward EV-to-EBITDA

List of Equation

Equation (1): Enterprise value.....	7
Equation (2): Terminal value.....	7
Equation (3): WACC.....	8
Equation (4): Market value of debt.....	8
Equation (5): Net cost of debt.....	8
Equation (6): Cost of equity.....	9
Equation (7): Levered beta.....	9
Equation (8): Purchasing Power Parity.....	40

List of Figures

Figure 1 - Inflation rate growth projection (International Monetary Fund, 2021).....	11
Figure 2 - Real Food Price Index (FAO, 2022).....	11
Figure 3 - Global Food & Grocery Retail sector (Marketline, 2022a).....	13
Figure 4 - Food & Grocery Retail players.....	14
Figure 5 - European Food & Grocery Retail (Marketline, 2022a).....	15
Figure 6 - South American Food & Grocery Retail (Marketline, 2022a).....	15
Figure 6 - Global Online Retail sector (Marketline, 2022b).....	16
Figure 7 - Online Retail players.....	16
Figure 9 - European Online Retail (Marketline, 2022b).....	17
Figure 10 - South American Online Retail (Marketline, 2022b).....	17
Figure 11 - Ahold Delhaize presence (Ahold Delhaize, 2022).....	18
Figure 12 - Ahold Delhaize SWOT analysis.....	19
Figure 13 - Ahold Delhaize revenues.....	20
Figure 14 - Ahold Delhaize and EURONEXT 100 cumulative returns.....	23
Figure 15 - Companhia Brasileira de Distribuição presence (Marketline, 2022d).....	23
Figure 16 - Companhia Brasileira de Distribuição SWOT analysis (Marketline, 2022d).....	25
Figure 17 - Companhia Brasileira de Distribuição revenues.....	25
Figure 18 - Companhia Brasileira de Distribuição and BOVESPA cumulative returns.....	28
Figure 19 - Ahold Delhaize valuation summary.....	34
Figure 20 - Companhia Brasileira de Distribuição valuation summary.....	39
Figure 21 - Price range decomposition (in million EUR).....	43
Figure 22 - Casino Group 52-week stock price.....	43

List of Tables

Table 1 - FCFF decomposition.....	7
Table 2 - Real GDP, annual % change (International Monetary Fund, 2022).....	12
Table 3 - Ahold Delhaize profitability ratios.....	20
Table 4 - Ahold Delhaize operating ratios.....	21
Table 5 - Ahold Delhaize liquidity ratios.....	21
Table 6 - Ahold Delhaize leverage ratios.....	22
Table 7 - Companhia Brasileira de Distribuição profitability ratios.....	26
Table 8 - Companhia Brasileira de Distribuição operating ratios.....	26
Table 9 - Companhia Brasileira de Distribuição liquidity ratios.....	27
Table 10 - Companhia Brasileira de Distribuição leverage ratios.....	27
Table 11 - Ahold Delhaize EBIT decomposition.....	29
Table 12 - Ahold Delhaize FCFF decomposition.....	30
Table 13 - Ahold Delhaize sensitivity analysis.....	31
Table 14 - Ahold Delahize price decomposition.....	31
Table 15 - Ahold Delhaize WACC decomposition.....	32
Table 16 - Ahold Delhaize Relative Valuation.....	33
Table 17 - Companhia Brasileira de Distribuição EBIT decomposition.....	35
Table 18 - Companhia Brasileira de Distribuição FCFF decomposition.....	36
Table 19 - Companhia Brasileira de Distribuição WACC decomposition.....	37
Table 20 - Companhia Brasileira de Distribuição price decomposition (million BRL).....	37
Table 21 - Companhia Brasileira de Distribuição sensitivity analysis.....	38
Table 22 - Companhia Brasileira de Distribuição Relative Valuation.....	38
Table 23 - Currency exchange rates.....	40
Table 24 - Combined firm EV decomposition (million EUR).....	41

1. Introduction

The retail sector has been highly valued by long-term investors, thanks to its consistent pay-out policies and predictable cash flows. However, it is currently disrupting, as the entrance of international players and behemoth online retailers, the massive usage of data, and especially COVID-19 has transformed consumers' habits, driving a shift toward digital transformation and value-oriented products.

Retailers that do not shape their business model and strategy may lose clients and worsen profitability ratios. Hence, they may consider M&A activity as a solution to acquire market niche players that would improve brand awareness, margins, and know-how, expanding products or customer base.

Thereby, this dissertation's main research question is: Should Koninklijke Ahold Delhaize acquire Companhia Brasileira de Distribuição on the 1st of March 2022? In order to obtain a truthful answer, one should evaluate the companies' operational and financial condition, as well as their future prospects. Thus, an integrative question arises: What is Koninklijke Ahold Delhaize and Companhia Brasileira de Distribuição's intrinsic value as of the 1st of March 2022?

This dissertation is structured as the following: section 2 reviews past relevant literature, categorizing M&A deals, illustrating their features, drivers, financing methods and valuation models; section 3 displays the market's overview and in particular the Food and Grocery Retail (F&GR) and Online Retail (OR) industries, showing the current environment and the expected trends; section 4 analyses the two firms through their business model, strategy, and performance; section 5 computes the two companies' intrinsic value through the DCF model and the Relative Valuation; section 6 assesses the standardized combined firm's value, accounting for synergies and acquisition costs, and suggesting the premium that the buyer's should pay; section 7 presents the limitations of this valuation and other potential targets that the buyer may consider; section 8 draws this dissertation's conclusive findings.

2. Literature Review

2.1 Introduction to M&A

There is one business rule to be a long-term successful firm: to grow or to die. As a matter of fact, companies that increase market share generate larger revenues and returns to shareholders. The ones that do not expand tend to stagnate and lose customers, destroying value (Ceausescu, 2008). Growth has always been one of the major performance metrics (Greve, 2008). Since

investors rewards fast-developing firms, managers undergo significant pressure to pursue firm expansion (Tosi et al., 2000). Generally, it can be organic by boosting financials internally or inorganic by undergoing a merger or acquisition (M&A). When the former approach is unable to meet the growing figures that stakeholders demand, companies exploit external opportunities (Varaiya et al., 1987). In fact, firms may consider external resources when their organic growth is significantly lower than either their peers or their own historical organic growth (Kim et al., 2011). The exploitation of this method as a supporting strategy has been obtaining a wider appeal from organizations (Cartwright and Cooper, 1993). In fact, M&A activity, especially in deals where control rights are sold, generates value (Yilmaz and Tanyeri, 2016). However, inorganic growth is riskier, as it leads to uncertainty and high potential loss (Ravenscraft and Scherer, 1987).

M&A activity can be pursued in various ways, and therefore it can be classified accordingly. In a merger two organizations are combined into an entirely new entity, while in an acquisition, or takeover, a company absorbs another, without creating a new organization (Lin et al., 2013). What matters is the different degree of negotiating power of the buyer and target. In a merger, it is balanced fairly equally between the two parties. On the other hand, in an acquisition one company is dominant¹ (Hampton, 1989).

When the combined firms operate in a similar industry, the transaction is rated as horizontal. The presence of complementary operations, typical of these deals, is a factor that improves the probability of a successful acquisition by boosting synergies (Larsson and Finkelstein, 1999). On the other hand, a vertical merger takes place between two firms within the same supply chain (DePamphilis, 2011). In this case the company can expand backwards by acquiring a supplier or forward towards the ultimate consumer (Gupta, 2012), improving market access (Goold and Campbell, 1998) and increasing synergy gains (Rozen-Bakher, 2017). However, vertical deals are considered more complicated, since they involve firms that have a buyer–seller relationship (Tremblay & Tremblay, 2012). Moreover, only a minimum number of targets can fit with vertical acquisitions, sometimes resulting in a single deal choice, and therefore reducing the probability of success (Meador et al., 1996). When merged firms operate in different industries, they are denominated as conglomerates. They are classified by the Federal Trade Commission as: product extension, when the combined companies are functionally related in production or distribution, but they are not direct competitors; market extension, when

¹ To facilitate the lecture, merger and acquisitions will be treated as equal terms hereinafter, as suggested by the literature (Stallworthy and Kharbanda, 1988).

they manufacture the same products, but they sell them in different geographic markets; pure conglomerates, when the firms are unrelated in production and distribution (Fan and Goyal, 2006). Conglomerates often reduce the combined risk through diversification (Amihud and Lev, 1981). However, sometimes focusing on related businesses may work even better (Bruner, 2004). Besides conglomerate deals, the ideal target should be similar enough to limit the risk involved, but able to provide access to new consumers or product categories and bring diversification and growth (Koushy et al., 2019). Although conglomerate transactions have gained popularity, thanks to the greater scale obtained through operational and anchored synergies, over time extracting value from these deals has become more challenging (Floushee et al., 2019).

Finally, through a hostile takeover, the buyer makes an offer to the target company's shareholders without consulting the management. On the other hand, a friendly acquisition, or tender offer, has to be supported by both shareholders and management (Schnitzer, 1996). These deals are motivated by synergy gains whereas hostile takeovers are intended to discipline the incumbent management (Morck et al., 1988). Usually, hostile takeovers encompass a higher acquisition premium paid by the acquirer firm (DePamphilis, 2011) and demand cash-based payment methods (Fishman, 1989). Furthermore, a successful tender offer has historically led to higher returns (Bradley et al., 1988).

2.2 Cross-border Deals

M&A can be a chance to enter new geographic and product markets, resulting in the acquisition of new capabilities (Vermeulen and Barkema, 2001). Cross-border deals are more likely to be performed by companies with prior international acquisitions, due to the organizational learning acquired (Levitt and March, 1988). However, these transactions might be more challenging to achieve, due to the different country specificities and corporate governances (Gedajlovic and Shapiro, 1998), as well as possible imposed regulations (Dunning, 2008).

Generally, companies of developed countries try to expand into emerging markets to grow the customer base (Zenner et al., 2008). Increasing trade costs and expensive exporting shift expansionist ambitions towards cross-border M&A, but the negative impact is lower for horizontal mergers (Hijzen et al., 2008). Moreover, managers have to consider the increased cost of merging originating from a wider distance between countries. However, when the buyer comes from a stronger economy, synergies are larger (Chakrabarti et al., 2009).

Over time, companies have acquired a deeper knowledge of cross-border M&A thanks to similar past deals. The buyers have to keep in mind typical risks such as national and regional tax laws, the availability, accuracy, and reliability of the target company's financial information, the country's political stability; and the target's compliance with anti-bribery, and anti-money laundering regulations (Hitchcock and Chickermane, 2017). Finally, the post-COVID-19 growing demand in data-driven technologies is expected to change cross-border deals and entry modes (Lee et al., 2021).

2.3 Drivers of M&A

M&A deals are achieved for many strategic, financial and organizational reasons. The former include growth, scale of operations, competition, market share, acquiring size, backward integration, forward integration, synergy, core competence, diversification, risk reduction, balancing product, and entry into new markets. Financial motives comprehend investment of surplus funds, higher market capitalization, reducing costs, tax planning/benefits, revival of sick units, increasing earnings-per-share (EPS), and creation of shareholder value. Finally, organizational motives incorporate entrepreneur's personal compulsions, retention of management talents, removal of inefficient management, quality of management, lobby power, and emergence as a conglomerate (Gupta, 2012).

Furthermore, also agency, hubris and synergy play a major role. The first defines M&A as an instrument to transfer wealth from shareholders to managers. The driving self-interest of the latter would be the major reason for acquisitions with negative total gains pursued (Berkovitch and Narayanan, 1993). In fact, managers may deliberately choose to increase portfolio diversification (Amihud and Lev, 1981), firm's size and therefore compensation (Jensen, 1984), as well as the firm's dependence on the expertise of the management (Shleifer and Vishny, 1989). Hubris humanizes the valuation process accounting for managers' mistakes, justifying unsuccessful transactions. In fact, the board might be biased by the positive expectation of the deal and incur in non-rational bids (Trautwein, 1990). Hence, it may overvalue the target (Roll, 1986). Although over-optimistic valuations might be the reason for M&A unsuccess (Rappaport and Sirower, 1999), there is also a tendency to exaggerate the degree of their failure (Bruner, 2004). In fact, at macroeconomic level, M&A creates value (Sirower and Sahni, 2006). However, contaminating events, overvalued stock, exogenous shocks, and size discrepancies between corporations might lead to the erroneous conclusion that M&A activity does not create

value (Bruner, 2004). Finally, synergy may be the main M&A driver, due to the increased combined value gained by the companies (Berkovitch and Narayanan, 1993).

2.4 Synergies

Usually, buyers pay a premium for the potential operating or financial synergies (Sirower, 1997). They correspond to the additional value achieved through the combination of two or more firms, building opportunities that would not be accessible if the companies operated autonomously. However, firms rarely obtain the expected synergy value, as it is incorrectly valued, inadequately planned and challenging to put into practice (Gates and Very, 2003).

Operating synergies may arise from larger economies of scale or scope, enhanced efficiency or access to new markets, customers or technologies (Rumelt, 1974; Salter and Weinhold, 1978). Furthermore, merged companies can share the know-how and adapt faster to changes in the surrounding environment (Ilzkovitz and Meiklejohn, 2003). Synergies might emerge by complementarities in research and basic technological expertise (Lewellen, 1971). The synergies coming from a reduction in SG&A by cutting working force and real estates are particularly consistent for companies serving the same customer base (Ficery et al., 2007).

On the other hand, financial synergies are more likely to be positive when the companies have a low correlation and stock price volatility (Leland, 2007). They may originate from tax benefits or improved leverage, diversification of cash-flow streams, and extraction of gains from well-managed but undervalued targets, that reduce the cost of capital (Chatterjee, 1986; Rabier, 2017). Finally, the magnitude of financial synergies depends on tax rates, default costs, relative size, and the riskiness and correlation of cash flows, reaching even negative levels if firms have quite different risks or default costs (Leland, 2007).

2.5 Financing Method

The Pecking Order theory sorts financing strategies as, in the following sequence, internal funding, debt or, if they are insufficient, stock (Myers, 1984). Usually, mergers are stock-financed deals, while acquisitions are cash-funded (Travlos, 1987). As a matter of fact, the choice of the payment method can greatly impact the buyer's ownership and capital structure, as well as the corporate control, tax and cash flow of both parts. Even the target and acquiring dimensions and their investment opportunities influence this choice (Martin, 1996).

A growing body of prior M&A studies (Bharadwaj and Shivdasani, 2003; Harford et al., 2009; Uysal, 2011) has provided evidence that cash-financed acquisitions are to a great extent

funded by debt. Cash is likely to be the preferred financing method when the targets' share ownership is concentrated, and the buyers' largest shareholder has an intermediate level of voting power in the range of 20–60%. In fact, the loss of control given by a stock-financed acquisition would be eliminated. If preserving control is important to the bidder's management, there is a larger incentive to select cash financing over stock financing to avoid stock dilution (Faccio and Masulis, 2005). Cash transactions has a median short-term excess return higher than stock transactions (Hazelkorn et al., 2004) and, together with friendly acquisitions, they tend to perform better in the long run (Chakrabarti et al., 2008). Moreover, they are usually preferred for tender offers, due to regulatory reasons (Martin, 1996). The payment method has also a signalling effect that leads investors to encourage a cash-financed transaction, since they believe that the buyer shares are overvalued (Travlos, 1987; Rappaport and Sirower, 1999). This should depend on the asymmetry of information on the value of the bidder shares, that allows the bidder to offer shares if these are overvalued and to offer cash if they are undervalued (Myers and Majluf, 1984).

On the other hand, stock payment is viewed as a possible remedy to lower corporate governance related risk in cross-border acquisitions (Dutta et al., 2013). It is more likely to be used in large transactions, friendly takeovers, acquirer's diminished cash reserves, overvalued acquirer's share price, and dispersed ownership (Bruner, 2004). Furthermore, bidders with unfavourable private information avoids cash offers due to the consequent capital gains tax (Brown and Ryngaert, 1991).

2.6 Valuation

Valuation bears a major role in deals, as buyer and target need to set up a fair transaction value before the acquisition (Damodaran, 2012). Although many valuation approaches may be adopted (Luehrman, 1997), the combination of Discounted Cash Flow (DCF) and Relative Valuation leads to more reliable results (Kaplan and Ruback, 1996).

2.6.1 DCF Model

The DCF is the most used model to assess the value of a target (Mukherjee et al., 2004). Although its obsolescence, it is still appreciated by many, since the market value of the target is highly linked to the discounted cash flow generated (Kaplan and Ruback, 1996). The intrinsic value of a company is estimated through its fundamentals (Damodaran, 2012) and it is equal to all the future cash flows discounted to their present value (Luehrman, 1997).

$$Enterprise\ Value = \sum_{t=1}^n \frac{FCFF_t}{(1+WACC)^t} + \frac{Terminal\ Value_t}{(1+WACC)^n} \quad (1)$$

$$Terminal\ Value_t = \frac{FCFF_n(1+g_n)}{(WACC-g_n)} \quad (2)$$

Where:

n: life of the asset (number of periods);

FCFF: free cash flow to the firm;

WACC: weighted average cost of capital;

g: perpetual growth rate of the cash flows (TV growth rate).

2.6.1.1 Free Cash Flow to the Firm (FCFF)

FCFF can be estimated through the net income approach and the earnings before interest and taxes (EBIT) approach (Kaplan and Ruback, 1996). The latter will be adopted in this valuation. Afterwards, the enterprise value (EV) of the company would be computed as the sum of the future discounted FCFF and the terminal value (Koller et al., 2010).

EBIT
- Tax
+ Depreciation and Amortization (D&A)
- Change (Δ) in Working Capital
- CAPEX
= FCFF

Table 1 - FCFF decomposition

2.6.1.2 Weighted Average Cost of Capital (WACC)

WACC represents the risk of the cash flows, adjusting them for the time value of money (Luehrman, 1997). In other words, it is the opportunity cost that investors are willing to bear

when investing in one particular business as an alternative to other projects with the same risk (McKinsey & Company, 2005).

$$WACC = \frac{D}{D+E} R_d (1 - \tau) + \frac{E}{D+E} R_e \quad (3)$$

Where:

$\frac{D}{D+E}$: net debt-to-enterprise value using market-based values;

$\frac{E}{D+E}$: equity-to-enterprise value using market-based values;

R_d : cost of debt;

τ : corporate tax rate;

R_e : to the cost of equity.

2.6.1.2.a Market Value of Debt (D)

D should represent the investors' willingness to buy the firm's debt (Damodaran, 1999).

$$\text{Market Value of Debt} = \text{Number of Bonds Issued} * \text{Market Value of Bonds} \quad (4)$$

2.6.1.2.b Cost of Debt (R_d)

R_d represents the debt financial risk. If the firm has been financed by bonds, the yield to maturity of liquid long-term option-free bonds is a suitable proxy (McKinsey & Company, 2005).

$$\text{Net Cost of Debt} = R_d(1 - \tau_t) \quad (5)$$

2.6.1.2.c Cost of Equity (R_e)

R_e is computed through the Capital Asset Pricing Model (CAPM) (Sharpe, 1964). It assumes that asset risk will be measured relatively to the market portfolio (Damodaran, 2012).

$$R_e = R_f + \beta_L (R_m - R_f) + CRP \quad (6)$$

Where:

R_f : risk-free rate;

β_L : firm's levered beta;

$(R_m - R_f)$: market risk premium (MRP);

CRP: country risk premium.

2.6.1.2.d Risk-free Rate (R_f)

R_f stands for the return of the lowest risk asset available, as there is no default risk, and the reinvestment risk should be zero (Damodaran, 2012). Thus, a long-term zero-coupon treasury bond would be a good proxy for the risk-free asset (Kaplan & Ruback, 1996). Especially for mature markets, the 10-year treasury bond rate should be used as the risk-free rate, with the same currency as the cash-flows (Damodaran, 2008).

2.6.1.2.e Levered Beta (β_L)

β_L measures the correlation of a stock against the market (Jacobs and Shivdasani, 2021). Indeed, it refers to the former's co-movement with the stock market and its ability to further diversify the market portfolio (McKinsey & Company, 2005). Assuming that companies in the same industry face analogous operating risks, industry unlevered betas might be adopted for the levered beta computation (McKinsey & Company, 2005). Indeed, industry and market-based betas consistently outperform the firm-based beta (Kaplan and Ruback, 1996).

$$\beta_L = \beta_U \left[1 + \frac{D}{E} (1 - \tau) \right] \quad (7)$$

Where:

β_U : firm's unlevered beta;

$\frac{D}{E}$: net debt-to-equity using market-based values.

2.6.1.2.f Market Risk Premium (MRP)

MRP measures what investors demand as an extra return for investing in the company relative to the risk-free asset (Damodaran, 2012). Assuming a constant risk aversion, historical excess returns consist of a reliable proxy for future returns (McKinsey & Company, 2005). Hence, to reliably estimate the risk premium, one must focus on the historical premium earned by stocks over the default-free asset over long periods (Damodaran, 2012).

2.6.1.2.g Country Risk Premium (CRP)

CRP measures the country sovereign risk, and it might be computed in two ways. In the first the default spread is used as the measure of the additional CRP. In the second the default spread is scaled up to reflect the higher risk of equity in the market, relative to the default spread (Damodaran, 2003).

2.6.2 Relative Valuation

In this method, a ratio relative to a performance measure is calculated for a set of comparable firms (Damodaran, 2012). The Relative Valuation assumes that comparable companies have the same expected future cash flows, and that the firm's value is intrinsically linked to the performance measure (Kaplan and Ruback, 1996). However, selecting comparable companies is challenging, as they should operate in the same industry and keep the same position towards risk, growth potential, and cash flows (Damodaran, 2012). Historically, forward earnings are the most accurate multiples, followed by historical earnings, cash flow, book value of equity, and revenues (Liu et al., 2002). Although some multiples are more appropriate than others for different industries, the most used are the Price-to-Equity (PE) and the Enterprise Value-to-EBITDA (EV/EBITDA) (Fernandez, 2001). For instance, the Price-to-sales (PS) multiple should be the most accurate for retail companies (Damodaran, 2006).

3. Market Analysis

3.1 Global Overview

Although the pandemic resurgence in 2021, the global economic recovery has been continuing (International Monetary Fund, 2021). Meanwhile, inflation has increased markedly in the US and several emerging market economies.

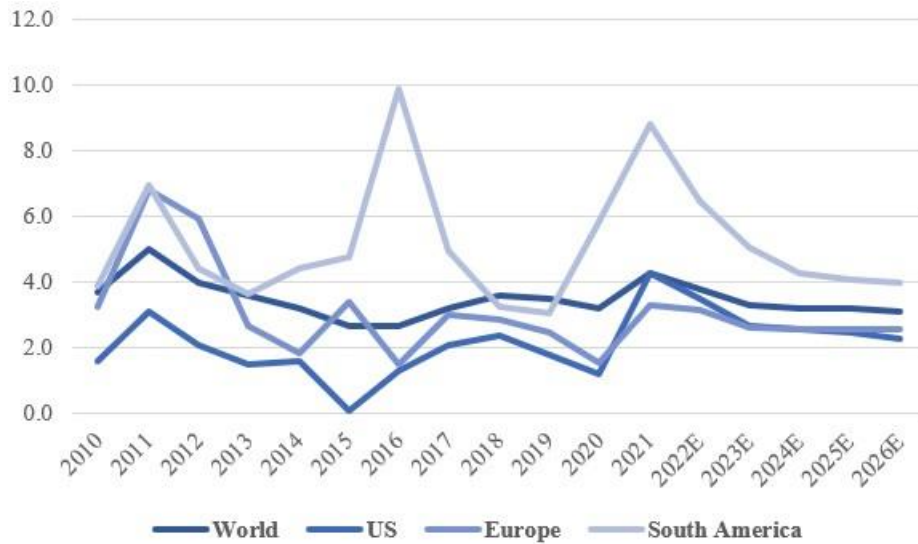


Figure 1 - Inflation rate growth projection² (International Monetary Fund, 2021)

Regarding food prices, after the peak experienced in March 2020, inflation receded until the second half of 2020, when it soared globally (OECD, 2022). In fact, in 2021 world food prices hit a 10-year high, jumping in nominal value by 28% (FAO, 2022). This have contributed to a broader surge in inflation as economies are just recovering from COVID-19 (Reuters, 2022a).

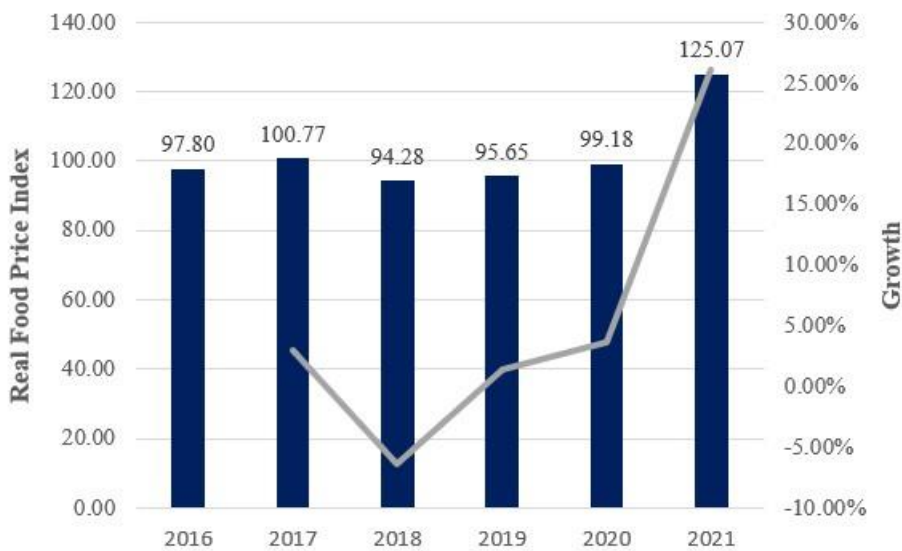


Figure 2 - Real Food Price Index (FAO, 2022)

² Excluding Argentina and Venezuela from South America for lack of data and extreme bias (inflation rate over 100,000 basis points since 2018), and Russia for geographic incompatibility with Europe.

The global economic trend in 2022 was weaker than previously expected, due to the larger and more broad-based inflation caused by rising energy prices, localized wage pressures and supply chain disruptions (International Monetary Fund, 2022). As advanced economies lift policy rates, global economies might face rising risks to financial stability and developing economies’ capital flows, currencies, and fiscal positions. Other global risks may crystallize as geopolitical tensions remain high, especially due to the current Russian invasion of Ukraine, and the ongoing climate emergency means that the probability of major natural disasters remains elevated (International Monetary Fund, 2022).

	2021	2022E	2023E
World	5.9	4.4	3.8
US	5.6	4.0	2.6
Europe	3.4	3.2	2.7
South America	7.1	7.2	5.5

Table 2 - Real GDP, annual % change³ (International Monetary Fund, 2022)

The financial uncertainty is leading consumers to switch to private-label or value-oriented products. As companies seek to increase market share, they may consider acquiring value brands that help insulate them from this shift. The heightened interest in e-commerce and in-home consumption will likely lead large producers to enter emerging ecosystems and seek acquisitions in data and analytics or last-mile delivery (Atmar et al., 2020).

3.2 Food and Grocery Retail (F&GR) Industry

3.2.1 Overview and Performance

The F&GR industry includes the sales of food products, beverages, tobacco, and household products (Marketline, 2021a). Despite the slow economic recovery, the F&GR industry rose globally by 4.6%, against the 8.4% achieved in 2020, reaching a value of €8,946 billion. The European and US markets experienced similar growth of 0.1%, to reach a value of €1,561

³ Excluding Venezuela from South America for lack of data and Russia for geographical incompatibility with Europe.

billion and €1,308 billion, while South America increased the most, rising by 9.2% to €380 billion⁴ (Marketline, 2022a).

The sector is forecasted to reach a global value of €11,012 billion in 2025, with an increase of 23.1% respect to 2021. In particular, the European market is expected to rise at €1,664 billion, with an increment of 6.6% since 2021. In 2025, the South American F&GR market is again expected to achieve the largest growth, reaching a value of €554 billion and increasing by 45.9% since 2021. Finally, the US market is again expected to obtain the lowest growth in the long-term, increasing by 11.8% and reaching €1,463 billion in 2025 (Marketline, 2022a).

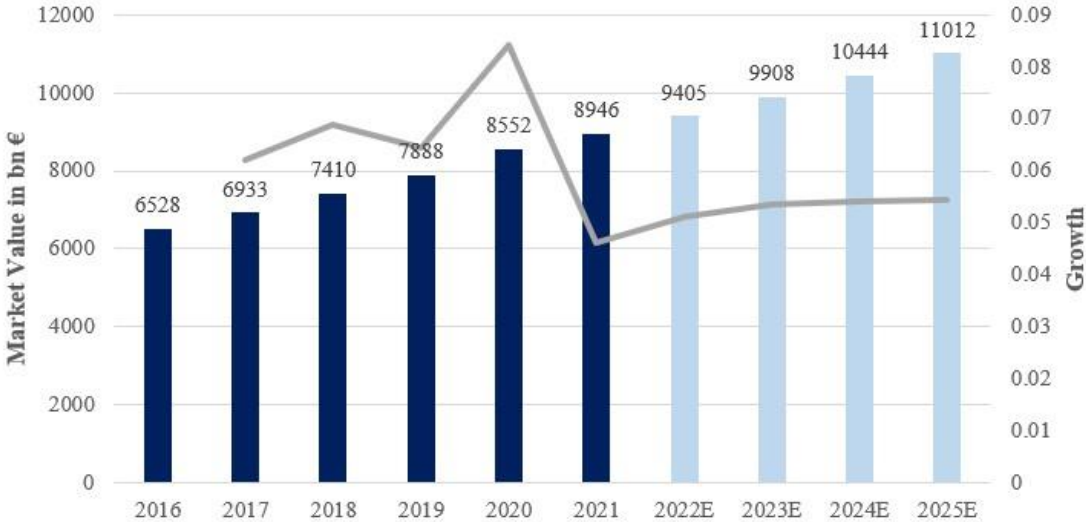


Figure 3 - Global Food & Grocery Retail sector (Marketline, 2022a)

3.2.2 Competition⁵

In an industry characterized by price-sensitive consumers easily switching, rivalry remains strong. In Europe, Ahold Delhaize carries the market leadership, followed by Carrefour and Tesco, with each of these players being dominant in their home country as well as in other European markets. Carrefour is also present in South America, where it shares the leadership with Companhia Brasileira de Distribuição. The US is home to the world’s largest firms and highest-turnover company, Walmart. The remaining market share is largely occupied by Costco, Kroger and Target⁶.

⁴ South America includes Argentina, Brazil, Chile, Colombia and Peru; Europe includes Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and United Kingdom.

⁵ Excluding private companies.

⁶ Companies are compared according to total revenues.

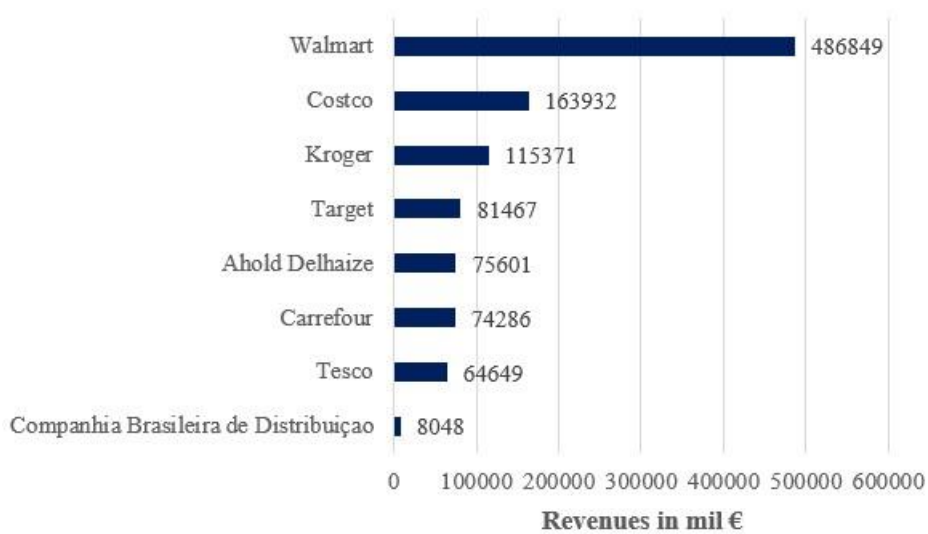


Figure 4 - Food & Grocery Retail players⁷

3.2.3 Product and Geographic Segmentation

Food is the largest segment of the global F&GR market, accounting for 73.3% of its total value, followed by the Drinks segment, that accounts for a further 15.4%. The situation is similar in Europe and the US, with Food respectively accounting for 70.3% and 68.5% of the total market's value. The Food and Drinks segments are mainly represented by the Asia-Pacific market, respectively accounting for 55.3% and 44.4% of their value (Marketline, 2022a).

Asia-Pacific accounts for 53.6% of the global F&GR value, followed by Europe with a further 21.1%. The European market is very saturated, as demonstrated by the different countries sharing more than half the markets' value. In this environment, the most valuable markets are France and Germany, representing 16.7% and 16.2% of the F&GR market value. On the other hand, Brazil alone accounts for 48.8% of the South American F&GR market value, distantly followed by Argentina with a further 17.5% (Marketline, 2022a).

⁷ Data and segmentation retrieved from Thomson Reuters, 2022.

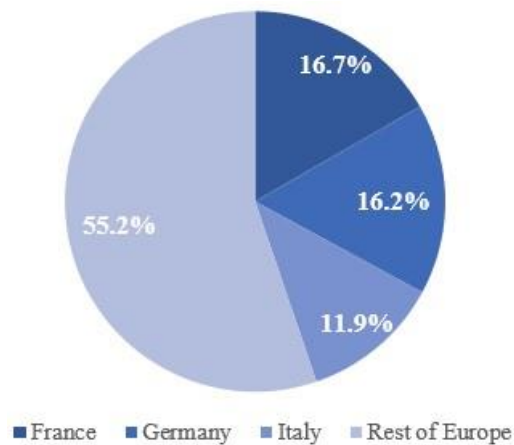


Figure 5 - European Food & Grocery Retail (Marketline, 2022a)

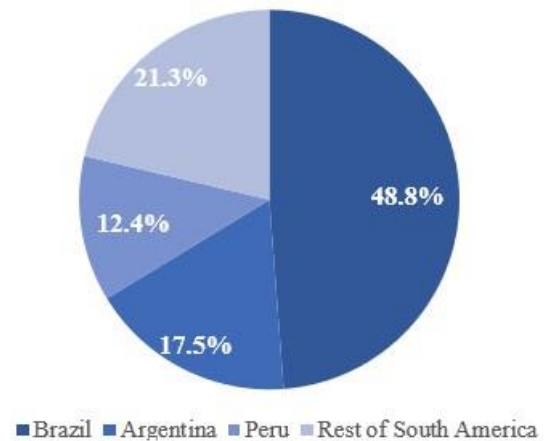


Figure 6 - South American Food & Grocery Retail (Marketline, 2022a)

3.3 Online Retail (OR) Industry

3.3.1 Overview and Performance

The online retail (OR) industry includes all sales within Clothing & Footwear, Electricals, Food & Grocery, Health & Beauty, Home and Other segments, provided they take place over the Internet (Marketline, 2021b). The global OR industry slightly expanded by 4.77% in 2021, against the 32.4% achieved in 2020, reaching €2,222 billion. The European sector showed a similar path, rising by 6.15%, respect to 29.6% in 2020, until €443 billion. Despite receding from a growth of 60.8% in 2020 to 12.0% in 2021, South America was the leading growing market, reaching €55 billion. The US market is the only one experiencing a decrease by 7.3% and receding to €611 billion, despite expanding by 36.2% in 2020 (Marketline, 2022b).

In 2025, the global OR industry is forecasted to reach a value of €3,487 billion, with an increase of 56.9% since 2021. In particular, the European market is expected to obtain a value of €598 billion in 2025, increasing by 34.9% since 2021. In contrast, the South American OR industry is predicted to reach a high of €116 billion by 2025, with a growth of 112.4%. Finally, the US market would still be the most valuable, reaching €846 billion in 2025, recovering from the post-pandemic crisis and growing by 38.3% (Marketline, 2022b).

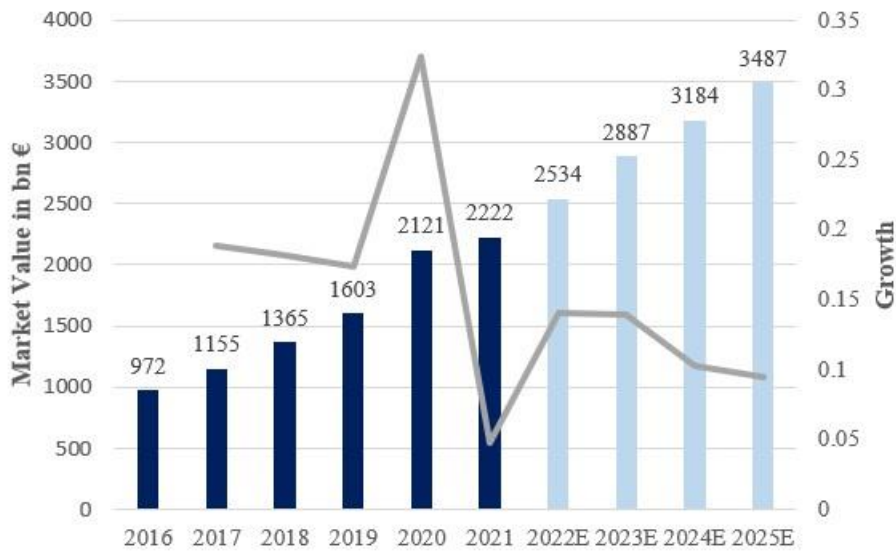


Figure 7 - Global Online Retail sector (Marketline, 2022b)

3.3.2 Competition⁸

The OR market leader is Walmart, followed by Amazon and Apple. In Europe, Ahold Delhaize obtained the leading position in the last years, ahead of Tesco, Otto and Zalando. In South America Companhia Brasileira de Distribuição keeps the market leadership, followed by the Argentinian Mercado Libre⁹.

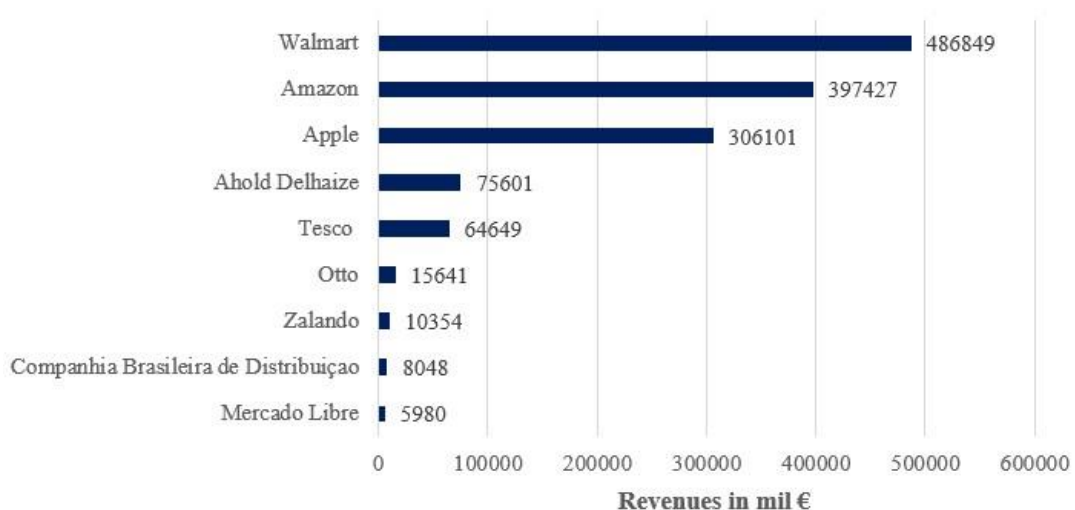


Figure 8 - Online Retail players¹⁰

⁸ Excluding private companies.

⁹ Companies are compared according to total revenues.

¹⁰ Data and segmentation retrieved from Thomson Reuters, 2022.

3.3.3 Segmentation

Electrical & Electronics Retail is the largest segment of the global OR sector, accounting for 31.3% of its total value, followed by the F&GR segment, accounting for a further 27.5%. It is also the largest segment in Europe, and the US, respectively accounting for 28.4% and 23.1% of the sector's total value. The Electrical & Electronics Retail and the F&GR segments are mainly represented by the Asia-Pacific market, that alone accounts respectively for 44.9% and 62.2% of the entire segments (Marketline, 2022b).

In terms of geographic segmentation, the Asia-pacific market is the most valuable, accounting for 41.5% of the global online retail sector value, followed by the US and Europe with a further 31.1% and 21.6%. In Europe, the sectoral value is shared between many countries, with United Kingdom (UK) accounting for 23.2% of the OR sector market value and Germany for a further 18.2%. On the other hand, in South America Brazil plays a key role, accounting for 56.1% of the market value, followed by Argentina that carries a further 17.3% (Marketline, 2022b).

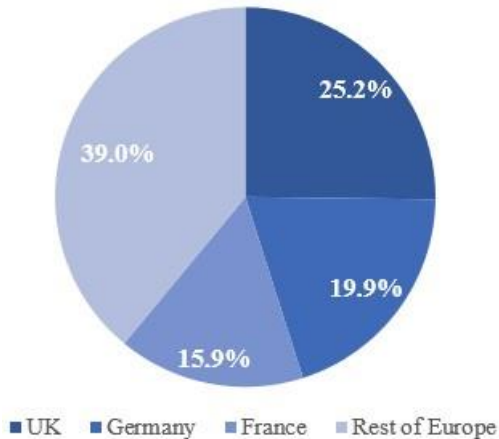


Figure 9 - European Online Retail (Marketline, 2022b)

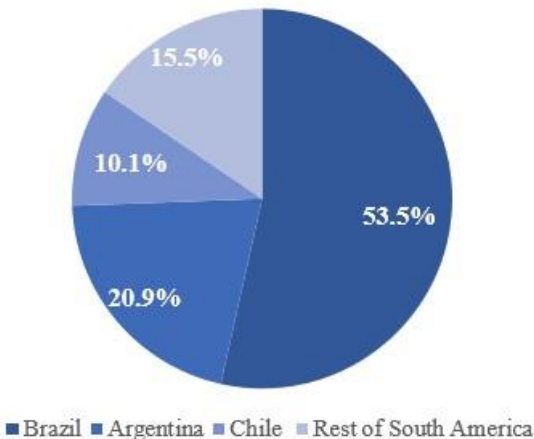


Figure 6 - South American OR
Figure 10 - South American Online Retail (Marketline, 2022b)

4. Company Analyses

4.1 Koninklijke Ahold Delhaize

4.1.1 Overview

Ahold Delhaize is an international food retail group that operates convenience stores, supermarkets, hypermarkets, compact hypermarkets, cash and carry, online, drugstores, online grocery, wine and liquor store and e-commerce platforms (Marketline, 2022c). The group was

formed in July 2016 from the merger between Koninklijke Ahold and Delhaize Group. It started to expand internationally as far as 1974, through the acquisition of Food Town Stores by Delhaize Group in the US (SEC, 2003). The company operates in the US, Europe and Asia, through 7,452 stores in Belgium, Netherlands, Luxembourg, Czech Republic, Moldova, Greece, Romania and Serbia, and with joint ventures in Portugal and Indonesia (Ahold Delhaize, 2022).

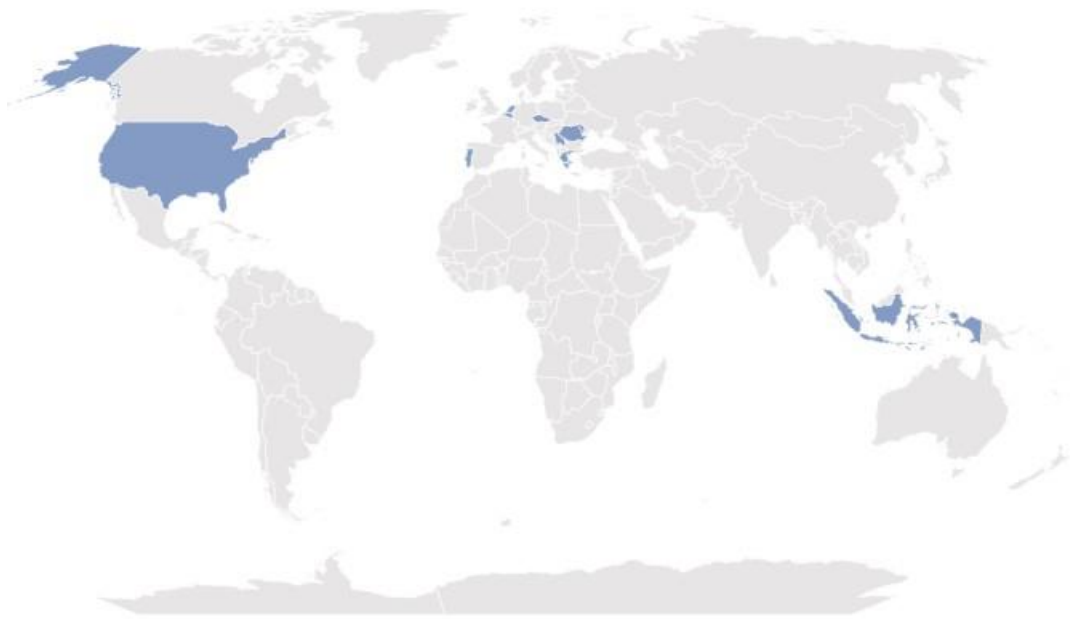


Figure 11 - Ahold Delhaize presence (Ahold Delhaize, 2022)

The firm strongly believe in the use of data to improve customer experience, and make operations more efficient, providing digital and in-store services to customers and generating revenues through advertising and insights to help power the omnichannel offering. Ahold Delhaize invested €2.4 billion in CAPEX in 2021 to ensure stores’ efficiency, to enhance digital and omnichannel offerings, to upgrade the supply chain and to increase the IT and digital capabilities. The company is active in inorganic growth and looking for potential partnerships (Ahold Delhaize, 2022).

4.1.2 SWOT Analysis

Ahold Delhaize is among the market leaders concerning international presence and investments in innovation. In fact, the company is one of the major food retailers across the world, with

many stores and joint ventures in three continents. Furthermore, Ahold Delhaize has a successful record at consumer-driven technologies. However, innovations that reduce prices in the supply chain decreases loyalty among suppliers. Ahold Delhaize should also focus on improving liquidity ratios, whose worsening might lead to a rating downgrade. It should also reduce employees' turnover at lower levels, as it may require higher salaries to maintain talents. The positive outlook for the e-retail market and the increase in consumer spending are likely to offer growth opportunities, as well as the rapid change in customer preferences driven by rising disposable incomes, easy access to information, and fast adoption of technological products. However, expansion of competitors might reduce the firm's market share and growth projections, while market saturation and foreign exchange rate risk from the US, Romania, Serbia and Czech Republic could affect its business operations (Marketline, 2022c).

Strengths	Weaknesses
Market position and strong portfolio	High employees turnover
Store network	Low suppliers loyalty
Innovation	Liquidity ratios
Opportunities	Threats
Increasing consumer spending	Expanding competition
Positive industry outlook	Foreign exchange rates
Changing customer preference	Market saturation

Figure 12 - Ahold Delhaize SWOT analysis

4.1.3 Historical Performance¹¹

Ahold Delhaize has been able to obtain the leading market position thanks to its steady top-line growth, achieving a CAGR of 7.24% between 2016 and 2021. In fact, the company has always increased revenues, with rare exceptions¹². In 2017 the firm had its strongest growth in sales of more than 70%, thanks to synergies achieved in ahead of schedule and expanding online revenues (Ahold Delhaize, 2018). Furthermore, the pandemic had a positive impact on the company's sales, that rose by 12.79% in 2020. Finally, in 2021 revenues reached their maximum at €75.60 billion.

¹¹ Data retrieved from Thomson Reuters, 2022.

¹² Revenues decreased only in 2018.

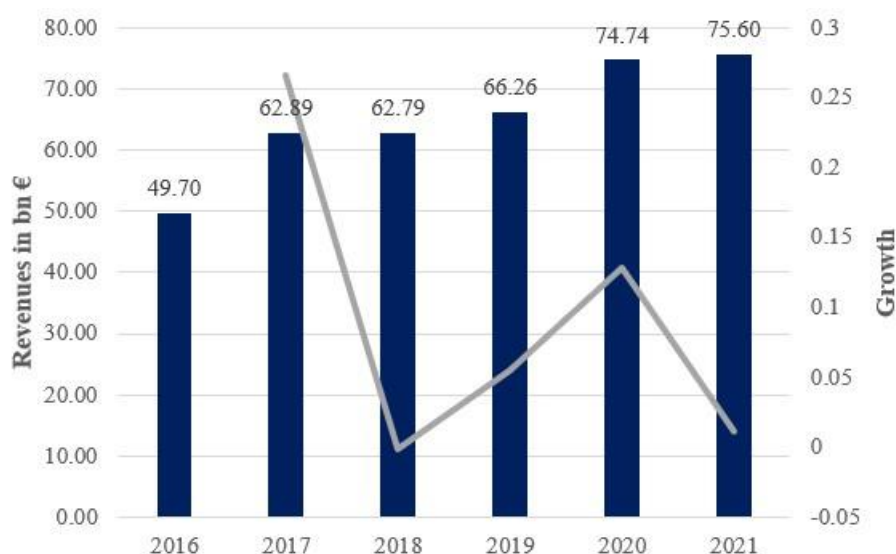


Figure 13 - Ahold Delhaize revenues

All Ahold Delhaize's profitability ratios has a growing pattern. Moreover, they have always been above the industry median, demonstrating the company's ability in generating value for its shareholders. Only gross margin diminished in 2021. On the other hand, operating and net margins both shared a V-shaped pattern, decreasing in 2019 and 2020 and soaring in 2021.

	2018	2019	2020	2021	Industry Median
Gross Margin	27.00%	27.30%	27.50%	27.40%	25.10%
Operating Margin	4.20%	4.00%	2.90%	4.40%	3.30%
Net Margin	2.80%	2.60%	1.80%	2.90%	1.10%

Table 3 - Ahold Delhaize profitability ratios

Ahold Delhaize's operating efficiency has also been almost always above the industry median. In fact, its earning power, measured through asset turnover, pre-tax ROA and ROE, has been increasing. This shows ability to generate more revenues and earnings per dollar of assets, as well as sustainable and dividend growths. However, the sharp increase in ROE in 2021 might be caused by the rise of debt. Furthermore, the company is also efficient in collecting short-term credits, suggesting a conservative credit policy through an account receivables ratio highly

above industry median and increasing over time. The same applies to inventory through large inventory turnover, showing the company's strong sales and its ability to offer fresh products.

	2018	2019	2020	2021	Industry Median
Asset Turnover	1.70	1.63	1.82	1.75	1.60
Pre-tax ROA	5.80%	5.20%	4.20%	6.50%	1.90%
ROE	12.20%	12.50%	10.50%	17.20%	11.10%
Account Receivables Turnover	35.3	35.4	37.6	36.6	21.8
Inventory Turnover	14.6	14.7	16.4	15.8	10.7

Table 4 - Ahold Delhaize operating ratios

Although its strong profitability, Ahold Delhaize's increasing short-term liabilities may be seen as risky, reducing creditworthiness due to the larger cost of debt. Liquidity ratios have been declining, positioning below the industry median in 2021. In particular, the quick and current ratios have been diminishing respectively to 0.41 and 0.68 in 2021, showing a potential impossibility to fully pay off current liabilities. However, this probability is still low, thanks to the conservative credit policy of the firm. Finally, cash cycle (days) has been reducing, positioning highly below the industry median. This positive factor shows that the company can still convert fast the invested cash through developed Inventory and payables management, and sales realization.

	2018	2019	2020	2021	Industry Median
Quick Ratio	0.52	0.49	0.44	0.41	0.49
Current Ratio	0.81	0.76	0.70	0.68	0.79
Cash Cycle (days)	-8.8	-10.8	-12.4	-14.5	-3.5

Table 5 - Ahold Delhaize liquidity ratios

Although the current liabilities have been worryingly increasing, Ahold Delhaize keeps a solid capital structure, with leverage ratios in line with peers. In fact, assets-to-equity and debt-to-equity have been raising, showing a greater use of debt as a financing instrument. Although only the latter is above the industry median, a further increase in these ratios might be dangerous. In fact, the firm might be more susceptible to pricing attacks by competitors since

it must maintain high prices in order to generate the cash flow to pay for its debt. Finally, the company is choosing to keep this strategy to exploit growth potential, financing acquisitions through debt. Indeed, it would still be able to decrease debt, as shown by the below-industry-median net debt-to-EBITDA. Ahold Delhaize's solid capital structure is demonstrated by its relatively high credit rating (BBB for S&P, Baa1 for Moody's and BBB+ from Fitch).

	2018	2019	2020	2021	Industry Median
Assets / Equity	2.8	2.95	3.27	3.33	3.52
Debt / Equity	1.02	1.1	1.17	1.25	1.07
Net Debt / EBITDA	1.25	2.03	1.77	1.88	2.82

Table 6 - Ahold Delhaize leverage ratios

Although being profitable for many years and financially healthy, the company seems to have gained investors' trust only lately. In fact, between 2016 and 2022¹³ the price of the company has been oscillating between €14.80 and €31.09, with a growing pattern that only started after 2018. Between 2016 and 2022 Ahold Delhaize's stock price experience a CAGR of 3.81% against 6.48% of the EURONEXT 100. Furthermore, the company has been less volatile, with a standard deviation of 273% against 5,731% of the EURONEXT 100. During the COVID-19 crisis and the initial wipe-out of March 2020, Ahold Delhaize's stock had a jump of -16.89% respect to the previous month, against -32.92% of the EURONEXT 100¹⁴. Although the low cumulative returns achieved between 2016 and 2020, afterwards Ahold Delhaize became more profitable and less volatile. Hence, investors seem to have finally recognized the company's growth drivers and financials. Indeed, the price-to-book ratio in 2021 was always above 1.7, typical for overvalued companies that have healthy future profit projections. Finally, the company and the index experienced a reduce also in the last months, when Ahold Delhaize's price dropped from the peak of €31.09 on the 11th of January 2022 to €27.48 on the 28th of February 2022, while EURONEXT 100 fell from €1,314 to €1,269.

¹³ Between the 25th of July (merger of Koninklijke Ahold and Delhaize Group) and the 28th of February 2022.

¹⁴ Considering the 12th of February 2020 and the 12th of March 2020 period.

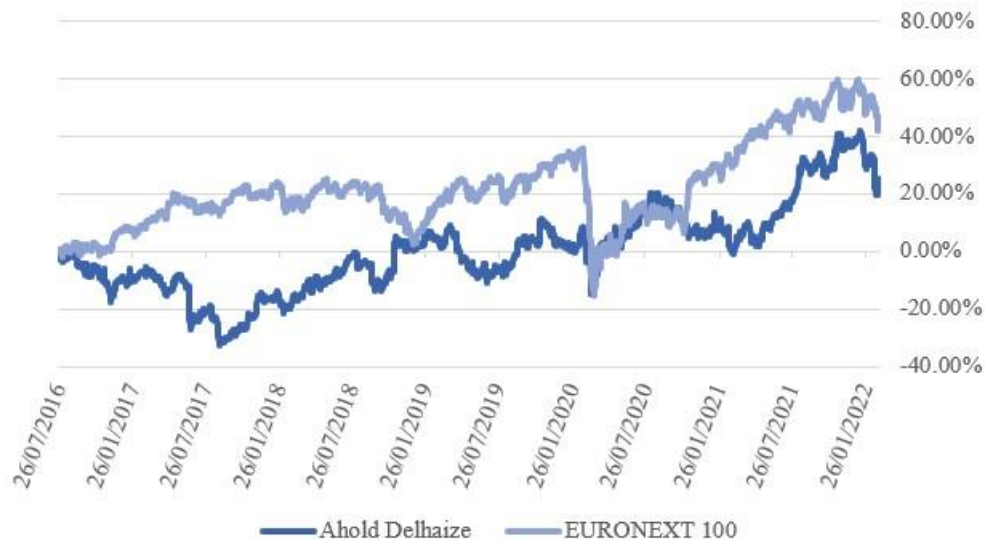


Figure 14 - Ahold Delhaize and EURONEXT 100 cumulative returns

4.2 Companhia Brasileira de Distribuição

4.2.1 Overview

Companhia Brasileira de Distribuição, is a retailing company that operates through a network of hypermarkets, supermarkets, specialized stores, and department stores (Marketline, 2022d). On the 31st of December 2020, the proposal for corporate reorganization was approved, resulting in the split between Companhia Brasileira de Distribuição and Assaí. The company operates in South America with 1,686 stores in Brazil, Colombia, Uruguay and Argentina. It is controlled by Casino Group, that owns 41% of its stock (Companhia Brasileira de Distribuição, 2022).



Figure 15 - Companhia Brasileira de Distribuição presence (Marketline, 2022d)

Companhia Brasileira de Distribuição plans to continue to boost e-commerce, combining physical stores and digital platforms. Digital acceleration will take precedence, through a focus on efficiency, innovation, new business models, infrastructure and the use of technology, with the ambition of establishing as one of the largest data platforms in Brazil and Colombia. The firm drew an expansion plan which will also be supported by the deleveraging provided by the spin-off with Assaí, and a better EBITDA margin and net income, which in a time of high interest rates is crucial for investing in sustainable growth. The company's private labels guarantee customer loyalty and consumer traffic. The company is also consolidating a corporate facility exclusively dedicated to innovation, GPA Labs (Companhia Brasileira de Distribuição, 2022).

4.2.2 SWOT Analysis

Companhia Brasileira de Distribuição has been investing in innovative solutions to expand its distribution network and to ease the customer journey. Furthermore, the company keeps above-average liquidity ratios, reducing the risk of potential incapacity to repay short-term debt and benefitting creditworthiness. On the other hand, the low level of internationalization might reduce long-term growth projections. In addition, Companhia Brasileira de Distribuição might face higher bargaining power of channel partners, as regulatory requirements tighten. The company is also struggling to keep its ratios competitive. In fact, profitability and leverage ratios were below-industry-median in 2021, impacting cost of debt and capital. The company has been investing in digital transformation and it might benefit from the consumer swift towards e-commerce. The growing projections for the South American F&GR and OR industries would also benefit the company. Furthermore, the expected growth in meat and dairy consumption might be exploited, resulting in higher revenues. However, Companhia Brasileira de Distribuição should be aware of the intense competition of Carrefour and other smaller retailers like Mercado Libre, that might win market shares. Moreover, the rise of counterfeit products might worsen the company's image and reduce revenues, while environmental laws and regulations could minimize smooth function (Marketline, 2022d).

Strengths	Weaknesses
Smooth shopping experience	Limited international presence
Distribution network	Channel partners' bargaining power
Liquidity ratios	Profitability and leverage ratios

Opportunities	Threats
E-commerce	Expanding competition
Market expansion	Increasing counterfeiting
Meat and dairy consumption growth	Stringent regulations

Figure 16 - Companhia Brasileira de Distribuição SWOT analysis (Marketline, 2022d)

4.2.3 Historical Performance¹⁵

Companhia Brasileira de Distribuição experienced a steady top-line growth before 2019, with revenues over BRL¹⁶49 billion and a CAGR of 6.03% between 2016 and 2018. However, in 2019 revenues fell by -45.93%. The cause is attributed to the loss in value of South American currencies, especially the Argentinian Peso that ended 2019 down 37% against USD (Reuters, 2019). Afterwards, the company achieved a successful performance, with revenues growing by 76.08% in 2020 and reaching BRL51.29 billion in 2021, with a CAGR of 3.84% between 2016 and 2021.

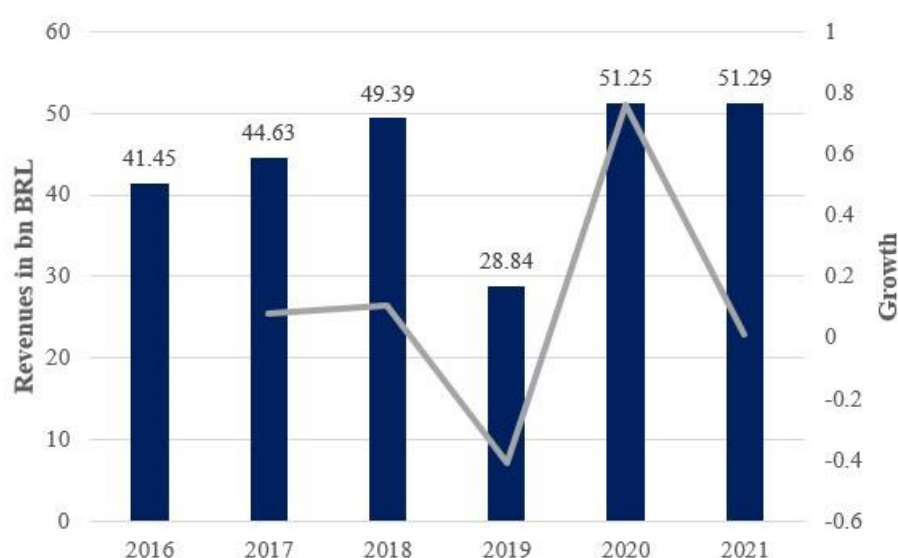


Figure 17 - Companhia Brasileira de Distribuição revenues

¹⁵ Data retrieved from Thomson Reuters, 2022.

¹⁶ Brazilian currency: Reais (BRL).

Despite the increasing gross margin, Companhia Brasileira de Distribuição has been facing declining operating and net margins. Hence, the company is able to generate revenues and maintain a stable COGS. However, the inefficient use of resources raised variable costs of production, positioning the company below the industry median in 2021. The pandemic does not seem to be the reason of this decline, as in 2020 and 2021 the company obtained among the highest EBIT and net income.

	2018	2019	2020	2021	Industry Median
Gross Margin	23.50%	26.40%	26.80%	25.20%	25.20%
Operating Margin	5.30%	1.70%	5.10%	3.30%	5.60%
Net Margin	2.30%	-0.90%	2.40%	1.90%	3.70%

Table 7 - Companhia Brasileira de Distribuição profitability ratios

Although increasing, the asset turnover is below the industry median. Furthermore, there is a declining path for all the other major operating ratios, all below the industry median. In 2019 the company suffered the most, with negative pre-tax ROA and ROE and a decrease in account receivables, inventory and asset turnover. This shows inability to transform investments into profitable components, increasing use of liabilities and slow collection of short-term credits. Although still below the industry median, inventory turnover seems to have been recovering after 2019, showing that the company is managing and replacing inventory faster, allowing to offer fresh products.

	2018	2019	2020	2021	Industry Median
Asset Turnover	0.84	0.48	0.92	1.00	1.66
Pre-tax ROA	3.20%	-0.60%	3.40%	0.70%	6.80%
ROE	10.40%	-3.00%	8.90%	5.90%	14.80%
Account Receivables Turnover	34.7	13.8	21.2	20.9	33.7
Inventory Turnover	7.0	2.9	4.9	6.5	8.0

Table 8 - Companhia Brasileira de Distribuição operating ratios

Although Companhia Brasileira de Distribuição is operationally inefficient, its liquidity is under control, with quick and current ratios, indicators for short-term financial health, above the industry median. This shows the company's ability to repay short-term obligations with liquid and especially less liquid assets. Finally, the firm's cash cycle (days) is well-below the industry median. This is a positive sign that the company converts rapidly resources into cash. However, its high volatility is concerning and indicative of deteriorating fundamentals.

	2018	2019	2020	2021	Industry Median
Quick Ratio	0.93	0.49	0.60	0.76	0.65
Current Ratio	1.09	0.86	0.95	1.08	1.02
Cash Cycle (days)	-21.6	-56.3	-37.1	-28.8	3.9

Table 9 - Companhia Brasileira de Distribuição liquidity ratios

Companhia Brasileira de Distribuição is highly financed with debt. In fact, despite decreasing, the leverage ratios are all above the industry median. This shows that the company has been growing through debt, increasing credit risk. The effects are higher cost of debt and cost of capital, resulting in a lower valuation.

	2018	2019	2020	2021	Industry Median
Assets/Equity	6.06	5.35	3.89	3.62	2.88
Debt/Equity	1.09	2.09	1.28	1.11	0.44
(Total Debt - Cash) / EBITDA	1.42	3.66	1.76	1.42	1.36

Table 10 - Companhia Brasileira de Distribuição leverage ratios

While investing in the Brazilian main index, BOVESPA, between the 1st of January 2016 and the 28th of February 2022 would have led to a cumulative return of 161.00%, keeping the company's stock would have brought to a cumulative return of -57.87%. This reflects Companhia Brasileira de Distribuição's poor ratios and confirms the lack of confidence of investors in a possible recovery. Both the company and the index were negatively impacted by COVID-19. Between the 21st of February 2020 and the 23rd of March 2020, the former lost 18.47%, while the index lost 44.08%. Afterwards, despite BOVESPA's recovery, the company

lost even more. Only between two trading days, the 30th of April 2020 and the 4th of May 2020, Companhia Brasileira de Distribuição’s stock fell by 86.73%. This unexpected drop arrived after no particular corporate news and therefore it was probably due to panic selling. While the index started to increase, the company struggled, despite obtaining an above-average net income. It followed a reverse-U path, when it started to recover after the 25th of February 2021 to then decrease after July 2021. Again, the variations were not related to any corporate news.



Figure 18 - Companhia Brasileira de Distribuição and BOVESPA cumulative returns

5. Company Valuations

5.1 Koninklijke Ahold Delhaize¹⁷

5.1.1 DCF Valuation

5.1.1.1 Financial Projections

After the merger between Koninklijke Ahold and Delhaize Group happened in July 2016, the companies’s financials were integrated, expanding results. Hence, the historical values used for the projections start from 2017.

Revenues were computed by adopting the estimation of Marketline for the F&GR and OR global market values. In fact, their correlations with Ahold Delhaize’s corresponding segment

¹⁷ Data retrieved from Thomson Reuters, 2022.

revenues between 2017 and 2021 are respectively 0.92 and 0.95. As Marketline's estimations are presented until 2025, the F&GR and OR revenues for 2026 follow a linear regression through the growth rates between 2022 and 2025, with an R Square above 0.80. This is in line with some analysts expected increasing revenues (CNN, 2022). Between 2017 and 2021, since COGS and SG&A mostly maintained a stable ratio with respect to revenues respectively of around 73% and 24%, the historical moving average ratios were adopted for their forecasts. Furthermore, the exceptional expenses related to COVID-19, included in other operating expenses (OOE), are expected to gradually decrease. In fact, pandemic-related expenses decreased from €680 million in 2020 to €360 million in 2021, proving that the company is evolving and adapting (Ahold Delhaize, 2022). The abnormal growth in EBIT of 51.52% obtained in 2021 resulted after consecutive decreases in the two previous years is not expected to last.

EBIT (in million EUR)		2021	2022E	2023E	2024E	2025E	2026E
Revenues	F&GR	67897	71380	75197	79269	83576	88235
	OR	7704	8786	10007	11039	12090	13016
	Total	75601	80167	85204	90307	95666	101251
	% Change		6.04	6.28	5.99	5.93	5.84
COGS		54916	58392	61976	65640	69524	73625
	COGS / Revenues	72.64%	72.84%	72.74%	72.69%	72.67%	72.71%
	% Change		6.33	6.14	5.91	5.92	5.90
Gross Profit		20685	21775	23228	24667	26142	27627
	% Change		5.27	6.67	6.19	5.98	5.68
SG&A		17896	18933	20207	21578	22984	24083
	SG&A / Revenues	23.67%	23.62%	23.72%	23.89%	24.03%	23.78%
OOE (OOI)		-531	-501	-322	-250	-200	-117
EBIT		3320	3342	3344	3339	3358	3661
	% Change		0.67	0.04	-0.15	0.57	9.04

Table 11 - Ahold Delhaize EBIT decomposition

5.1.1.2 FCFF

The tax rate is expected to increase, following a linear regression and gradually reverting to the Dutch marginal tax rate and the effective tax rate of F&GR and OR, all around 25% (Damodaran Online, 2022c; Damodaran Online, 2022d). D&A¹⁸ was forecasted similarly to COGS and SG&A since its historical ratios with net PP&E was stable. Current assets and liabilities' different items needed to compute the working capital were estimated through historical moving averages, linear regressions or through the ratio with revenues or COGS. As a result, working capital follows the growing path of revenues. Finally, CAPEX did not maintain a stable proportion with revenues nor EBIT. However, its ratio with the former has been increasing and therefore the linear regression of this ratio was adopted to forecast it. As a result, FCFF are expected to be lower than the previous years. In fact, the major reason of the past growth in FCFF was the diminishing working capital, expected to be increased in the next year to avoid credit deterioration.

FCFF (in million EUR)							
	2021	2022E	2023E	2024E	2025E	2026E	TV
EBIT	3320	3342	3344	3339	3358	3661	
Tax Rate	21.08%	21.55%	22.32%	23.10%	23.87%	24.64%	
D&A	3068	3413	3614	3802	4076	4294	
Working Capital	-4595	-4199	-3071	-2809	-2265	-445	
Δ Working Capital	-893	396	1128	261	544	1820	
CAPEX	2371	2881	3198	3534	3896	4285	
FCFF	4210	2758	1885	2575	2192	948	43094

Table 12 - Ahold Delhaize FCFF decomposition

5.1.1.3 WACC

WACC was assumed to be constant. In fact, unusually steep yield curves in the capital markets are not expected, as the risk-free rate, ERP and CRP historically followed a stable path. The cost of debt was computed as the present value of the ratio between interest expense and debt, in market values. The risk-free rate corresponds to the 10-year-zero-coupon German treasury

¹⁸ D&A value was obtained from the cash-flow statement, as in Thomson Reuters and Ahold Delhaize's annual reports D&A is part of SG&A.

bond. The levered beta was computed through the unlevered beta, the tax rate and the debt-to-equity ratio. The former was calculated through Damodaran's unlevered betas for OR and F&GR, weighted on Ahold Delhaize's respective segment revenues (Damodaran Online, 2022a). MRP was taken from Damodaran's estimations for each country in which Ahold Delhaize operates, according to regional revenues and considering the weighted CRP (Damodaran Online, 2022b).

Cost of equity		Net cost of debt	
Risk-free rate	-0.18%	Outstanding debt (in mln EUR)	8830
Unlevered beta	0.51	Interest expense	387
Tax rate	21.08%	Net cost of debt	3.64%
Equity (Market Capitalization in mln EUR)	28594		
Net debt/Equity	0.07		
Levered beta	0.54		
CRP	0.82%		
Cost of equity	3.19%		
WACC	3.22%		

Table 13 - Ahold Delhaize WACC decomposition

The obtained stock price of €35.72 was found by using a WACC of 3.22% and assuming a TV growth rate of 1.00%. Net debt was found using market values, and equity was computed by subtracting net debt to EV.

EV	45151
Net Debt	5837
Equity	39314
Shares outstanding	1101
Share price	35.72

Table 14 - Ahold Delahize price decomposition (million EUR)

The share price is sensible to 25-basis-point changes in WACC or TV growth rate. In fact, it would range between €45.68 and €28.59 if the discount rate was 2.75% or 3.75%. On the other

hand, stock price would vary between €29.64 and €45.32 if the perpetual growth rate (TV growth rate) was 0.50% or 1.50%.

Price	WACC						
	2.50%	2.75%	3.00%	3.22%	3.50%	3.75%	4.00%
0.25%	36.59	32.80	29.69	27.37	24.89	23.01	21.37
0.50%	40.82	36.14	32.39	29.64	26.75	24.58	22.72
0.75%	46.26	40.31	35.69	32.37	28.95	26.42	24.28
1.00%	53.50	45.68	39.81	35.72	31.59	28.59	26.09
1.25%	63.65	52.85	45.12	39.91	34.81	31.20	28.24
1.50%	78.87	62.87	52.19	45.32	38.84	34.38	30.81
1.75%	104.24	77.91	62.10	52.58	44.02	38.36	33.95

Table 15 - Ahold Delhaize sensitivity analysis

5.1.2 Relative Valuation

Ahold Delhaize’s share price might be found also through the Relative Valuation. The multiples adopted were the Price-to-Earnings (PE), the 12-month forward EV-to-EBITDA (12M F EV/EBITDA) and the Price-to-Sales (PS), as of the 31st of December 2021, and weighted according to market capitalization. The former has historically led to more accurate valuations (Liu et al., 2002). Despite its historical accuracy, PE is highly affected by the capital structure, possibly biasing results (Goedhart et al., 2005). Hence, also 12M F EV/EBITDA was added to the valuation. Finally, PS should be the most accurate multiple for retail companies (Damodaran, 2006). The multiples were weighted on the companies’ market capitalization. The inclusion of Amazon would result in extremely large results. The 12M F EV/EBITDA multiple gives the highest result, while PS the lowest. The average result without Amazon is in line with the DCF model.

Price (EUR)						
	PE	PE	12M F EV/EBITDA	12M F EV/EBITDA	PS	PS
Amazon		65.10		19.33		3.65
Walmart	50.70	50.70	11.50	11.50	0.71	0.71
Costco	48.80	48.80	24.60	24.60	1.29	1.29
Kroger	34.10	34.10	6.60	6.60	0.25	0.25
Target	17.00	17.00	10.49	10.49	1.08	1.08
Ahold Delhaize	19.40	19.40	7.59	7.59	0.41	0.41
Carrefour	13.60	13.60	5.30	5.30	0.17	0.17
Tesco	4.10	4.10	7.61	7.61	0.38	0.38
Weighted multiples	29.65	57.28	8.43	17.72	0.51	2.71
Weighted price	45.95	88.78	47.38	99.53	37.58	199.56
Average price	43.64	129.29				

Table 16 - Ahold Delhaize Relative Valuation

5.1.3 Valuation Summary

Both the DCF and the Relative Valuation models overvalue Ahold Delhaize, respect to the current market price of €27.48¹⁹. The results are still in line with the 52-week high/low price²⁰. The DCF model is the most variable, as the stock price is very sensible to 25-basis-point changes in WACC and TV growth rate²¹. Given the Relative Valuation's bias due to the challenges in finding comparable firms that share future cash flows and whose valuation is intrinsically linked to the performance measure, the model should only support the DCF to obtain more reliable results (Kaplan and Ruback, 1996). In this case it confirms the company's current undervaluation. In fact, some analysts recommend a buy or a strong buy²².

¹⁹ As for the 28th of February 2022.

²⁰ Between the 28th of February 2021 and the 28th of February 2022.

²¹ Considering a WACC between 2.75% and 3.75%, and a TV Growth rate between 0.50% and 1.50%.

²² Thomson Reuters' recommendation in February 2022.



Figure 19 - Ahold Delhaize valuation summary

5.2 Companhia Brasileira de Distribuição²³

5.2.1 DCF Valuation

5.2.1.1 Financial Projections

Companhia Brasileira de Distribuição's revenues were computed by adopting the estimation of Marketline for the F&GR South American market values, since the company does not provide exact online sales for each year. Moreover, in 2021 they accounted for 21.09% of total revenues (Companhia Brasileira de Distribuição, 2022). The correlation between the South American F&GR market values and Ahold Delhaize's sales between 2015 and 2021 is 0.84 (excluding 2019, due to the abnormal drop in revenues caused by the South American currencies' depreciation). As Marketline's estimations are presented until 2025, sales for 2026 are forecasted through the average growth rates between 2022 and 2025. Since COGS and SG&A mostly maintained a stable ratio with revenues between 2015 and 2021, the historical moving average ratios were adopted for their forecasts²⁴. The same method was used for D&A through its ratio with net PP&E. Furthermore, the exceptional positive effect of COVID-19 on the operating income is expected to gradually diminish. As a result of the previous assumptions, EBIT would slightly increase over time, slowly reaching the peaks obtained in 2018 and 2020.

²³ Data retrieved from Thomson Reuters, 2022.

²⁴ The SG&A ratio occurred in 2019 was not considered for the forecast, as it was biased by the abnormal revenues experienced in that year.

EBIT (in million Brazilian Reais)						
	2021	2022E	2023E	2024E	2025E	2026E
Revenues	51291	56400	63090	68685	74843	82263
% Change		9.96	11.86	8.87	8.97	9.91
COGS	38341	42384	47370	51380	55925	61261
COGS / Revenues	74.75%	75.15%	75.08%	74.81%	74.72%	74.47%
% Change		10.54	11.76	8.47	8.85	9.54
Gross Profit	12950	14016	15720	17305	18918	21002
% Change		8.23	12.15	10.09	9.32	11.01
SG&A	9492	10149	11338	12333	13365	14978
SG&A / Revenues	18.51%	18.00%	17.97%	17.96%	17.86%	18.21%
D&A	1853	2154	2427	2700	2973	3246
D&A / Net PP&E	11.34%	7.57%	7.76%	7.77%	8.04%	7.97%
OOE (OOI)	-85	-87	-71	4	55	56
EBIT	1690	1800	2025	2269	2525	2722
% Change		6.48	12.52	12.03	11.30	7.80

Table 17 - Companhia Brasileira de Distribuição EBIT decomposition

5.2.1.2 FCFF

Companhia Brasileira de Distribuição's tax rate is expected to revert to the Brazilian marginal tax rate of 34% (Damodaran Online, 2022c). In 2022, it was normalized as the average positive tax rates and then it followed increases of 500 basis points each year. D&A²⁵ was forecasted similarly to COGS and SG&A, since its historical proportion with net PP&E was relatively stable. Working capital was very unstable and its components were estimated through historical moving average, linear regressions or through the ratio with revenues or COGS. As a result, it follows the growing path of sales. CAPEX never had a stable proportion with revenues nor EBIT, neither following a clear path. Hence, the historical moving average was used to forecast it. The extreme FCFF obtained in 2021 was only the result of fiscal benefits and a large D&A.

²⁵ The D&A value to compute FCFF is taken from the cash-flow statement, as in Thomson Reuters and Companhia Brasileira de Distribuição's annual reports part of the total D&A is included in SG&A.

In fact, FCFF is expected to follow a decreasing path, mostly due to the increasing working capital.

FCFF (in million Brazilian Reais)							
	2021	2022E	2023E	2024E	2025E	2026E	TV
EBIT	1690	1800	2025	2269	2525	2722	
Tax Rate	-160.98%	30.72%	31.22%	31.72%	32.22%	32.72%	
D&A	2117	1544	1602	1655	1793	1865	
Working Capital	1322	325	542	1123	2052	2780	
Δ Working Capital	192	-997	218	581	928	728	
CAPEX	1267	2021	2026	2095	2149	2118	
FCFF	5068	1767	751	528	427	850	7084

Table 18 - Companhia Brasileira de Distribuição FCFF decomposition

5.2.1.3 WACC

WACC was kept constant, as for Ahold Delhaize. In fact, unusually steep yield curves in the capital markets are not expected, as the risk-free rate, ERP and CRP historically followed a stable path. The cost of debt was computed as the present value of the ratio between interest expense and debt, in market values. The risk-free rate corresponds to the 7-year-zero-coupon Brazilian treasury bond, the one with the longest maturity. The levered beta was calculated through Damodaran's unlevered beta for F&GR (Damodaran Online, 2022a). The tax rate has been normalized, as in 2021 it was -160.98%, and using this value would bias the valuation. The historical ERP was taken from Damodaran's estimations for each country in which Companhia Brasileira de Distribuição operates (Damodaran Online, 2022b). Due to the company's large cash reserves, net debt-to-equity is negative. Hence, in the WACC computations it was assumed to be zero, leading to a discount rate equal to the cost of equity.

Cost of equity		Net cost of debt	
Risk-free rate	9.04%	Outstanding debt (in mln BRL)	7102
Unlevered beta	0.50	Interest expense	846
Tax rate	30.72%	Net cost of debt	8.26%
Equity (Market Capitalization in mln BRL)	5850		
Net debt/Equity	0.00		
Levered beta	0.50		
Cost of equity	13.29%		
WACC	13.29%		

Table 19 - Companhia Brasileira de Distribuição WACC decomposition

The obtained price per share of BRL28.60 was found through a WACC of 13.29% and a TV growth rate of 1.00%. Net debt was found using market values, and equity was computed by subtracting net debt to EV.

EV	6527
Net Debt	-1172
Equity	7699
Shares outstanding	269
Share price	28.60

Table 20 - Companhia Brasileira de Distribuição price decomposition (million BRL)

The share price is slightly sensible to 50-basis-point changes in WACC and 25-basis-point changes in the TV growth rate. In fact, it would range between BRL30.19 and BRL27.34 if WACC was 12.50% or 14.00%. On the other hand, stock price would vary between BRL28.06 and BRL29.18 if the TV growth rate was 0.50% or 1.50%.

Price	WACC						
	12.00%	12.50%	13.00%	13.29%	13.50%	14.00%	14.50%
0.25%	30.28	29.26	28.32	27.81	27.45	26.65	25.91
0.50%	30.61	29.56	28.59	28.06	27.69	26.87	26.11
0.75%	30.96	29.87	28.87	28.32	27.95	27.10	26.31
TV Growth Rate 1.00%	31.32	30.19	29.16	28.60	28.21	27.34	26.53
1.25%	31.70	30.53	29.46	28.88	28.48	27.58	26.75
1.50%	32.10	30.88	29.78	29.18	28.77	27.84	26.99
1.75%	32.51	31.25	30.11	29.49	29.06	28.11	27.23

Table 21 - Companhia Brasileira de Distribuição sensitivity analysis

5.2.2 Relative Valuation

Companhia Brasileira de Distribuição's share price might be found also through the Relative Valuation. The multiples used are the same as for Ahold Delhaize, namely PE, 12M F EV/EBITDA and PS, as of the 31st of December 2021, and weighted according to market capitalization. Again, the 12-month forward EV/EBITDA gives the highest result, while Price-to-Sales the lowest. The average result is in line with the DCF model.

Price (Brazilian Reais)			
	PE	12M F EV/EBITDA	PS
Atacadão	9.4	6.11	0.39
Raia Drogasil	53.9	16.99	1.66
Sun Art Retail Group	8.8	2.11	0.30
Valor Holdings	11.6	5.03	0.16
Cencosud	8.5	6.11	0.35
Magazine Luiza	59.9	20.53	1.36
Weighted multiples	33.89	12.19	0.91
Weighted price	23.05	33.59	20.33
Average price	25.65		

Table 22 - Companhia Brasileira de Distribuição Relative Valuation

5.2.3 Valuation Summary

Both the DCF and the Relative Valuation models vary less than the 52-week high/low price²⁶. The former is not as much variable to changes in WACC or TV growth rate as Ahold Delhaize. Moreover, the stock price obtained in the DCF model of BRL28.60, slightly higher than the median 52-week price of BRL27.56, confirms that the market is currently undervaluing Companhia Brasileira de Distribuição. In fact, its current market price is BRL23.30²⁷. Again, the Relative Valuation confirms the company's DCF valuation around the 52-week high/low price's median. In fact, some analysts recommend a buy²⁸.

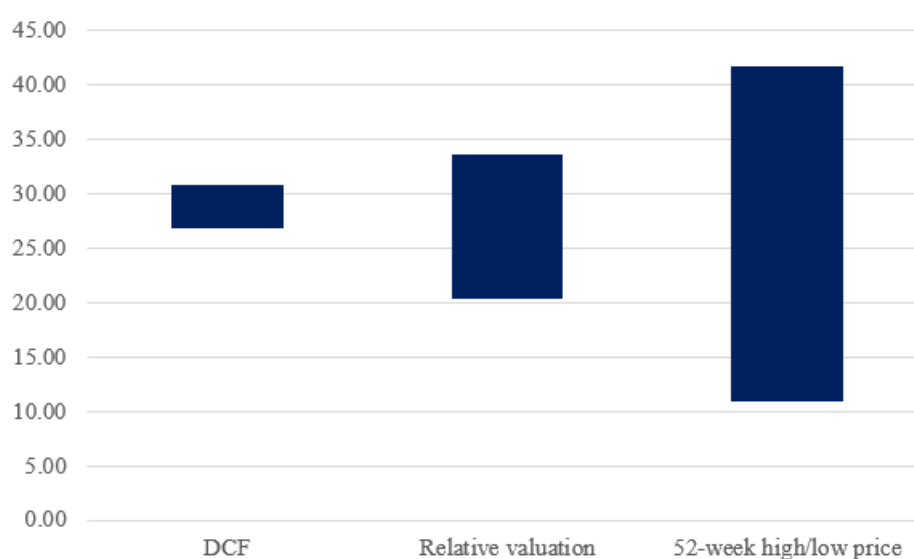


Figure 20 - Companhia Brasileira de Distribuição valuation summary

6. Stand-alone Business

6.1 Combined Firm without Synergies

The first step to estimate the correct price that Ahold Delhaize should pay for the acquisition requires to standardize the target's financial statements and convert them from BRL into Euro (EUR). The Purchasing Power Parity between Brazil and the Euro Zone was used to forecast the EUR/BRL exchange rates²⁹ through:

²⁶ Between the 28th of February 2021 and the 28th of February 2022.

²⁷ As of the 28th of February 2022.

²⁸ Thomson Reuters' recommendation in February 2022.

²⁹ The historical and expected European and Brazilian inflation rates were taken from Statista.

$$S_{BRL/EUR,t_1} = S_{BRL/EUR,t_0} \left(\frac{1+\pi_{BRL}}{1+\pi_{EUR}} \right) \quad (8)$$

Where:

$S_{BRL/EUR}$: Exchange rate EUR/BRL;

π_{BRL} : Brazilian inflation rate;

π_{EUR} : Euro Zone inflation rate.

	2021	2022E	2023E	2024E	2025E	2026E
π_{BRL}	8.30%	8.22%	5.08%	3.31%	3.30%	2.81%
π_{EUR}	2.50%	1.67%	1.38%	1.53%	1.61%	1.71%
$S_{BRL/EUR}$	6.38	6.75	7.18	7.44	7.57	7.70

Table 23 - Currency exchange rates²³

Companhia Brasileira de Distribuição's standardized WACC of 11.51% was computed as the one that makes the sum of the discounted FCFF equal to the standardized EV at spot, equal to €1,022³⁰. The value of the combined firm without synergies must be computed by adding the EV of the two companies. Again, the WACC of 3.40% was computed as the one that makes the sum of the discounted FCFF equal to the combined firm's EV²⁴.

6.2 Combined Firm with Synergies

The deal will provide access to new distribution channels which can be exploited both ways. Latin America's consumers have internalized the idea that products made in Europe have higher standards of production. Therefore, they are valued very highly. Similarly, online business could be proven to be an excellent opportunity to increase value for the firm's shareholders. Revenues enhancements typically amount 2-15% of the target's sales in the Consumer & Industrial Product industry in which the two companies operate (Deloitte, 2017). This is in line

³⁰ The equation was computed through the Solver Excel Add-in.

with the aforementioned advantages and therefore the median of 4% was used to forecast revenues enhancement.

The decrease in COGS due to increased power over suppliers represents between 1% and 3% of cost synergies as a percentage of combined costs in the Consumer & Industrial Product industry (Deloitte, 2017). The median of 1% was adopted in this valuation. In the first year SG&A is expected to experience an increase of 5% relative to the combined SG&A. In fact, despite Ahold Delhaize’s ability to evolve and reduce extraordinary expenses, demonstrated by its response to COVID-19, a cross-border deal, especially in a new market, increases the complexity of the combined firm.

Synergies seldom show up instantaneously, but they are more likely to develop gradually (Damodaran, 2005). Hence, revenues enhancement and cost savings are expected to present 15% of their value by each year, starting from zero.

Regarding financing synergies, given the size dissimilarities between the two firms and financing tools used, it is unlikely that the borrowing capacity of the merged firm will suffer substantial alterations. Moreover, even if in Brazil companies are allowed to claim a rate of return on book equity capital as a tax deduction (Damodaran, 2005), tax benefits were set to zero in order to keep a conservative approach.

EV without synergies	46173
EV with synergies	48204
% Change	4.40

Table 24 - Combined firm EV decomposition (million EUR)

6.3 Transaction

6.3.1 Premium

The price paid by Ahold Delhaize to acquire Companhia Brasileira de Distribuição should vary between the market value of the target’s equity³¹ and its sum with synergies net of acquisition fees. This corresponds to a range between €916 million and €2,883 million. However, the buyer

³¹ As of the 28th of February 2022.

should avoid overpaying, exploiting the target's market underperformance occurred in the last months.

In the global retail sector after 2010 buyers paid a decreasing average premium, starting from 30.9% and reaching 23.3% in 2018. Furthermore, between 2016 and 2018 the average premium was always below 30% in every macroeconomic region³² (Statista, 2022). Furthermore, despite the average median premium considering all sectors between 1990 and 2018 was 30.6%, after 2012 it was always below that (BCG, 2019).

Given the aforementioned considerations, the offered premium should be 30%, corresponding to a price of €1,191 million. This would be slightly above the median industry premium, reflecting post-crisis abnormal premia and ensuring the target shareholder's approval. It is in line also with similar deals occurred in 2021 in the retail sector. For instance, Cargill and Continental Grain Company paid a premium of 30.3% to acquire Sanderson Farms (Cargill, 2021).

6.3.2 Transaction Fees

In order to pursue the transaction, both parties must pay various fees. They should not focus on top-tier advisors, as the quality of the acquirer adviser has no significant impact on the probability of completion (McLaughlin, 1992; Walter et al., 2008). Hence, the cost involved are expected to be in line with the industry median.

The total fees should be in line with the M&A deals occurred in the F&GR industry in 2021. UTZ Brands and RW Garcia Holdings shared 3.64% in fees, Mondelez International and Hu Master Holdings shared 2.81%, and Hershey and Dot's Pretzels shared 1.82%. The first deal was finalized at \$56 million, the second at around \$250 million and the third at \$1.2 billion³³. As the deal prices increase the fees diminish. In fact, the smaller the transaction the higher the percentage fee should be (Class VI Partners, 2022). Hence, Ahold Delhaize and Companhia Brasileira de Distribuição are expected to pay fees of 2% of the deal's value, in proportion to the aforementioned transactions.

Finally, the M&A integration costs can range from 1% to 7% of the deal value. The 3.4% median for the consumer industry was used in this valuation (Ernst & Young, 2019). Hence, the total acquisition cost would correspond to €64 million, the 5.4% of the deal's value.

³² Including Americas, EMEA, Europe and Asia.

³³ Data retrieved from Thomson Reuters.

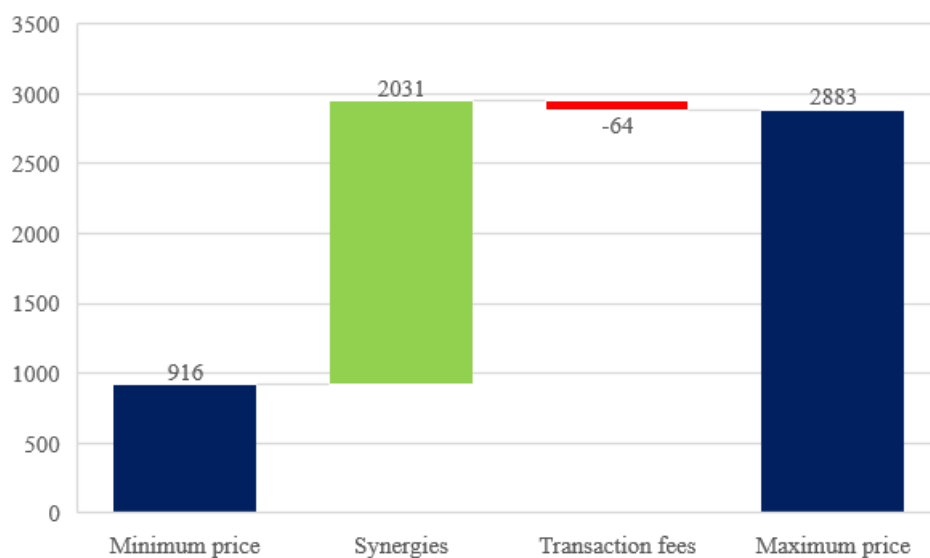


Figure 21 - Price range decomposition (in million EUR)

6.3.3 Transaction and Integration

Ahold Delhaize's offer price of €1,191 million would be likely accepted by Casino Group, Companhia Brasileira de Distribuição's major shareholder. In fact, in the last year³⁴ the company experienced a steady decrease in stock price, losing 40.14% of its initial value. Hence, its shareholders would likely accept an overvalued offer.

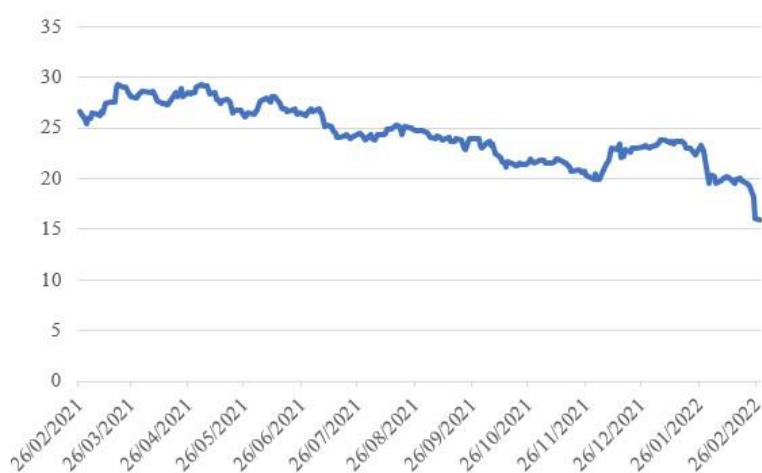


Figure 22 - Casino Group 52-week stock price³⁵

³⁴ Between the 28th of February 2021 and the 28th of February 2022.

³⁵ Data retrieved from Thomson Reuters, 2022.

Ahold Delhaize should pursue an all-cash friendly tender offer. In fact, in this way it would avoid the loss of value resulting in a stock-financed deal, and the abnormal premium and complexity caused by a hostile takeover. Companhia Brasileira de Distribuição's stakeholders would most likely accept the tender offer from Ahold Delhaize. In fact, the target would benefit from the bidder's resources and know-how, recovering from the downwards path experienced after the pandemic. Moreover, Ahold Delhaize shares the target's vision, and it was historically able to retrieve value from its acquisitions, resulting in other incentives to accept the offer.

In the integration period, Ahold Delhaize should support Companhia Brasileira de Distribuição's current management with locals that share the target's culture and that would help the company improve net margin and operating ratios. The buyer might also consider a slow management replacement. In fact, organizational climate and especially managerial redeployment are confirmed as a source of value (Colombo et al., 2007). The buyer should avoid a hostile takeover as it would need to pay for expensive advertisements and mailings to shareholders in addition to high-cost services of merchant banks and lawyers. Furthermore, it would avoid costly take-over defences, like poison pills, installed by the management prior to the take-over attempt (Schnitzer, 1996).

Since Ahold Delhaize's cash in 2020 and 2021 achieved its lowest levels, the deal should be financed by debt. In fact, it is expected that the company may use its cash reserves to further foster inorganic growth or to respond to post-pandemic needs. An increase in public debt of 24.22% would not compromise the company's capital structure, as it would lead to a new debt-to-equity ratio of 0.21.

7. Limitations and Alternative Targets

This valuation considers synergies in line with the historical sectoral medians. More specific calculations would allow to achieve around the predicted synergies, resulting in lower integration costs (Steigenberger, 2017). However, even if the revenues enhancement and cost savings might differ from the target levels, the premium paid by the buyer would probably still be lower than the predicted synergies, due to the current low target company's valuation. Furthermore, the conservative approach used, with operating synergies showing gradually, increasing SG&A and no financial synergies, would further justify the deal.

Additional limitations might be considered for the valuation models. For instance, the DCF approach assumed a TV growth rate of 1%. However, as shown by the sensitivity analyses, the variations in share price are not large, especially for Companhia Brasileira de Distribuição.

Furthermore, its valuation would be different if financial statements before 2016 were considered. In fact, the majority of the projections depends on historical data. However, from that year the company started to gain investors' interest, since before 2016 the stock volumes were so low that the company kept the same price for many months. Finally, the Relative Valuation carries only a supporting function for the DCF model, as it is highly biased by the capital structure or single companies largely over or undervalued.

Finally, the war occurring in Ukraine may escalate in the Eastern or even Western Europe, causing economic distress. Ahold Delhaize owns brands located in Moldova and Romania, bordering Ukraine, and Serbia, whose population is supporting Russia (The New York Times, 2022). This might increase CRP and WACC, reduce revenues, or increase operating expenses. However, the risk is limited as the company's proportion of stores in these countries is 23.08%, and the standardized proportion of revenues is even lower due to the unfavourable exchange rates (Ahold, Delhaize, 2022).

Ahold Delhaize may also consider other targets. Jerónimo Martins would allow to further expand in Portugal and in Eastern Europe. However, after the invasion of Ukraine from Russia on the 24th of February 2022, the buyer should not focus in this area. Furthermore, the minimum price that Ahold Delhaize should pay is €12,227 million³⁶, a price that would highly affect its capital structure and cause a possible downgrade from rating agencies.

Another possible target may be Soriana. However, the Mexican company has a market capitalization of €1,686 million³⁶. Hence, the expense would risk worsening the buyer's capital structure. Furthermore, Walmart keeps the market leadership, and it would be hardly won. Finally, Soriana would provide access only to the Mexican market, as the company is not expanded internationally.

8. Conclusion

Strong market saturation in Europe and the US would be an incentive for Ahold Delhaize to aim to South America. As a matter of fact, the region, especially Brazil, is projected to achieve the largest growth in terms of GDP and market value of F&GR and OR. Ahold Delhaize's financial health enables the company to finance the acquisition through debt without dangerously increasing the leverage ratios and leading to a worsened credit rating. The growing investments of Companhia Brasileira de Distribuição into digital innovation makes it a suitable

³⁶ Market capitalization as of the 28th of February 2022.

target for Ahold Delhaize as the buyer is looking for companies that are investing in automation and e-commerce. Furthermore, the Brazilian company's private labels would guarantee the customer loyalty that Ahold Delhaize is afraid to lose.

The poor performance achieved by Companhia Brasileira de Distribuição in the last years may discourage potential buyers. However, as shown by the company's ratios, the major cause of distress has been on the operational side. In fact, the firm is able to generate revenues and obtain a gross margin in line with industry peers. However, weak operating ratios lower its performance. Hence, Ahold Delhaize may benefit from the company's current undervaluation and buy a potentially profitable firm at a lower price. The DCF model overvalues Ahold Delhaize. In fact, the price obtained for Ahold Delhaize is €35.72, while the median 52-week one is €27.81. On the other hand, the resulting price for Companhia Brasileira de Distribuição is BRL28.60, while the median 52-week one is BRL27.56. However, the current market price is BRL23.3, demonstrating the present target's undervaluation. Finally, the Relative Valuation confirms the DCF model's results.

Ahold Delhaize should not overpay the target. In fact, despite the deal price ranging between €916 million and €2,883 million, the buyer should spend €1,191 million, which represents a 30% premium over the market capitalization as of the 28th of February 2022. This value would be slightly above the sectoral median, ensuring Companhia Brasileira de Distribuição's acceptance and at the same time allowing Ahold Delhaize to exploit synergies as much as possible. Although the buyer may consider different targets, the chosen company would lead to the largest benefits, enabling it to enter a new market with a consolidated position and without compromising the existing capital structure. Another incentive to conclude the deal is the worsening performance of the target's major shareholder Casino Group, which could stand to benefit from an overvalued offer. In conclusion, despite synergies being possibly worse than those forecasted, the comparatively low offered premium relative to potential benefits consists in the necessary requirement to make this acquisition a justified endeavour.

Appendix

Table 1 - Ahold Delhaize historical income statement (in million EUR)

		2017	2018	2019	2020	2021
Revenues	F&GR	60514	59974	62767	69189	67897
	OR	2376	2817	3493	5547	7704
	Total	62890	62791	66260	74736	75601
	% Change		-0.16	5.52	12.79	1.16
COGS		46121	45838	48200	54160	54916
	COGS / Revenues	73.34%	73.00%	72.74%	72.47%	72.64%
	% Change		-0.61%	5.15%	12.37%	1.40%
Gross Profit		16769	16953	18060	20576	20685
	% Change		1.10	6.53	13.93	0.53
SG&A		14544	14330	15398	18855	17896
	SG&A / Revenues	23.13%	22.82%	23.24%	25.23%	23.67%
OOE (OOI)		0	-34	35	-470	-531
EBIT		2225	2657	2627	2191	3320
	% Change		19.42	-1.13	-16.60	51.53
Interest Expense		294	566	541	495	518
NI&II		20	89	73	42	22
Other Income (Expense)		-23	-44	-25	-32	-21
EBT		1928	2136	2134	1706	2803
			10.79	-0.09	-20.06	64.30
Tax Expenses		146	373	417	331	591
Tax Rate		7.57%	17.46%	19.54%	19.40%	21.08%
MI&EI		35	17	49	22	33
Net Income		1817	1780	1766	1397	2245
	% Change		-2.04	-0.79	-20.89	60.70

Table 2 - Ahold Delhaize forecasted income statement (in million EUR)

		2021	2022E	2023E	2024E	2025E	2026E
Revenues	F&GR	67897	71380	75197	79269	83576	88235
	OR	7704	8786	10007	11039	12090	13016
	Total	75601	80167	85204	90307	95666	101251
	% Change	1.16	6.04	6.28	5.99	5.93	5.84
COGS		54916	58392	61976	65640	69524	73625
	COGS / Revenues	72.64%	72.84%	72.74%	72.69%	72.67%	72.71%
	% Change	1.40	6.33	6.14	5.91	5.92	5.90
Gross Profit		20685	21775	23228	24667	26142	27627
	% Change	0.53	5.27	6.67	6.19	5.98	5.68
SG&A		17896	18933	20207	21578	22984	24083
	SG&A / Revenues	23.67%	23.62%	23.72%	23.89%	24.03%	23.78%
OOE (OOD)		-531	-500.5	-322	-250	-200	-117
EBIT		3320	3342	3344	3339	3358	3661
	% Change	51.53	0.67	0.04	-0.15	0.57	9.04
Interest Expense		518	618	619	630	650	672
NI&II		22	49	55	48	43	44
Other Income (Expense)		-21	-29	-30	-27	-28	-27
EBT		2803	2745	2749	2730	2723	3006
	% Change		-2.08	0.16	-0.70	-0.26	10.40
Tax Expenses		591	593	613	630	651	741
Tax Rate		21.08%	21.55%	22.32%	23.10%	23.87%	24.64%
MI&EI		33	31	31	31	31	31
Net Income		2245	2184	2167	2130	2104	2296
	% Change	60.70	-2.45	-1.12	-1.69	-1.06	9.06

Table 3 - Ahold Delhaize historical balance sheet (in million EUR)

	2017	2018	2019	2020	2021
Cash & Cash Equivalents	4581	3122	3717	2933	2993
Short Term Investments	238	559	317	360	356
Trade Receivables	1760	1801	1944	2033	2103
Prepaid Expenses	300	217	178	337	387
Inventories	3077	3196	3347	3245	3728
Other Current Assets	252	582	384	380	373
Total Current Assets	9970	8918	9570	8928	9584
Net PP&E	10689	17073	17827	18151	20848
Net Goodwill	6860	7094	7233	6831	7641
Non-Current Net Intangibles	4774	4719	4827	4734	5129
Non-Current Investments	1017	1735	1686	1551	1651
Non-Current Note Receivable	55	52	44	42	423
Other Non-Current Assets	506	239	303	455	436
Total Non-Current Assets	23901	30912	31920	31764	36128
Total Assets	33871	39830	41490	40692	45712
Trade Payables	5277	5815	6311	6795	7563
Current Debt	2077	2077	3119	2248	2350
Accrued Expenses	2105	2284	2375	2711	2996
Other Current Liabilities	846	767	785	1058	1270
Total Current Liabilities	10305	10943	12590	12812	14179
Non-Current Debt	5174	12408	12325	12305	14739
Deferred Taxes	1105	682	786	664	746
Other Non-Current Liabilities	2117	1592	1706	2479	2327
Total Non-Current Liabilities	8396	14682	14817	15448	17812
Total Liabilities	18701	25625	27407	28260	31991
Common Stock	12	12	11	11	10
Additional Paid-in Capital	15175	13999	12246	12246	10988
Retained Earnings (Deficit)	542	276	1670	1016	2799
Other Equity	-559	-82	156	-841	-76
Total Equity	15170	14205	14083	12432	13721
Total Liabilities and Equity	33871	39830	41490	40692	45712

Table 4 - Ahold Delhaize historical cash-flow statement (in million EUR)

	2017	2018	2019	2020	2021
Net Income	1817	1797	1767	1397	2246
D&A	1857	2660	2848	2892	3068
Non-Cash Items	428	852	893	789	1047
Changes in Working Capital	-407	49	-59	1265	-893
Cash from Operating Activities	3695	5358	5449	6343	5468
CAPEX	-1698	-1780	-2218	-2659	-2371
Other Investing Cash Flow Items	288	-32	531	184	-263
Cash from Investing Activities	-1410	-1812	-1687	-2475	-2634
Financing Cash Flow Items	-41	-263	-210	-153	-144
Cash Dividends Paid	-720	-757	-1114	-1026	-856
Issuance (Retirement) of Stock	-992	-2003	-1002	-1001	-994
Issuance (Retirement) of Debt	295	-2110	-901	-2071	-1058
Cash from Financing Activities	-1458	-5133	-3227	-4251	-3052
Foreign Exchange Effects	-275	155	56	-408	276
Net Change in Cash	552	-1432	591	-791	58
Free Cash Flow	1997	3578	3231	3684	3097

Table 5 - Companhia Brasileira de Distribuição historical income statement (in million BRL)

	2015	2016	2017	2018	2019	2020	2021
Revenues	37198	41454	44634	49388	28838	51253	51291
% Change		11.44	7.67	10.65	-41.61	77.73	0.07
COGS	28123	31933	33646	37779	21225	37504	38341
COGS / Revenues	75.60%	77.03%	75.38%	76.49%	73.60%	73.17%	74.75%
% Change		13.55	5.36	12.28	-43.82	76.70	2.23
Gross Profit	9075	9521	10988	11609	7613	13749	12950
% Change		4.91	15.41	5.65	-34.42	80.60	-5.81
SG&A	6746	7491	8276	7783	5856	9717	9492
SG&A / Revenues	18.14%	18.07%	18.54%	15.76%	20.31%	18.96%	18.51%
D&A	650	707	779	1202	1028	1804	1853
D&A / Net PP&E	6.26%	7.70%	5.86%	8.55%	4.23%	9.07%	11.34%
OOE (OOI)	67	467	451	-6	226	-401	-85
EBIT	1612	856	1482	2630	503	2629	1690
% Change		-46.90	73.13	77.46	-80.87	422.66	-35.72
Interest Expense	698	705	498	977	865	1116	1235
NI&II	-213	-174	6	116	83	484	13
Other Income (Expense)	143	-24	-238	-200	-89	-96	-99
EBT	844	-47	752	1569	-368	1901	369
% Change		-105.57	NA	108.64	-123.45	NA	-80.59
Tax Expenses	229	24	297	413	-95	662	-594
Tax Rate	27.13%	-51.06%	39.49%	26.32%	25.82%	34.82%	-160.98%
MI&EI	-350	-411	125	-7	1063	940	-161
Net Income	265	-482	580	1149	790	2179	802
% Change		-281.89	NA	98.10	-31.24	175.82	-63.19

Table 6 - Companhia Brasileira de Distribuição forecasted income statement (in million BRL)

	2021	2022E	2023E	2024E	2025E	2026E
Revenues	51291	56400	63090	68685	74843	82263
% Change	0.07	9.96	11.86	8.87	8.97	9.91
COGS	38341	42384	47370	51380	55925	61261
COGS / Revenues	74.75%	75.15%	75.08%	74.81%	74.72%	74.47%
% Change		10.54	11.76	8.47	8.85	9.54
Gross Profit	12950	14016	15720	17305	18918	21002
% Change	-5.81	8.23	12.15	10.09	9.32	11.01
SG&A	9492	10149	11338	12333	13365	14978
SG&A / Revenues	18.51%	18.00%	17.97%	17.96%	17.86%	18.21%
D&A	1853	2154	2427	2700	2973	3246
D&A / Net PP&E	11.34%	7.57%	7.76%	7.77%	8.04%	7.97%
OOE (OOI)	-85	-87	-71	4	55	56
EBIT	1690	1800	2025	2269	2525	2722
% Change	-35.72	6.48	12.52	12.03	11.30	7.80
Interest Expense	1235	1271	1371	1471	1571	1671
NI&II	13	45	82	118	134	137
Other Income (Expense)	-99	-86	-119	-132	-117	-106
EBT	369	488	617	784	972	1083
% Change	-80.59	32.21	26.55	27.00	23.90	11.47
Tax Expenses	-594	150	193	249	313	354
Tax Rate	-160.98%	30.72%	31.22%	31.72%	32.22%	32.72%
MI&EI	-161	23	85	167	174	205
Net Income	802	361	509	703	833	933
% Change	-63.19	-55.03	41.24	37.96	18.53	12.05

Table 7 - Companhia Brasileira de Distribuição historical balance sheet (in million BRL)

	2015	2016	2017	2018	2019	2020	2021
Cash & Cash Equivalents	11015	5112	3792	4369	7954	8711	8274
Trade Receivables	4665	1343	1481	1365	2800	2034	2884
Prepaid Expenses	157	97	0	0	0	0	0
Inventories	8965	4641	4822	5909	8631	6536	5257
Other Current Assets	158	20458	26877	29206	583	360	1457
Total Current Assets	24960	31651	36972	40849	19968	17641	17872
Net PP&E	10377	9182	13292	14052	24290	19888	16344
Net Goodwill	2272	1107	1107	1148	1315	750	729
Non-Current Net Intangibles	4271	801	771	1670	4921	5414	5024
Non-Current Investments	407	339	177	223	3660	4889	4508
Non-Current Note Receivable	3499	1261	2494	2911	2999	3930	3486
Other Non-Current Assets	1455	876	1049	1135	1322	783	1480
Total Non-Current Assets	22281	13566	18890	21139	38507	35654	31571
Total Assets	47241	45217	55862	61988	58475	53295	49443
Trade Payables	15508	7232	8128	9246	14887	11424	10078
Current Debt	3814	2957	1645	2488	4425	3256	2365
Accrued Expenses	1853	868	941	1056	1511	1482	1388
Other Current Liabilities	4098	16525	22681	24797	2312	2321	2719
Total Current Liabilities	25273	27582	33395	37587	23135	18483	16550
Non-Current Debt	4164	2912	8015	8672	18436	14269	12805
Deferred Taxes	1184	317	347	523	1195	1034	935
Other Non-Current Liabilities	6266	4546	4721	4972	4769	5814	5504
Total Non-Current Liabilities	11614	7775	13083	14167	24400	21117	19244
Total Liabilities	36887	35357	46478	51754	47535	39600	35794
Common Stock	6806	6811	6822	6825	6857	5434	5859
Retained Earnings (Deficit)	3602	3140	2705	3572	4057	5735	6003
Other Equity	-54	-91	-143	-163	26	2526	1787
Total Equity	10354	9860	9384	10234	10940	13695	13649
Total Liabilities and Equity	47241	45217	55862	61988	58475	53295	49443

Table 8 - Companhia Brasileira de Distribuição historical cash-flow statement (in million BRL)

	2015	2016	2017	2018	2019	2020	2021
Net Income	-276	-1076	811	1284	836	2326	960
D&A	1102	1089	833	1322	1559	2564	2117
Deferred Taxes	135	-113	-35	235	240	69	-676
Non-Cash Items	2678	2690	1582	2182	1210	-792	135
Changes in Working Capital	993	-3894	-1296	-756	-2710	575	192
Cash from Operating Activities	4632	-1304	1895	4267	1135	4742	2728
CAPEX	-1985	-1544	-1713	-2364	-2782	-2490	-1267
Other Investing Cash Flow Items	133	-476	121	467	-484	-1801	1190
Cash from Investing Activities	-1852	-2020	-1592	-1897	-3266	-4291	-77
Financing Cash Flow Items	-78	-79	-8	-2	-24	5	6
Cash Dividends Paid	-434	-4	-101	-351	-268	-339	-780
Issuance (Retirement) of Stock	14	5	11	3	32	9	9
Issuance (Retirement) of Debt	-2508	1553	-1996	-1291	2154	44	-1978
Cash from Financing Activities	-3006	1475	-2094	-1641	1894	-281	-2743
Foreign Exchange Effects	92	-24	0	0	111	587	-345
Net Change in Cash	-134	-1873	-1791	729	-126	757	-437
Free Cash Flow	2647	-2848	182	1903	-1647	2252	1461

Table 9 - Ahold Delhaize forecasted working capital (in million EUR)

	2021	2022E	2023E	2024E	2025E	2026E
Cash & Cash Equivalents	2993	2963	3152	3010	3029	3039
Short Term Investments	356	398	358	368	370	373
Trade Receivables	2103	2261	2407	2543	2672	2842
Prepaid Expenses	387	284	281	293	316	312
Inventories	3728	3724	3859	3994	4129	4264
Other Current Assets	373	301	342	343	328	338
Total Current Assets	9584	10076	10508	10652	10926	11259
Trade Payables	7563	8142	7500	7203	6890	5546
Current Debt	2350	2572	2390	2437	2467	2431
Accrued Expenses	2996	2592	2668	2742	2749	2688
Other Current Liabilities	1270	970	1021	1080	1085	1039
Total Current Liabilities	14179	14276	13579	13462	13191	11704

Table 10 - Companhia Brasileira de Distribuição forecasted working capital (in million BRL)

	2021	2022E	2023E	2024E	2025E	2026E
Cash & Cash Equivalents	8274	8313	6646	6646	6866	7222
Trade Receivables	2884	3317	3287	3796	4480	4414
Prepaid Expenses	0	0	0	0	0	0
Inventories	5257	6412	7167	7773	8461	9268
Other Current Assets	1457	367	367	367	367	367
Total Current Assets	17872	18409	17467	18582	20174	21272
Trade Payables	10078	10929	10275	10710	11078	11340
Current Debt	2365	2993	2876	2864	3038	3117
Accrued Expenses	1388	1300	1221	1271	1318	1356
Other Current Liabilities	2719	2863	2554	2614	2687	2679
Total Current Liabilities	16550	18084	16925	17459	18122	18492

Table 11 - Companhia Brasileira de Distribuição standardized financials (EUR)

FCFF (in million)							
	2021	2022E	2023E	2024E	2025E	2026E	TV
EBIT	265	267	282	305	333	354	
D&A	332	229	223	222	237	242	
Working Capital	207	48	76	151	271	361	
Δ Working Capital	339	-148	30	78	123	95	
CAPEX	198	300	282	281	284	275	
FCFF	617	262	105	71	56	110	1061
<hr/>							
EV (in million)	1022						
Net Debt (in million)	-184						
Equity (in million)	1205						
Shares outstanding (in million)	269						
<hr/>							
Share price	4.48						

Table 12 – Combined firm without synergy EBIT decomposition (in million EUR)

	2022E	2023E	2024E	2025E	2026E
Revenues	88527	93991	99536	105549	111936
% Change	5.85	6.17	5.90	6.04	6.05
COGS	64674	68573	72544	76909	81582
% Change	6.16	6.03	5.79	6.02	6.08
Gross Profit	88527	93991	99536	105549	111936
% Change	5.02	6.56	6.19	6.10	5.99
SG&A	20438	21786	23236	24749	26028
D&A	319	338	363	393	422
OOE (OOI)	-513	-332	-249	-193	-110
EBIT	3609	3626	3643	3691	4015
% Change	0.68	0.46	0.49	1.31	8.77

Table 13 – Combined firm without synergy FCFF decomposition (in million EUR)

	2022E	2023E	2024E	2025E	2026E	TV
EBIT	3609	3626	3643	3691	4015	
D&A	3642	3837	4024	4313	4536	
Working Capital	-4151	-2995	-2658	-1994	-84	
Δ Working Capital	248	1159	339	667	1915	
CAPEX	3181	3480	3815	4180	4560	
FCFF	3020	1990	2646	2249	1058	44155

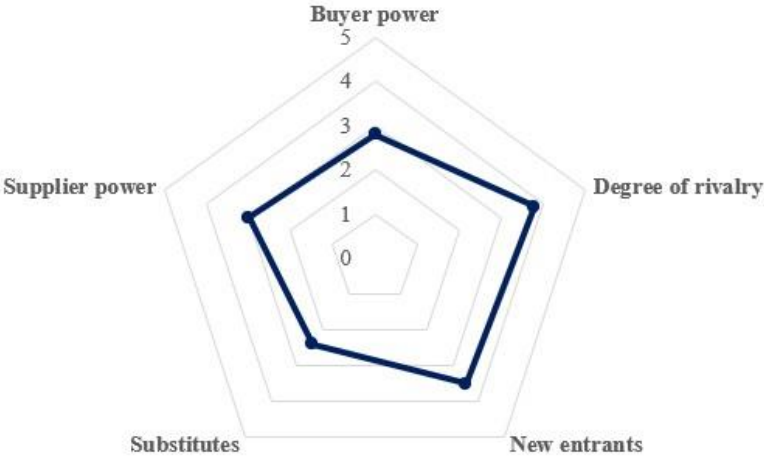
Table 14 – Combined firm with synergy EBIT decomposition (in million EUR)

	2022E	2023E	2024E	2025E	2026E
Revenues	88527	94043	99647	105727	112192
% Change	5.85	6.23	5.96	6.10	6.12
COGS	64674	68563	72522	76874	81533
% Change	6.16	6.01	5.77	6.00	6.06
Gross Profit	23853	25481	27125	28853	30660
% Change	5.02	6.82	6.45	6.37	6.26
SG&A	21460	21786	23236	24749	26028
D&A	319	338	363	393	422
OOE (OOI)	-513	-332	-249	-193	-110
EBIT	2587	3689	3776	3904	4320
% Change	-27.83	42.57	2.37	3.38	10.67

Table 15 – Combined firm with synergy FCFF decomposition (in million EUR)

	2022E	2023E	2024E	2025E	2026E	TV
EBIT	2587	3689	3776	3904	4320	
D&A	3642	3837	4024	4313	4536	
Working Capital	-4151	-2995	-2658	-1994	-84	
Δ Working Capital	248	1159	339	667	1915	
CAPEX	3181	3480	3815	4180	4560	
FCFF	2238	2056	2766	2431	1309	46896

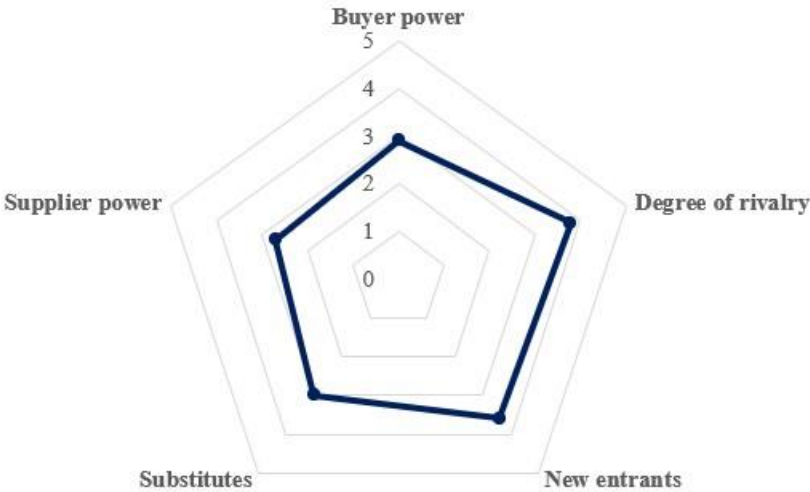
Figure 1 - F&GR Porter’s five forces



The ability to gain wide scale is of critical importance in a sector like F&GR, that is characterized by narrow profit margins. This favours the existence of few large players. However, rivalry is still strong due to the similar product offering and price-sensitive consumers easily switching. This, together with a lack of switching costs and the limitations in product differentiation, lead to buyer mobility, which forces larger retailers to maintain attractive pricing schemes. Players are forced to adapt to fast changing consumer preferences. Nonetheless, buyer power is moderate, as market leaders should be able to position the desirable product at a price suitable for customers and manufacturers. The main suppliers to this market are producers of base ingredients or materials, manufacturers of food and grocery products, as well as distributors or wholesalers of food and grocery products. Their power is moderate, as they vary considerably due to the wide variety of products available in the market. Different factors that consider products’ value chains and the size of the retailer have a crucial impact on supplier power. The bargaining power of suppliers is crucially impacted by the size of the retailer they are dealing with. In fact, with firms holding on key distribution channels, the leading retailers can dominate negotiations with certain suppliers. On the other hand, suppliers that can differentiate their products can wield some power over retailers. Potential new entrants may struggle to compete with the aggressive marketing and pricing policies of the existing players. However, relatively low entry and exit costs, the emergence of thriving health and ethical niches which are sheltered from direct competition from current players, and strong historical growth offer attractive prospects. There are few direct substitutes that threaten the

food and grocery retail market with regards to consumers' substitution of some products available in that market, such as food service and subsistence farming. However, the benefits and the costs of such alternatives are non-competitive in most cases (Marketline, 2021a).

Figure 2 - OR Porter's five forces



Rivalry remains strong in the OR industry, due to the large number of players. Similar offerings and a lack of switching costs for buyers lead incumbents to constantly strive to attract and maintain customers. Moreover, the lack of geographical boundaries within the OR industry further strengthens rivalry as the marketplace is essentially international. Rising consumer awareness over prices and different products raise the power of buyers in this sector, despite it keeps a moderate level. The penetration of e-commerce continues to increase in correlation with the Internet development and digital literacy, with a shift in consumers' habits as online shopping is comparatively easier, convenient, and price competitive. The expansion of e-commerce has not only favoured online retailers, but it has also enhanced the backward integration of consumers as sellers against retailers. Suppliers of differentiated products tend to experience stronger power than those supplying commodities. Most suppliers may sell their products to different retailers, but the loss of revenues from a very large player could significantly affect a supplier's sales, while the reliance of retailers on any supplier is reduced. However, the likelihood of suppliers forward integrating into the OR sector is increased, placing significant pressure on online retailers. Notably, suppliers of delivery services have strong

bargaining power, as third-party logistics services are indispensable for smaller companies; only large retailers have their own in-house delivery service. Entry to the OR sector may be achieved by brand-new companies or by existing brick-and-mortar retailers diversifying their operations to include internet retail. New entrants are enticed to the sector by rapid growth and low fixed costs. Barriers to entry, especially for capital investment, are weak and entering into the OR industry can be a good way for an already established brick-and-mortar retailer to boost sales and gain a presence in other markets. In many countries, trade regulations have been adjusted accordingly to incorporate OR sales, including the execution of e-transactions, consumer protection, privacy protection, and anti-cybercrime laws. Substitutes exist in terms of traditional brick-and-mortar retail outlets. Nevertheless, as there has been a shift towards large retailers becoming increasingly multichannel, brick-and-mortar retail is not considered a direct substitution threat. As a matter of fact, the substitution threat applies only for retailers that operate exclusively online (Marketline, 2021b).

Figure 3 - Ahold Delhaize 52-week stock price

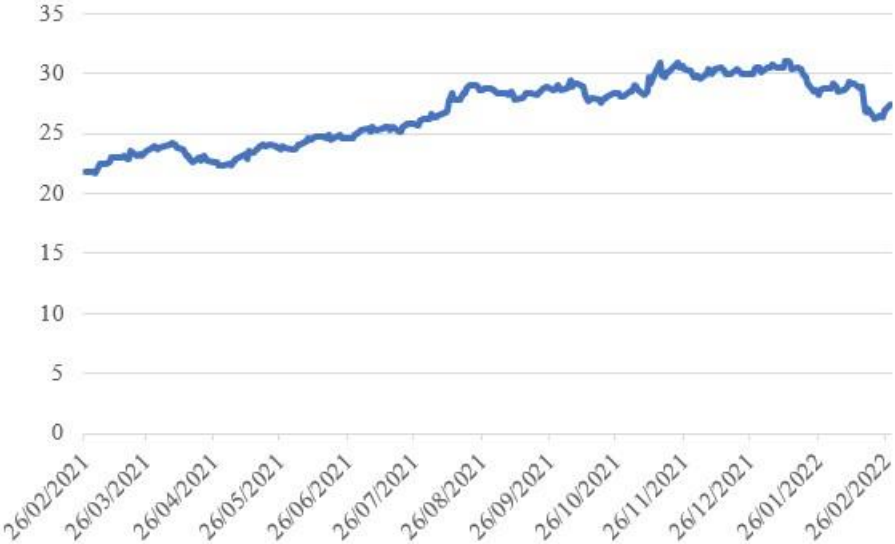
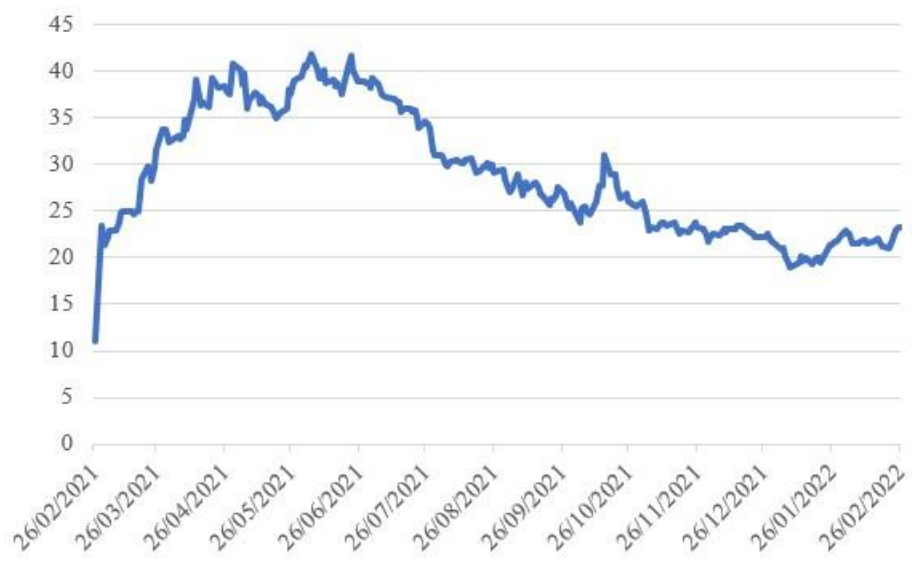


Figure 4 - Companhia Brasileira de Distribuição 52-week stock price



References

Ahold Delhaize (2018). Annual Report 2017.

Ahold Delhaize (2019). Annual Report 2018.

Ahold Delhaize (2020). Annual Report 2019.

Ahold Delhaize (2021). Annual Report 2020.

Ahold Delhaize (2022). Annual Report 2021.

Amihud, Y., & Lev, B. (1981). Risk reduction as a managerial motive for conglomerate mergers. *The bell journal of economics*, 605-617.

Atmar, H., Begley, S., Fuerst, J., Rickert, S., Sletatt, R., & Tjon Pian Gi, M. (2020). *The next normal: Retail M&A and partnerships after COVID-19*. Mc Kinsey& Company.

Barua, A., Bachman, D., & Gunnion, L. (2021). *Consumer spending forecasts: Services find their way back after a forgettable 2020*. Deloitte.

Brown, D. T., & Ryngaert, M. D. (1991). The mode of acquisition in takeovers: Taxes and asymmetric information. *The Journal of Finance*, 46(2), 653-669.

Bruner, R. F. (2005). *Deals from hell: M&A lessons that rise above the ashes*.

BCG (2019). *The 2019 M&A Report: Downturns Are a Better Time for Deal Hunting*.

Berkovitch, E., & Narayanan, M. P. (1993). Motives for takeovers: An empirical investigation. *Journal of Financial and Quantitative analysis*, 28(3), 347-362.

Bharadwaj, A., & Shivdasani, A. (2003). Valuation effects of bank financing in acquisitions. *Journal of Financial Economics*, 67(1), 113-148.

Bruner, R. (2004). Where M&A pays and where it strays: A survey of the research. *Journal of Applied Corporate Finance*, 16(4), 63-76.

Cargill (2021). *Cargill and Continental Grain Company to Acquire Sanderson Farms for \$203 per Share in Cash and Create a Leading U.S. Poultry Company*.

Cartwright, S., & Cooper, C. L. (1993). The psychological impact of merger and acquisition on the individual: A study of building society managers. *Human relations*, 46(3), 327-347.

Ceausescu, A. (2008). Merger and acquisition-a strategic option for companies. VOL. VIII PART I, 8(1), 59-64.

Chakrabarti, R., Gupta-Mukherjee, S., & Jayaraman, N. (2009). Mars–Venus marriages: Culture and cross-border M&A. *Journal of International Business Studies*, 40(2), 216-236.

Chatterjee, S. (1986). Types of synergy and economic value: The impact of acquisitions on merging and rival firms. *Strategic management journal*, 7(2), 119-139.

Class VI Partners (2022). *The Mysteries of M&A Fees*.

CNN (2022). *Koninklijke Ahold Delhaize NV*.

Colombo, G., Conca, V., Buongiorno, M., & Gnan, L. (2007). Integrating cross-border acquisitions: A process-oriented approach. *Long range planning*, 40(2), 202-222.

Companhia Brasileira de Distribuição (2022). *Annual Report 2021*.

Damodaran, A. (1999). *Estimating risk parameters*.

Damodaran, A. (2003). *Country Risk and Company Exposure: Theory and Practice*. *Journal of Applied Finance*, 13(2),.

Damodaran, A. (2005). *The value of synergy*.

Damodaran, A. (2006). *Damodaran on valuation: security analysis for investment and corporate finance*. John Wiley & Sons, 16-21.

Damodaran, A. (2008). *What is the risk-free rate? A Search for the Basic Building Block*. *A Search for the Basic Building Block* (December 14, 2008).

Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset* (Vol. 666). John Wiley & Sons.

Damodaran Online (2022a). *Levered and unlevered betas by industry*.

Damodaran Online (2022b). *Risk premiums for other markets*.

Damodaran Online (2022c). *Marginal tax rate by country*.

Damodaran Online (2022d). *Tax rate by industry*.

Deloitte (2017). *Unlocking the full potential of M&A*.

- DePamphilis, D. (2019). *Mergers, acquisitions, and other restructuring activities: An integrated approach to process, tools, cases, and solutions*. Academic Press.
- Dunning, J. H., & Lundan, S. M. (2008). *Multinational enterprises and the global economy*. Edward Elgar Publishing.
- Dutta, S., Saadi, S., & Zhu, P. (2013). Does payment method matter in cross-border acquisitions?. *International Review of Economics & Finance*, 25, 91-107.
- Ernst & Young (2019). *Four tips for estimating one-time M&A integration costs*.
- Faccio, M., & Masulis, R. W. (2005). The choice of payment method in European mergers and acquisitions. *The Journal of Finance*, 60(3), 1345-1388.
- Fama, E. F. (1970). Efficient capital markets: a review of theory and empirical work. *The Journal of finance*, 25(2).
- FAO (2022). *World Food Situation*.
- Fernandez, P. (2001). Valuation using multiples. How do analysts reach their conclusions. *IESE Business School*, 1, 1-13.
- Ficery, K., Herd, T., & Pursche, B. (2007). Where has all the synergy gone? The M&A puzzle. *Journal of Business Strategy*.
- Fishman, M. J. (1989). Preemptive bidding and the role of the medium of exchange in acquisitions. *The Journal of Finance*, 44(1), 41-57.
- Gates, S., & Very, P. (2003). Measuring performance during M&A integration. *Long Range Planning*, 36(2), 167-185.
- Gedajlovic, E. R., & Shapiro, D. M. (1998). Management and ownership effects: Evidence from five countries. *Strategic Management Journal*, 19(6), 533-553.
- Goedhart, M., Koller, T., & Wessels, D. (2005). The right role for multiples in valuation. *McKinsey on Finance*, 15, 7-11.
- Goold, M., & Campbell, A. (1998). Desperately seeking synergy. *Harvard Business Review*, 76, 131–143.
- Greve, H. R. (2008). A behavioral theory of firm growth: Sequential attention to size and performance goals. *Academy of Management Journal*, 51(3), 476-494.

Gupta, P. K. (2012). Mergers and acquisitions (M&A): The strategic concepts for the nuptials of corporate sector. *Innovative Journal of Business and Management*, 1(4), 60-68.

Hampton, J.J. (1989). *Financial Decision Making: Concepts, Problems, and Cases*, 4th edn. New Jersey: Prentice-Hall.

Harford, J., Klasa, S., & Walcott, N. (2009). Do firms have leverage targets? Evidence from acquisitions. *Journal of Financial Economics*, 93(1), 1-14.

Hazelkorn, T., Zenner, M., & Shivdasani, A. (2004). Creating value with mergers and acquisitions. *Journal of Applied Corporate Finance*, 16(2-3), 81-90.

Hijzen, A., Görg, H., & Manchin, M. (2008). Cross-border mergers and acquisitions and the role of trade costs. *European Economic Review*, 52(5), 849-866.

Hitchcock, L., & Chickermane, N. (2017). *Cross-border M&A: Springboard to global growth*. M&A Institute.

Hitt, M. A., Ireland, R. D., & Harrison, J. S. (2001). Mergers and acquisitions: A value creating or value destroying strategy. *The Blackwell handbook of strategic management*, 384409.

Ilzkovitz, F., & Meiklejohn, R. (2003). European Merger Control: do we need an efficiency defence?. *Journal of Industry, Competition and Trade*, 3(1), 57-85.

International Monetary Fund (2021). *World economic outlook*.

International Monetary Fund (2022). *Rising caseloads, a disrupted recovery, and higher inflation*.

Jensen, M. C. (1984). Takeovers: Folklore and science. *Harvard Business Review*, November-December.

Kaplan, S. N., & Ruback, R. S. (1996). The market pricing of cash flow forecasts: Discounted cash flow vs. the method of "comparables". *Journal of Applied Corporate Finance*, 8(4), 45-60.

Keloharju, M., Linnainmaa, J. T., & Nyberg, P. M. (2021). *Do You Really Know Your Cost of Capital?*. Tuck School of Business. Working Paper Forthcoming.

Kim, J. Y., Haleblan, J., & Finkelstein, S. (2011). When firms are desperate to grow via acquisition: The effect of growth patterns and acquisition experience on acquisition premiums. *Administrative science quarterly*, 56(1), 26-60.

Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: measuring and managing the value of companies* (Vol. 499). John Wiley & Sons.

Larsson, R., & Finkelstein, S. (1999). Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization. *Organization science*, 10(1), 1-26.

Lee, H. S., Degtereva, E. A., & Zobov, A. M. (2021). The Impact of the COVID-19 Pandemic on Cross-Border Mergers and Acquisitions' Determinants: New Empirical Evidence from Quasi-Poisson and Negative Binomial Regression Models. *Economies*, 9(4), 184.

Leland, H. E. (2007). Financial synergies and the optimal scope of the firm: Implications for mergers, spinoffs, and structured finance. *The Journal of Finance*, 62(2), 765-807.

Levitt, B., & March, J. G. (1988). Organizational learning. *Annual review of sociology*, 14(1), 319-338.

Lewellen, W. G. (1971). A pure financial rationale for the conglomerate merger. *The journal of finance*, 26(2), 521-537.

Lin, L., Lee, C. F., & Kuo, H. C. (2013). Merger and acquisition: Definitions, motives, and market responses. *Encyclopedia of finance*, 541.

Liu, J., Nissim, D., & Thomas, J. (2002). Equity valuation using multiples. *Journal of Accounting Research*, 40(1), 135-172.

Luehrman, T. A. (1997). What's it worth? A general manager's guide to valuation. *Harvard business review*, 75(3), 132-132.

Malkiel, B. G. (2003). The efficient market hypothesis and its critics. *Journal of economic perspectives*, 17(1), 59-82.

Marketline (2021a). *Industry Profile Global Food & Grocery Retail*.

Marketline (2021b). *Industry Profile Global Online Retail*.

Marketline (2022a). *Industry Statistics Food & Grocery Retail*.

Marketline (2022b). *Industry Statistics Online Retail*.

Marketline (2022c). *Company Profile Ahold Delhaize*.

Marketline (2022d). *Company Profile Companhia Brasileira de Distribuição*.

Martin, K. J. (1996). The method of payment in corporate acquisitions, investment opportunities, and management ownership. *The Journal of Finance*, 51(4), 1227-1246.

McLaughlin, R. M. (1992). Does the form of compensation matter?: Investment banker fee contracts in tender offers. *Journal of Financial Economics*, 32(2), 223-260.

Meador, A. L., Church, P. H., & Rayburn, L. G. (1996). Development of prediction models for horizontal and vertical mergers. *Journal of financial and strategic decisions*, 9(1), 11-23.

Morck, R., Shleifer, A., & Vishny, R. W. (1988). Alternative mechanisms for corporate control.

Mukherjee, T. K., Kiymaz, H., & Baker, H. K. (2004). Merger motives and target valuation: A survey of evidence from CFOs.

Myers, S. C. (1984). Finance theory and financial strategy. *Interfaces*, 14(1), 126-137.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221.

OECD (2022). Consumer prices, OECD.

Rabier, M. R. (2017). Acquisition motives and the distribution of acquisition performance. *Strategic Management Journal*, 38(13), 2666-2681.

Rappaport, A., & Sirower, M. L. (1999). Stock or cash?. *Harvard business review*, 77(6), 147-147.

Ravenscraft, D. J., & Scherer, F. M. (1987). Life after takeover. *The Journal of Industrial Economics*, 147-156.

Reddy, K. S., Nangia, V. K., & Agrawal, R. (2014). The 2007–2008 global financial crisis, and cross-border mergers and acquisitions: A 26-nation exploratory study. *Global Journal of Emerging Market Economies*, 6(3), 257-281.

Refinitiv Eikon (2021a). Companhia Brasileira de Distribuicao (NYSE: CBD) Downgraded by The Goldman Sachs Group - Ticker Report. News & Research.

Refinitiv Eikon (2021b). Companhia Brasileira de Distribuicao (NYSE: CBD) Sees Large Increase in Short Interest - Zolmax.com (Blog). News & Research.

Reuters (2019). Argentine peso ends tumultuous 2019 down 37% against the dollar.

Reuters (2022a). World food prices hit 10-year high in 2021.

Roll, R. (1986). The hubris hypothesis of corporate takeovers. *Journal of business*, 197-216.

Rozen-Bakher, Z. (2018). Comparison of merger and acquisition (M&A) success in horizontal, vertical and conglomerate M&As: industry sector vs. services sector. *The Service Industries Journal*, 38(7-8), 492-518.

Rumelt, R. P. (1974). Strategy, structure, and economic performance.

Salter, M. S., & Weinhold, W. A. (1978). Diversification via acquisition-creating value. *Harvard Business Review*, 56(4), 166-176.

Schnitzer, M. (1996). Hostile versus friendly takeovers. *Economica*, 37-55.

SEC (2003). Delhaize Brothers & CO. Archives.

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19(3), 425-442.

Shleifer, A., & Vishny, R. W. (1989). Management entrenchment: The case of manager-specific investments. *Journal of financial economics*, 25(1), 123-139.

Sirower, M. L. (1997). The synergy trap: How companies lose the acquisition game. Simon and Schuster.

Sirower, M. L., & Sahni, S. (2006). Avoiding the “synergy trap”: practical guidance on M&A decisions for CEOs and Boards. *Journal of Applied Corporate Finance*, 18(3), 83-95.

Statista (2022). Advisory fees for successful mergers and acquisitions (M&A) worldwide in 2018, by deal size.

Steigenberger, N. (2017). The challenge of integration: A review of the M&A integration literature. *International Journal of Management Reviews*, 19(4), 408-431.

Stallworthy, E.A. and Kharbanda, O.P. (1988). *Takeovers, Acquisitions and Mergers: Strategies for Rescuing Companies in Distress*. London: Kogan Page.

The New York Times (2022). Putin’s European allies.

Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of management*, 26(2), 301-339.

Trautwein, F. (1990). Merger motives and merger prescriptions. *Strategic management journal*, 11(4), 283-295.

- Travlos, N. G. (1987). Corporate takeover bids, methods of payment, and bidding firms' stock returns. *The Journal of Finance*, 42(4), 943-963.
- Tremblay, V. J., & Tremblay, C. H. (2012). Horizontal, vertical, and conglomerate mergers. In *New perspectives on industrial organization* (pp. 521-566). Springer, New York, NY.
- Uysal, V. B. (2011). Deviation from the target capital structure and acquisition choices. *Journal of Financial Economics*, 102(3), 602-620.
- Varaiya, N., Kerin, R. A., & Weeks, D. (1987). The relationship between growth, profitability, and firm value. *Strategic Management Journal*, 8(5), 487-497.
- Vermeulen, F., & Barkema, H. (2001). Learning through acquisitions. *Academy of Management journal*, 44(3), 457-476.
- Walter, T. S., Yawson, A., & Yeung, C. P. (2008). The role of investment banks in M&A transactions: Fees and services. *Pacific-Basin Finance Journal*, 16(4), 341-369.
- Yılmaz, I. S., & Tanyeri, B. (2016). Global merger and acquisition (M&A) activity: 1992–2011. *Finance Research Letters*, 17, 110-117.
- Zenner, M., Matthews, M., Marks, J., & Mago, N. (2008). The Era of Cross-Border M&A: How Current Market Dynamics are Changing the M&A Landscape. *Journal of Applied Corporate Finance*, 20(2), 84-96.