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Equity Research: Jerónimo Martins SGPS, SA

Guilherme Alexandre Nunes de Almeida

Master in Finance

Supervisor:

Phd. Prof. António Sarmento Gomes Mota, Full Professor, ISCTE Business School

August, 2021

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Resumo

Esta dissertação tem como principal objetivo realizar uma avaliação global à Jerónimo Martins e determinar o valor das suas ações com base nas perspetivas futuras. Para isso, foi feita uma análise da empresa e também um estudo ao mercado que engloba a evolução do setor do retalho.

A Jerónimo Martins SGPS é uma empresa portuguesa, líder no mercado alimentar na Polónia e um dos maiores *players* no mercado português e conta ainda com presença no mercado Colombiano. A Jerónimo Martins tem também presença no retalho especializado, nomeadamente em cosmética e confeitaria e também no mercado agro-alimentar. A 31/12/2020 a Jerónimo Martins SGPS estava cotada na bolsa de valores Euronext Lisboa e fechou o ano com as ações a valerem 13.82 euros

Para determinar o valor da empresa vão ser utilizados três métodos de avaliação, o DCF, o EVA e por último, foi utilizado o método dos múltiplos.

Segundo o modelo DCF, o preço alvo é de €13.92, o que representa uma apreciação de 0.76% e deste modo o valor oferecido pelo mercado não reconhece o potencial crescimento da empresa. Foi também realizado uma análise de sensibilidade tendo por base variações em duas das variáveis mais críticas, para que seja possível avaliar a sensibilidade do preço da ação relativamente à taxa de desconto e à taxa de crescimento perpétuo.

Em suma, é também realizada uma comparação dos resultados obtidos através dos diversos métodos, o que origina uma recomendação de compra, em linha com a análise realizada pelo CAIXA BANK.

Palavras-chave: Jerónimo Martins SGPS, Avaliação de empresas, *Discounted Cash Flow,* Múltiplos, *Economic Value Added*, Setor do retalho

Classificação JEL: G30 - General

G32 - Financing Policy; Financial Risk and Risk Management; Capital and Ownership Structure; Value of Firms; Goodwill

Abstract

The main objective of this dissertation is to carry out a global valuation of Jerónimo Martins and determine its value per share based on cash flows forecasts. In that sense, an analysis of the company was made, as well as a market study regarding the evolution of the retail industry.

Jerónimo Martins SGPS is a Portuguese company, leader in the food retail market in Poland and one of the major players in the Portuguese market, beyond that it is also presence in the Colombian market. Jerónimo Martins also operates in the specialized retail, namely in cosmetics and confectionery markets and in the agribusiness industry. On 31/12/2020 Jerónimo Martins SGPS was listed on the Euronext Lisbon stock exchange and closed the year with a value of €13.82 per share.

To determine the company value three valuation methods were used, the DCF, the EVA and the multiples methodology.

According with the DCF model, the target price is €13.92, which represents an appreciation of 0.76% and thus the value offered by the market does not recognize the potential growth of the company. A sensitivity analysis was also performed to analyse the sensitivity of the share price to the discount rate and to the perpetual growth rate, two of the most crucial variables.

In conclusion, it was done a comparative analysis of the results obtained through the several methods, which lead to a Buy recommendation, in line with the analysis carried out by CAIXA BANK.

Keywords: Jerónimo Martins SGPS; Company Valuation; Discounted Cash Flow; Multiples; Economic Value Added; Retail Industry

JEL Classification: G30 - General

G32 - Financing Policy; Financial Risk and Risk Management; Capital and Ownership Structure; Value of Firms; Goodwill

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List of Abbreviations

APV - Adjusted Present Value

CAPEX - Capital Expenditure

CAPM - Capital Asset Pricing Model

CRP - Country Risk Premium

D - Debt

DCF - Discounted Cash Flow

DDM - Dividend Discount Model

DPS - Dividends per Share

E – Equity

EBT - Earnings before taxes

EBIT - Earnings Before Interest and Taxes

EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization

EPS - Earnings per Share

EQV - Equity value

ERP - Enterprise Resource Planning

EV - Enterprise value

EVA - Economic value added

FCFE - Free cash flow to Equity

FCFF - Free cash flow to the firm

g - Growth Rate

IC - Invested Capital

INE - Instituto Nacional de Estatística

M&M - Modigliani and Miller

MRP - Market Risk Premium

MVA - Market Value Added

NOPLAT - Net Operating Profit Less Adjusted Taxes

OECD - Organisation for Economic Co-operation and Development

PBV - Price to book value

PER - Price-to-Earnings Ratio

PV - Present Value

PCE - Price to Cash Earnings

PEG - Price Earnings to Growth

P/S – Price to Sales ratio

P&L - Profit and loss

Rd - Cost of Debt

Re - Cost of Equity

Rf - Risk Free Rate

ROIC - Return on Invested Capital

Ru - Unlevered Cost of Equity

t - Company Tax Rate

WACC - Weighted Average Cost of Capital

WC - Working Capital

β - Beta

βd - Beta of Debt

βl - Levered Beta

βu - Unlevered Beta

1. Introduction

In 2019 the world faced a new challenge, which brought prompted changes never seen before on both economic and social level. With the pandemic outbreak caused by COVID-19, most countries were forced to implement measures to contain the virus, which in economic terms were devastating for both companies and industries. The retail industry was no different, despite the excellent performance during the last years, in 2020, in Europe, its sales decrease over 0.7% when compared with the previous year.

This dissertation is focus on company valuation and the main purpose is to determine the value of Jerónimo Martins SGPS shares and compare the value obtained with the value at which the shares are quoted on the market, so that a Sell or Buy recommendation can be made.

Jerónimo Martins SGPS is listed on the Euronext Lisbon stock exchange and on 31/12/2020 its shares had a value of €13.82. This company is one of the major players in the Portuguese retail market and the biggest on the Polish market. In Portugal Jerónimo Matins is mainly represented by the supermarket chain Pingo Doce and in Poland it is represented by Biedronka's supermarket chain. The supermarket chains described before are the largest contributors to the total revenue generated by the company. However, Jerónimo Martins is also present in the Colombian market through its proximity stores, and in others industries such as specialized retail, namely in cosmetics and confectionery markets and in the agribusiness industry with a livestock farming, a dairy factory and aquaculture farms. The agribusiness segment main purpose is supporting the Food Distribution group that operates in Portugal by ensuring direct access to supply sources of strategic products.

The first chapter of this dissertation is relative to the literature review, where the most common company valuation methods are described, as well as all the variables necessary for their application. The second chapter is divided into two segments, the first regarding Jerónimo Martins, where it is given a short introduction to the company and to all sectors in which it operates as well as, an analysis of the company performance over the last five years. The second part of this chapter is related to the retail industry namely the markets where Jerónimo Martins operates: Portugal, Poland and Colombia.

The third section regards the company valuation, which is performed through several methods. The first method used was the DCF (Discounted Cash Flow) model under the FCFF (Free Cash Flow to the Firm) approach discounted at the WACC (Weighted Average Cost of Capital), regarding this method it was also performed a sensitivity analysis to analyze the variation on the share price to changes in the discount rate and in the perpetual growth rate, two

of the most crucial variables. Additionally, it was used the other DCF approaches such as FCFE (Free Cash Flow to Equity), the EVA (Economic Value Added). Finally, it was presented the relative valuation or multiples methodology. Lastly, it was made a comparative analysis of the different results obtained through the several methods and compared with the current market price, from which results a recommendation based on expected returns.

2. Literature review

2.1. Introduction

Valuation is very relevant across different perspectives and dimensions of finance theory and practice. In corporate finance, the standard goal is to increase firm value through investment and financing policies. In portfolio management, we try to find firms that are trading below their fair value, in order to make a profit, beyond that we study how market prices deviate from their true value, and how quickly they revert (Damodaran, 2006). In this paper, Damodaran argues that understanding how to compute and what affects the value of a firm is the starting point to make reasonable investment decisions.

Valuing a stock is not an easy task, since we must be aware of the variety of methodologies and assumptions used to forecast the cash flows or, in other words, how we estimate the future unknowns (Havnaer, 2013).

According to Damodaran (2006), all methods make different assumptions about the fundamental's drivers, yet all of them share some similar characteristics.

2.2. Valuations Methods

There are several methods to evaluate a company, namely: the Discounted Cash Flow method (DCF); Multiple or Relative Valuation; the Economic Value Added (EVA); Adjusted Present Value (APV); and the Dividend model (Mota et al., 2015).

This project will focus on the DCF and multiple approaches, as these are the two more used techniques by analysts. The DCF model will be based in a forecasting process and assumptions. On the other hand, the Multiples approach is simpler since it does not require all the assumptions made in the DCF, where we must forecast the cash flows. Therefore, the relative valuation can be used has an alternative to check the value obtained through the DCF model.

2.2.1. Discounted Cash Flow Method

"To do relative valuation correctly, we need to understand the fundamentals of discounted cash flow valuation"- (Damodaran, 2012).

The DCF allows us to dynamically determine the value of a company. The company value is determined by its capacity to create wealth (Mota et al., 2015). The value of the company is not based on its past or present activity but in its capacity to generate cash flows in the future. Therefore, every assumption that we make during the valuation process can have a relevant impact on the final result.

The DCF analysis consists in forecasting the cash flows generated by the business and then discounting them with a proper discount rate based on their risk level (Lie & Lie, 2002).

This method can be divided into two approaches: The Free Cash Flow to the Firm (FCFF) and Free Cash Flow to Equity (FCFE) (Fernandez, 2013). The choice of any of those methods "reflects the expectations of investors and other stakeholders on company profitability and growth opportunities" (Bilych, 2013). Still, according to the previous author, this method incorporates two fundamental concepts of finance, the time value of money and the net present value.

Despite of existing two approaches in the DCF model, the starting point is the same for both. This is, we need to define a period for which we will forecast the operational cash flows of the business. In this forecasting period, we must explicitly analyse the fundamental drivers of the business, which allow us to incorporate business strategy changes into the valuation (Havnaer, 2013). This forecasting period normally does not exceed five years and after that time we must include a period of continuous growth, if we assume that the company will keep its activity (Mota et al., 2015).

2.2.1.1. Free Cash Flow to the Firm (FCFF)

The FCFF is an approach that is more valuable to the potential investors, "as it reflects the cash flows generated by operating activities of the enterprise" (Bilych, 2013). The FCFF expresses the cash flows generated by operations.

In other words, we can say that the FCFF is the cash flow available to the shareholders and creditors generated by the operational business of the company deducted from all expenses, including Working Capital and Net Capital Expenditures (CAPEX) which are needed in the normal company´s operations.

To compute the FCFF the starting point is the Earnings Before Interest and Taxes (EBIT) from which we should deduct the taxes, obtaining the Net Operating Profit Less Adjusted Taxes (NOPLAT):

$$NOPLAT = EBIT * (1 - t)$$

Equation 1

Where "t" represents the company's tax rate.

After computing the NOPLAT, we should add the period depreciation, since it is just an accounting item, and do not originate any cash outflow. We should also consider the Working Capital (WC) requirements and the investment in fixed assets (CAPEX) which represent a cash out flow and therefore they should be subtracted.

Furthermore, we also add the fixed assets used in the operational activity that were sold (or because they were at the end of their lives or because they were replaced by more modern ones).

Translating this to an expression we get:

$$FCFF = NOPLAT + Depreciation - \Delta Working\ Capital - CAPEX\ net\ of\ disposals$$

Equation 2

2.2.1.2. *Free Cash* Flow *to Equity (FCFE)*

The FCFE represent the cash flow available to shareholders, i.e., the cash flow available to pay as dividend "from which the value of all capital expenditures and investments, as well as debt payments and various tax burdens, are deducted" (Bilych, 2013). The FCFE can be computed by the following expression:

$$FCFE = Net\ Income\ + Depreciation\ - CAPEX\ net\ of\ disposals - \Delta Working\ capital + \Delta\ Debt$$

Equation 3

Beyond this formula we can also compute the FCFE by using as basis the FCFF, in that case the expression would be:

$$FCFE = FCFF - Interest\ (1 - t) - Principal\ Repaid + New\ Debt\ Issued - Preferred\ Dividends$$

Equation 4

2.2.1.3. Discount Rates

Since the DCF consists of discounting cash flows, we need a discount rate. As previously referenced, we can apply this method using the FCFF or the FCFE. Therefore, it makes sense that both approaches have distinct discount rates since both represent different levels of risk. Naturally, the equity holders are usually associated with a higher risk than the creditors.

In that sense, in the FCFF optic we are considering the perspective of both shareholders and creditors. Therefore, we consider both equity and debt, and for that reason, the discount rate should reflect it. The FCFF is discounted at the Weighted Average Cost of Capital (WACC) that represents a weighted average between the cost of equity and the cost of debt net of taxes (Fernández, 2004). On the other hand, the FCFE represents the cash flow available to shareholders or equity holders which is discounted with the company's required return on equity (Fernandez, 2013).

2.2.1.3.1. Weighted Average Cost of Capital (WACC)

As we saw above, the WACC is the discount rate that considers both equity and debt, therefore it should reflect it. In that sense the formula to compute the WACC is the following:

$$WAAC = \frac{E}{E+D} * Re + \frac{D}{E+D} * Rd * (1 - t),$$

Equation 5

To be able to compute it, we must calculate the cost of debt and equity, as well as the company's capital structure.

2.2.1.3.2. Return on Equity (Re)

The Return on Equity (Re) or cost of equity represents the "risk inherent in the company's business and in the cash flows it generates" (Havnaer, 2013). In other words, Re is the rate that the company must provide to investors in order to encourage them to buy or to hold the company's stock. Since this indicator is related with the business, the performance of the company has a direct impact on it. When we have larger volatilities in the earnings or erratic cash flows, we expect a higher discount rate to compensate for the higher risk of the company for the investors. (Havnaer, 2013)

Another effect that can impact the Re is the cost of debt, which we will analyse below.

2.2.1.3.3. Cost of Debt (Rd)

Although we can have all-equity firms, the most common scenario is a mix of debt and equity. The main difference between these sources of funds is that debt is cheaper. Additionally, we should be aware of the tax advantages of debt (interest tax shields).

"Corporate taxation occupies a central place in firm valuation" (Nejadmalateri & Singh, 2012) and also has a pivotal role in determining the capital structure (Graham, 2006).

Despite the Modigliani & Miller (1958) (M&M) proposition I, explaining that the perfect capital structure has 100% debt and there are many advantages of using debt, there are also limitations. In fact, more debt increases the firm's financial risk and consequently the cost of equity also increases. Thus, the investors will demand a higher return to compensate the additional risk generated by a higher level of leverage.

2.2.1.3.4. Capital Asset Pricing Model (CAPM)

The CAPM is a useful model that allows us to compute the shareholder's required rate of return (Kivedal & Borgersen, 2018). The CAPM general formula is expressed by:

$$R = Rf + \beta * (E(Rm) - Rf) + CRP$$

Equation 6

Where, according to the authors, R is the expected return on equity, Rf the risk-free rate, E(Rm) the expected market return and β the systemic risk. E(Rm)- Rf is also designated the market risk premium (MRP) and the CRP is the Country Risk Premium.

2.2.1.3.4.1. Risk Free Rate (Rf)

The Rf and the MRP are both extracted directly from the market. The Risk-free rate is a theoretical rate that represents an investment with zero risk. If the expected return is equal to the real return of the investment, we can consider it a risk-free investment (Damodaran, 2008).

Kivedal & Borgersen (2018) argues that long-term government bonds or the federal funds from AAA rating countries are good approximation of riskless returns.

According to Pablo Fernández, Eduardo de Apellaniz and Fernández Acín (2020) the Rf used in Portugal was 1,6% and 2.6%, in the years 2020 and 2019 respectively.

2.2.1.3.4.2. Country Risk Premium (CRP)

Although it might exist good approximations of risk-free investments, we need to have in mind another aspect that does not depend on the market but can increase the investment risk.

The Country Risk Premium represents the "excess political, economic, and financial risk relative to what is found in an integrated market" (Girard, 2018). Girard (2018) argues that it does not exist a consensus on an optimal approach to measure the Country Risk Premium. However, Damodaran (2019) claims that the measure of sovereign default risk is the most direct way of measuring the CRP. Thus, "when a government issues bonds, denominated in a foreign currency, the interest rate on the bond can be compared to a rate on a riskless investment in that currency to get a market measure of the default spread for that country" (Damodaran, 2019).

Another standard method is looking at government bonds ratings. In this approach, we must compute the difference between the rates of government bonds of a country with a credit risk AAA and the one we are analyzing. For Fitch and Standard & Poor's ratings, the ranking goes from triple-A (AAA) to D, where a AAA rated country is viewed as close to riskless whereas a C rated country is very risky" (Damodaran, 2019). However, if we look to Moody's ratings, despite the philosophy behind it being the same, the ratings have some differences, the higher level is Aaa and the lower is C.

According to Standard & Poor's Portugal current rating is BBB, to Moody's the rating is Baa3.[1]

2.2.1.3.4.3. Market Risk Premium (MRP)

The MRP is obtained, as we saw in the equation (6), by calculating the difference between the expected market return and the Rf. The expected market return is the hypothetical return of a portfolio that contains every type of assets available in the market.

Damodaran (1999) argues that "the equity risk premium reflects fundamental judgments we make about how much risk we see in an economy/market and what price we attach to that risk." Therefore, it has a direct impact on how we allocate our wealth across the different asset classes, and in which assets or securities we invest.

[1] Trading economics. 2020. Portugal - Credit Rating. Online: https://tradingeconomics.com/portugal/rating [accessed:12-04-2020]

In the same paper, Damodaran also suggests three approaches to estimate the MRP. The first, and the most trivial, is the research of subsets of investors to get an idea of their expectations about equity returns in the future. The second approach consists in computing, to riskless investments, the returns earned on equities and using a historical premium as the expectation. The final method is named "implied premiums" and consists in estimating a forecasted premium based on prices on traded assets or market rates.

In 2020, Pablo Fernández, Eduardo de Apellaniz and Fernández Acín conducted a study that included over 81 countries and argued that the MRP used in Portugal was 7,1% and 7,5%, in the years 2020 and 2019, respectively.

2.2.1.3.4.4. Beta (β)

The beta (β) is a measure of systemic risk, which establishes a relationship between the return of the company and the market return (Kivedal & Borgersen, 2018).

We can divide the beta in two categories, the unlevered and the levered beta. The difference between them, lies in the capital structure. The unlevered beta refers to a company with 100% equity, while the levered beta reflects the risk of a company with a capital structure composed by equity and debt.

The beta can be estimated by regressing the asset return against the return of a stock index (as a benchmark of the market as a whole) (Damodaran, 1999b).

2.2.1.4. Terminal Value

"The results of the business valuation will be incomplete without considering the post forecasted period that goes beyond the discount period of the valuation" (Bilych, 2013).

According to Bilych (2013), we have two hypotheses: The first one, which is called "residual value" and it is used when the company and its assets will be liquidated. The other method is the "steady growth" and it assumes that the company will maintain a continuous growth rate that should not exceed the average long-term projected growth rates in the industry or the projected growth of the country's economy.

Adding the terminal value is a very important step and it must be done carefully since it can affect the whole valuation. According to Mauboussin and Michael (2006) it is common to see valuations, through the DCF model, where the terminal value represents 60%-70% of the company intrinsic value.

The terminal value is normally computed as a perpetuity of the FCFF assuming a constant annual growth rate (g) (Mota et al., 2015). The terminal value computation is given by:

$$Terminal\ Value = \frac{FCFF_{n+1}}{WACC - g}$$

Equation 7

An internal proxy for the growth rate, that reflects the sustainable growth that can be generated by the company can be computed by:

$$g = ROIC * (1 - Payout\ Ratio)$$

Equation 8

After we introduce the terminal value, we have the DCF method valuation completed (Bilych, 2013).

2.2.1.5. Enterprise Value (EV)

The Enterprise Value corresponds to the business value of the firm. EV can be computed by discounting the FCFF (which as we saw above, it represents the forecasted operational cash flows of the company) by the WACC. The formula is expressed below:

$$EV = \sum_{t=1}^{n} \frac{FCFF_t}{(1 + WACC)^t} + \frac{Terminal\ Value_n}{(1 + WACC)^n}$$

Equation 9

2.2.1.6. Equity Value (EQV)

The final step of the valuation is to calculate the value of the company to the shareholders. This calculation consists in deducting from the EV the debt value (excluding the debt items of the working capital) and adding the non-operational assets (assets that do not contribute for the operational activity of the company), as the following formula points out:

$$EQV = EV - Debt + Non\ operating\ assets$$

Equation 10

This value must be positive, since it does not make sense to have a company with a negative value, at the very least, in the worst scenario, it should be zero. A remark related with the non-operating assets is that we should consider the market price net of the tax impact of their sale. This can be translated to the following expression:

$$Market\ value - (Market\ value - Accounting\ value) * t$$

Equation 11

The formulas above are assuming the FCFF methodology, however we can also use the FCFE approach. In this case, the firm's value is given by discounting the FCFE at the Re:

$$EQV = \sum_{t=1}^{n} \frac{FCFE_t}{(1 + Re)^t} + Non\ operating\ assets$$

Equation 12

We should only add the non-operating assets if there is not any income being generated by these assets included in the net income used to compute the FCFE. Otherwise, it would make no sense to add them.

Finally, in both approaches, the firms share price will be equal to the Equity Value of the firm divided by its total number of outstanding shares:

$$Price\ per\ Share = \frac{EQV}{Number\ of\ shares}$$

Equation 13

2.2.2. Multiples or Relative Valuation

According to Damodaran (2006) the most common used method by investors to value a stock is the multiples. The main reason for analysts to apply this method is related to its simplicity and the need for fewer assumptions, especially, when compared with the DCF method that we discussed before (Lie & Lie, 2002).

The main objective of using multiples to perform a valuation is to determine how much a company is worth, based on the value of similar companies. Typically, this method consists in comparing "a company fundamentals to a peer group and then adjusting the peer group average multiple to reflect differences between the individual company and its peers" (Havnaer, 2013).

To Lie & Lie (2002), a multiple valuation implies computing multiples for a set of benchmark companies (peer group) and then finding the value of our company based on them. However, according to the authors, no multiple is uniformly accepted as the one to be the base of valuation. Kim & Ritter (1999) also agree that it does not exist a straightforward answer for which multiples should be considered.

Although it seems consensual that does not exit the right multiple to perform a valuation, Fernández (2001) identify the most commonly used multiples and divided them in three categories, as we can see in the figure below.

Table 2.1: The most commonly used multiples by Pablo Fernández

	Examples	Formula
Multiples based on the company's capitalization	PER	$\frac{Market\ value\ per\ share}{Earning\ per\ share}$
	PCE	$\frac{Market\ value\ per\ share}{Cash\ flow\ per\ share}$
	P/S	$\frac{Market\ value\ per\ share}{Sales\ per\ share}$
	PBV	$\frac{Market\ price\ per\ share}{Book\ value\ per\ share}$

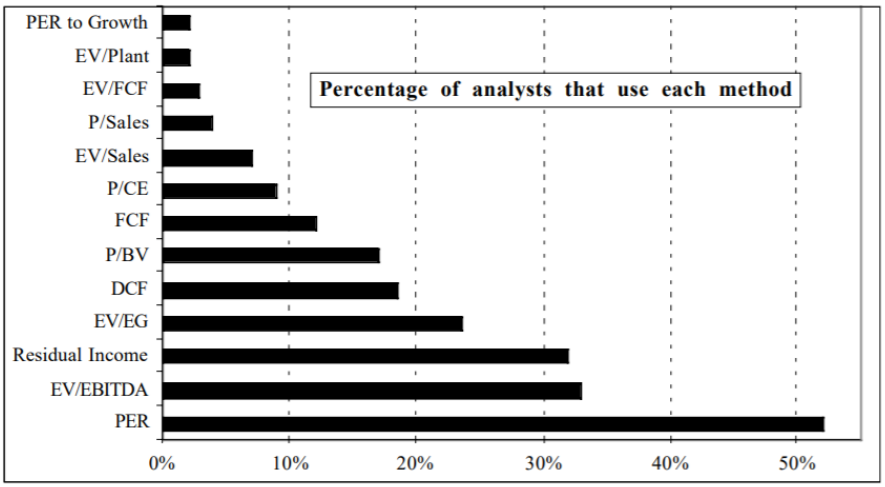
Multiples based on the company's value	EV/EBITDA	$\frac{Enterprise\ value}{EBITDA}$
	EV/SALES	$\frac{Enterprise\ value}{Sales}$
	EV/FCF	$\frac{Enterprise\ value}{Free\ cash\ flow\ to\ firm}$
Growth-referenced multiples	EV/EG	$\frac{Enterprise\ value}{Earnings\ growth}$
	PEG	$\frac{(\frac{Price}{Earnings\ per\ share})}{Earnings\ per\ share\ growth}$

Source: Pablo Fernández report (2001)

As the table above shows there are a variety of multiples that can be used in valuation. Naturally, some of them are more used than others, as we can see in the Morgan Stanley Dean Winters (1999) study. It shows that the Price/Earnings Ratio (PER) and the Enterprise Value to Earnings Before Interest, Taxes, Depreciation, and Amortization (EV/EBITDA) are the most widely used methods by analysts to value European companies. In this study we can also understand that the DCF model takes the fifth place of the most commonly used techniques. The results of the study are shown on the following figure.

Figure 2.1: The most commonly used methods in company valuation

Source: Morgan Stanley Dean Witter Research.



Source: Morgan Stanley Dean Winters (1999)

As we can see, relative valuation takes a central place in the valuation world. To obtain the company value by using Multiples, Damodaran (2012) suggests that the price of an asset derives from the price of a comparable asset. In that sense, we should choose a standard variable to value the firm as well as comparable firms (peer group).

The first step is to identify the multiple to use and the definition of the peer group, generally formed by firms of the same industry. However, in order to do a more accurate valuation, we

should only consider firms with a similar growth profile of the one that we are analyzing, as well as a similar risk profile, as Damodaran (2010) argues.

After having properly identified the multiples to use and the companies to include in the peer group, Damodaran (2010) suggests that we compute the multiple for each one of the comparable firms and after that, the average multiple to the peer group. It is important to define more than one multiple because it allows us, at the end of the valuation, to reach a range of possible values to the company that we are valuing.

The final step is to apply the multiple that we computed (peer group) to the company that we are valuing.

Since the PER is one of the most used techniques to value companies, we decided to illustrate the process after we have the peer group multiple calculated. The PER is computed through the following formula:

$$PER = \frac{Price\ of\ share}{EPS}\ or\ PER = \frac{Equity}{Net\ Income},$$

Equation 14

$$where: EPS = \frac{Net\ Income}{Number\ of\ shares}$$

Equation 15

The valuation process is simple, since we know two variables:

- the PER of the peer group, which we assume that is the same for our company;
- and the Net Income of the company that we are valuing, which can be obtained through the financial statements.

Since the two variables of the equation are known, the objective is to find the equity value or the price per share and, in this case, multiply it by the number of the company's shares.

Although it is a simple process, we can face some problems, such as the difference between the companies that were considered in the peer group. Damodaran (2010) argues that it does not matter how carefully we choose the companies to include in the peer group because we will always end up with firms that are different from the firm we are valuing, and we must control these differences. Thus, the author identifies three ways of controlling these problems: subjective adjustments; modification of the multiples or run sector regressions.

The first alternative, and probably the more common technique used in practice, consists in, after computing the average of the peer group, analyzing the multiples for each company that deviate form that value. If we find a plausible justification for that deviation, based on the firm's individual characteristics (growth, risk or cash flows), we still may include that particular company. However, if no justification is found we should remove the company from our

analysis (outlier). According to Damodaran (2010), the problem associated with this approach is its subjectivity "as the judgments are often based upon little more than guesswork".

Using multiples can be a simple way to obtain a company value and although it might be very useful, Fernández (2001) argues that due to the multiples significant dispersion, the valuation resulting from this method is highly debatable. In that sense, the author claims that the multiples are useful in a second stage after performing the valuation using another method since it can be a basis of comparison with the multiples from similar firms.

2.2.3. DCF vs Multiples

As we saw before, these two methods (DCF and the Multiples) are very different from each other. On one hand, in the DCF and in order to compute the future cash flows with maximum precision, we have to make complex assumptions about the fundamental drivers of the business, as well as the companies' investment and financial policies. On the other hand, in the multiple approach we need to make a good selection of the companies that compose the peer group but beyond that, is nothing more than just applying the formula of the multiple.

Will the company value computed through the DCF be at least close to the value obtained with the relative valuation? Kaplan & Ruback (1995) computed valuations by using the DCF method and Multiples and conclude that both ways produce similar levels of accuracy. But, Havnaer (2013) argues that in both techniques all fundamental drivers are included. However, when we use the multiples, they are implied and through the DCF they are explicitly estimated. According to the author's opinion it is more important to determine and analyze the valuation drivers rather than allow the multiple to do it.

Finally, "Some investors swear off the DCF model because of its myriad assumptions. Yet they readily embrace an approach that packs all of those same assumptions, without any transparency, into a single number: the multiple. Multiples are not valuation; they represent shorthand for the valuation process. Like most forms of shorthand, multiples come with blind spots and biases that few investors take the time and care to understand" (Mauboussin, Michael, 2006).

2.2.4. Adjusted Present Value – APV

The APV model was developed after Modigliani and Miller's (M&M) assumptions about the value of companies and the interest tax shields.

According to Luehrman (1997), the business schools still teach the DCF methodology using the WACC as a discount rate but, in the author's opinion, this method is obsolete.

Furthermore, Luehrman (1997) argues that one of the alternatives to the conventional DCF approach is the adjusted present value (APV) which is more versatile and reliable.

The APV, just like the WACC is used to value any existing asset that generates future cash flows. However, Luehrman (1997) considers that the APV is more efficient since it requires fewer assumptions than WACC. Additionally, it works even when the WACC does not. The most significant difference between these methods is that the APV considers more effectively all the financial side effects such as interest tax shields, bankruptcy costs, debt issue costs and others.

The APV is the net present value of a company if financed solely by equity plus the present value of all financial side effects.

$$\text{Company value(APV)} = \text{Unlevered Firm Value} + \text{Value of all financial Side Effects}$$

Equation 16

This method shows the benefit of tax shields from tax-deductible interest payments, it helps us to understand the benefits resulting from tax deductions of interest payments in the company value.

To compute the company value through the APV model, we must compute the unlevered firm's value. It consists of forecasting the future cash-flows and discount them with the correct discount rate, which in this case is not the WACC but the unlevered cost of equity (since we are assuming an all equity capital structure).

The unlevered cost of equity (Ru) represents the required rate of return for the shareholders of a company without debt. It can be calculated by applying the CAPM model:

$$Ru = Rf + \beta u * MRP$$

Equation 17

Where, the MRP is the market risk primum that we saw earlier and the βu is the company unlevered beta.

The second step consists in estimating all the financial side effects and then sum the company unlevered value with the net value of the financial side effects.

2.2.4.1. Bankruptcy Costs

Although debt can have some positive effects, it can either produce non-positive effects. A higher level of debt will increase the default risk and, consequently, the expected bankruptcy costs. This naturally will negatively impact the company value (Damodaran, 2012), in other words, it means that these costs must be deducted from the unlevered company value.

Damodaran (2012) proposes that the present value of the expected bankruptcy costs can be computed by the following formula:

$$PV_{\text{Expected Bankruptcy Costs}} = \text{Probability of Bankruptcy} \times PV_{\text{Bankruptcy Costs}}$$

Equation 18

The author argues that in the APV model, this computation tends to be more problematic since we cannot directly estimate neither the probability of bankruptcy nor the bankruptcy cost.

However, in the same article, Damodaran suggests two ways to estimate the probability of bankruptcy, either by looking at bond ratings or using statistical methods based on the firm's observable characteristics at each level of debt.

2.2.4.2. Interest tax shields

The more important benefit is the interest tax shields. This is, the interest costs are deductible, which means that we can reduce the taxable income and therefore, the company will save, in taxes, an amount equal to the tax rate times the amount of interest costs. Hence, we need to have this in mind when valuing the company since it increases the firm's value.

"This tax benefit is a function of the tax rate of the firm and is discounted at the cost of debt to reflect the riskiness of this cash flow"(Damodaran, 2012). Also, Luehrman (1997) claims that we must discount the tax shields at the cost of debt (Rd) since they have the same risk and uncertainty of debt and interest payments.

The tax benefit or interest tax shields can be computed with the following formula:

$$PV_{tax\ \text{shields}} = \frac{Interest * Tax\ rate}{(1 + Rd)^t}$$

Equation 19

To conclude, Damodaran (2012) states that we should compute the APV model with the following formula:

$$Value\ of\ firm = Value\ of\ all\ equity\ financed\ firm + PV\ of\ tax\ benefits - Expected\ Bankruptcy\ Costs$$

Equation 20

2.2.5. Dividend Discount Model (DDM)

"The dividend is the only cash flow that a shareholder receives for buying and holding the stock"(Damodaran, 2012). Rather than dividends, the shareholder can also expect a cash flow at the end of the holding period by selling the stock.

Damodaran (2012) argues that the Dividend Discount Model is one of the simplest models to value equity. Once the only cash flow that the shareholder will receive is the dividend, the stock value should be equal to the present value of the expected dividends (Fernández, 2004).

The DDM assumes that the intrinsic value of the stock is equal to the present value of future dividends per share discounted at the Cost of equity.

$$Share\ value = \sum_{t=1}^{t=\infty} \frac{E(DPS)_t}{(1+Re)^t}$$

Equation 21

Where:

- $E(DPS)_t$ = Expected dividends per share
- Re = Cost of equity

Since we cannot compute the expected dividends that will be paid in the future infinitely, versions of the traditional DDM have emerged. Among them: the Gordon Growth Model and the Two-stage Dividend Discount Model.

The Gordon Growth Model is based on a constant dividend growth rate (g) (Gordon, 1962). In other words, it is applicable to companies that are in a steady stage, and therefore, we can assume that the dividend grow annually at a constant sustainable rate

In this case, the general equation is:

$$Share\ value = \frac{DPS_1}{Re - g}$$

Equation 22

Where $DPS_1$is the dividends per share for the next year.

Naturally, this model has some disadvantages. Firstly, it is hard to find companies that can sustain a perpetual growth rate, and beyond that, the model is very susceptible to changes in g. "First, since the growth rate in the firm's dividends is expected to last forever, the firm's other measures of performance (including earnings) can also be expected to grow at the same rate" (Damodaran, 2012). And second, the growth rate should be lower than the projected growth rate of the economy in which the company operates.

The Two-stage Dividend Discount Model appears to overcome the problems of the previous model. This model, as the name suggests, has two stages. It starts with a non-stable growth that lasts n years and then the growth rate becomes stable and it lasts forever (Damodaran, 2012). This model allows us to incorporate in your valuation more realistic scenarios. We can start with a higher rate at the beginning, and it remains stable in the long term, or we can even forecast a scenario where in the early years we have a negative growth and in the long term, it becomes stable.

Thus, the share price will be equal to the present value of dividends during the first stage plus the present value of the terminal value (which is almost the Gordon model, only it does not include the initial years). It can be computed as follows:

$$Share\ value = \sum_{t=1}^{t=n} \frac{DPS_t}{(1+Re)^t} + \frac{P_n}{(Re-g)^n}$$

Equation 23

Where:

$$P = \frac{DPS_{n+1}}{(Re-g)}$$

Equation 24

2.2.6. Economic Value Added (EVA)

"The EVA attempts to measure the value that firms create or destroy by subtracting a capital charge from the cash returns they generate on invested capital".(Reddy, Rajesh, & Reddy, 2011).

(Reddy, Rajesh, & Reddy (2011) argue that this methodology is the most appropriate to measure the value created to the shareholders. The EVA interpretation is straightforward. If the EVA is bigger than zero, it means that the return on invested capital is higher than its cost (Mota et al., 2015). Thus, if the return on invested capital (ROIC) is bigger than the WACC, the company is creating value to the shareholders.

Therefore, Abate, Grant, & Stewart (2004) suggest that the EVA can be computed by subtracting from the NOPLAT the Invested Capital (IC) times the WACC, which can be expressed in the following formula:

$$EVA = (ROIC - WACC) * IC$$

Equation 25

$$= NOPLAT - WACC * IC$$

Equation 26

Where the NOPLAT corresponds to the after-tax operating income and can be computed through:

$$NOPLAT = EBIT(1-t)$$

Equation 27

The purpose of the ROIC is to demonstrate how well a company is using its money to generate returns, since it shows us the return that the company generates per unit invested:

$$ROIC = \frac{NOPLAT}{Invested\ Capital}$$

Equation 28

At last, the Invested Capital represents the total amount of capital needed to finance the operation. It can be computed in two ways: Resource View or Asset View.

- $Invested\ Capital\ \ (Resource\ View) = Equity \mp Debt - Non\ operating\ assets$

Equation 29

- $Invested\ Capital\ (Asset\ View) = Non\ current\ operating\ assets + Working\ Capital.$

Equation 30

The Working Capital (WC) is the investment, on a perpetual basis, needed to keep the business running. The WC is the difference between the current assets related with the business, such as accounts receivable and inventories, and the current liabilities, related with the business, namely, the accounts payable.

$$WC = Business\ related\ current\ assets - Business\ related\ current\ liabilities$$

Equation 31

Associated with EVA there is the concept of Market Value Added (MVA). Its purpose is measuring the value that can be created in the future (Mota et al., 2015). The MVA is the present value of all EVA generated discounted at the WACC.

$$MVA = \sum_{t=1}^{n} \frac{EVA^t}{(1 + WACC)^t}$$

Equation 32

As we previously saw in the DCF approach, we still need to compute the equity Value (EQV), which is given by:

$$EQV = Accounting\ Equity\ Value + MVA + Non\ Operating\ Assets$$

Equation 33

3. Company and market overview

3.1. Jerónimo Martins, SA

3.1.1. History and general information

Jeronimo Martins history began in 1792 when a young Galician entrepreneur (Jerónimo Martins) decided to open a grocery shop in Chiado (Lisbon).

The new store (Jerónimo Martins & Filho) was a truly success. In its prime time, it even supplied the royal house and embassies. In 1920 a group of investors owning the "Grandes Armazéns Reunidos do Porto" decided to buy the business. However, at that time, Jerónimo Martins' situation was not the best, so only two partners proceed with the deal: Elysio Pereira do Vale and Francisco Manuel dos Santos.

In 1938 Francisco Manuel dos Santos gave the control of the company to his son in law Elísio Alexandre dos Santos, being his ambition entering in the industrial sector, so in 1944 he opened a margarine and cooking oil factory. In 1978, his son Alexandre Soares dos Santos was responsible for entering in the food retail business by creating the "Pingo Doce" supermarkets chain.

A few years later, Jerónimo Martins formed a Joint Venture with a German company named Delhaize, benefiting from the German's know-how to develop activities in the fresh products retail area.

Finally, in 1992 Jerónimo Martins made a partnership with the Dutch company Ahold to expand its chain of supermarkets. On 31 of December 2020, Jerónimo Martins had 540 stores in Portugal, 33,347 workers, and a 4.7 billion turnover. [2]

Although Jerónimo Martins is a Portuguese company, the main activity is located in Poland, where it has 76,728 employees, 3,381 stores and revenues of 13.7 billion[3]. Notwithstanding, it also has a presence in the Colombia market. In Colombia, the company presence is still considered small since its activity only started in 2013. On 31 of December 2020, in that country, it had 663 stores and 8,135 employees, and the revenues are also smaller 854 million.[4]

The company core business is the retail, mainly focused on food retailing. In Portugal, the company is represented in the food retail market by "Pingo Doce" supermarkets, in Poland, the

[2] Jerónimo Martins. 2021. Jerónimo Martins em Portugal. Online: https://www.jeronimomartins.com/pt/sobre-nos/onde-estamos/jm-em-portugal/ [Accessed: 14-03-2021]
[3] Jerónimo Martins. 2021. Jerónimo Martins em Portugal. Online: https://www.jeronimomartins.com/pt/sobre-nos/onde-estamos/jm-na-polonia/ [Accessed: 14-03-2021]
[4] Jerónimo Martins. 2021. Jerónimo Martins em Portugal. Online: https://www.jeronimomartins.com/pt/sobre-nos/onde-estamos/jm-na-colombia/ [Accessed: 14-03-2021]

supermarket chain is the "Biedronka". Finally, in Colombia, it is represented by the neighbourhood stores "Ara".

3.1.2. Shareholder Structure

Jerónimo Martins is a listed company, and in that sense, its capital structure is composed by a wide range of investors. On 31 December 2020, the major shareholder was Sociedade Francisco Manuel dos Santos, B.V. with 56.1% of the company's capital, followed by Asteck, S.A. (5%) and JP Morgan Asset Management Holdings (2.4%).

Beyond those Equity holders, there were also Comgest Global Investors, S.A.S. (2.1%), T. Rowe Price International Ltd (2%). The remaining shares (32.4%) corresponds to free-floated or own shares (see appendix A).

3.1.3. Company Structure

Jerónimo Martins business is divided into three segments, Food Distribution, Specialized Retail and Agribusiness.

3.1.3.1. Food Distribution

As mentioned before, food retail represents the firm's core business. This market in Portugal is represented by "Pingo Doce" and "Recheio", and both account for 30% of the group's total sales. Globally, the food retail sector represents over 95% of the group consolidated sales. In Poland, the group counts with Biedronka, the most relevant food distribution chain in that country. In Colombia, Jerónimo Martins has a different approach since it has only a chain of neighbourhood shops (Ara).[5]

3.1.3.2. Specialized Retail

In the Specialized Retail segment, Jerónimo Martins has three companies Hebe, Jeronymo and Hussel. Even though those companies belong to the same segment, their core business is considerably different.

Hebe "is a retail chain of specialized Health and Beauty stores, whose business concept is based on offering high-quality services at very competitive prices"[6]. This concept is only located in Poland.

Jeronymo was created in Portugal in 2002 and is a coffee shop chain. Initially, this concept was created inside the Pingo Doce supermarkets but evolved into a coffee shop concept. On 31 of December 2020, there were 22 stores located in Portugal.

[5] Jerónimo Martins. 2020. Jerónimo Martins em Portugal. Online: https://www.jeronimomartins.com/en/about-us/what-we-do/food-distribution/ [Accessed: 14-11-2020]
[6] Jerónimo Martins. 2020. Jerónimo Martins em Portugal. Online: https://www.jeronimomartins.com/en/about-us/what-we-do/specialised-retail/hebe/ [Accessed: 14-11-2020]

Finally, Hussel is specialized in chocolates and confectionery. This concept resulted from a joint venture with Douglas AG a German company, where currently Jerónimo Martins group owns 51% of Hussel capital. This concept can be found in many of the Portuguese shopping centres.[7]

3.1.3.3. Agribusiness

In the agribusiness segment, the group Jerónimo Martins is represented by the Jerónimo Martins Agro-Alimentar, which was created in 2014 with the main purpose of supporting the Food Distribution group that operates in Portugal by ensuring direct access to supply sources of strategic products, which can lead to a more competitive and differentiated offer, and thus consolidate the group's main strategy.[8]

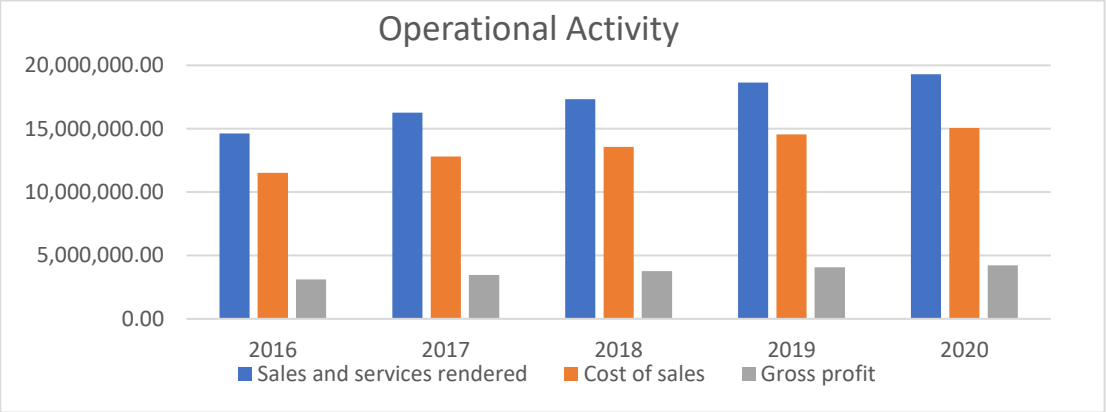
As examples, Jerónimo Martins has livestock farming dedicated to angus beef and it also has aquaculture farms. Finally, the group also owns a dairy factory (Terra Alegre) that produces milk, cream, and butter, which are sold exclusively in the group's supermarket chain.

3.1.4. Company Performance

Jerónimo Martins performance during the last five years has been very consistent, with a steady increase in revenues and a positive net income.

The company revenues have grown 32% in the last five years, reaching in 2020 a total value of approximately 19.3 billion euros (see appendix B) and growing 3.52% when compared with the previous year. From 2018 to 2019, the firm revenues registered an increase of 7.51%, and in the year before, a growth of 6.5%.

Figure 3.1: Jerónimo Martins operational activity



Source: Jerónimo Martins annual report (2020)

[7]Jerónimo Martins. 2020. Jerónimo Martins em Portugal. Online: https://www.jeronimomartins.com/en/about-us/what-we-do/specialised-retail/hussel/ [Accessed: 14-11-2020]
[8]Jerónimo Martins. 2020. Jerónimo Martins em Portugal. Online: https://www.jeronimomartins.com/en/about-us/what-we-do/agribusiness/ [Accessed: 14-11-2020]

The firm's EBIT followed the same path, growing over 21.42% in that period. In the 2019 it had a significant increase above 20%. However, in 2020 it decreased by 4.53%.

In term of earnings before taxes (EBT), it has not followed the same trend. In fact, during the previous five years, the EBT dropped approximately 38.37% and in the last year had a decrease of 16.50% (See appendix B).

In appendix B, we can see that the firm net income from 2016 to 2020 also negatively decreased by 47.39%. However, if we analyse period after period, we can see that the net income has fluctuated year after year. From 2016 to 2017, it fell sharply (34.3%), and in the following year, it increased by 4% and then it suffered a slight decrease (2.8%). In 2020 the net income decreased almost 20% when compared with the previous year.

This divergence between the EBIT and the company profit is derived from its financial activity, especially the "net financial costs" that increased over 900% from approximately 17 million euros € to 180.5 million euros. Still, on financial operations, another item that had a significant impact on the final net income value was the "Gains in other investments", which were in 2016 around 215.7 million euros and in 2020 were only 114 thousand euros.

The negative evolution of net financial costs can be related to the increase of long and medium-term loans. According to appendix C, the borrowing increased 116% over these five years, which affected the amount of interest paid. Another item that also had significant growth in this period was the "Lease liabilities", which had a value of zero euros in 2016, and by 2019 its values were around 2.38 billion euros.

Theses exponential changes in the net financial costs and in the lease liabilities results from the application of the IFRS16 that requires lessees to recognize all leases on the balance sheet (as a lease liability) to reflect the right to use the asset for a period of time.

By analyzing appendix D, we see that the total group number of stores has increased year after year. However, the growth rate of new stores has been decreasing. In 2020 the group opened 220 stores worldwide, which represented a decrease of 8.71% compared with the number of stores opened in 2019.

Moving on to a more detailed analysis, it is clear that there has been a more significant investment in expanding two chains of stores, Ara and Hebe. The number of stores has grown 204.07% and 92.81% respectively (see appendix D) during the period analysed. In the opposite direction, Hussel and Jeronymo showed a decrease of 4.17% and 24.14% in their number of shops in these five years.

The Portuguese supermarket Pingo Doce has been fluctuating regarding the parameter analysed above. During the period studied, it had an increase of approximately 10% in its number of stores, opening 13 new stores in 2020.

Although the group has a consolidated position in Portugal and Poland through Pingo Doce and Biedronka, respectively, the CEO Pedro Soares dos Santos said that the Poland supermarket chain (leader in food retail) plays a pivotal role in the group, representing 88% of its total EBITDA. For that reason, the CEO argues that Poland will be where the group will allocate more than 50% of their investment for the upcoming years. The Jerónimo Martins Group planned an investment of 750 million euros in 2020, and 57% of this amount went to Biedronka. Still, regarding the Poland supermarket chain, the company expects to start a process of internationalization, and according to the CEO, this expansion should be in the short term, and possibly, Romania will be the new destination for this supermarket chain[9].

3.1.5. Retail market analysis

3.1.5.1. Overall view (Europe)

The retail market in Europe, according to a Statista report, has been growing practically year after year, and proving that it is a very solid market.

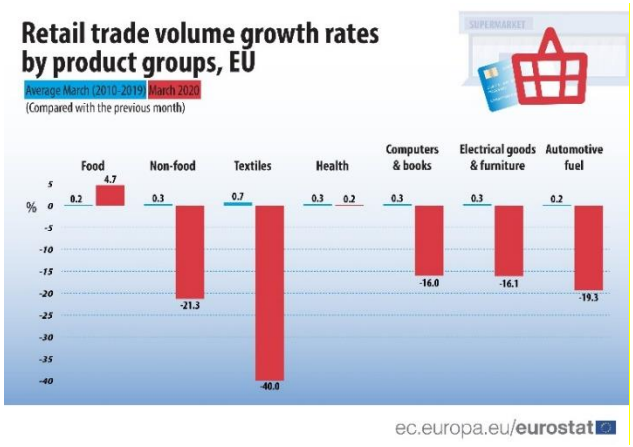
In 2017, retail commerce grew around 1.56%. It stagnated in the following year, with an overall value of approximately 3,250 billion euros (see appendix E). After this flattening period, the retail market has returned to its usual trend, and by 2019 it had grown over 2.4%[10].

Although the retail market has suffered fluctuations over the year 2020, primarily due to the Covid-19 pandemic, according to Eurostat in March 2020, we can see that despite the negative performance in the retail market and in almost all other related sub-markets, the food retail market shows both a positive change when compared with the same month of the previous year, and a positive development for the year in consideration, as we can see in the figure below extracted from a Eurostat's report.

[9] Rocha, M. 2020. Dinheiro Vivo. Jerónimo Martins. Biedronka "será por muitos anos mais de 50%" dos investimentos. Online: https://www.dinheirovivo.pt/empresas/jeronimo-martins-biedronka-sera-por-muitos-anos-mais-de-50-dos-investimentos-12686594.html [Accessed: 14-12-2020]

[10] ANIL.2020. Vendas no retalho europeu cresceram em média 2,2% em 2019. Online: https://www.anilact.pt/info/actual/mercado/item/4656-vendas-no-retalho-europeu-cresceram-em-media-2-2-em-2019 [Accessed: 16-01-2021]

Figure 3.2: Retail trade volume growth rates by product groups, EU



Source: Eurostat

Although this is only data for a specific month, we can conclude that, at least in March, the food retail market's evolution was independent of the development of the retail market in general. It means that despite the retail market's losses with the pandemic situation, the food retail market may not feel the same impacts.

In 2020, excluding the United Kingdom, the general retail (except of motor vehicles and motorcycles) decreased 0.7% when compared with 2019 (see appendix E). This negative performance is related with the Covid-19 pandemic.

3.1.5.2. Portugal

As far as the Portuguese market is concerned, the retail sector has steadily evolved over the years, growing 5.23% from 2016 to 2017 and 2.93% in the following year. Even though the market showed a reduction in the growth rate in 2018, the retail market sales reached a total value of 18.625 billion euros. In 2019, the market continued its positive performance and even achieved a higher rate than the one registered in 2017. In this year, the Portuguese retail market grew 6.23%, reaching a total value of 19.786 billion euros, according to Instituto Nacional de Estatística (INE)[11].

According to the Jerónimo Martins annual report (2020) the year 2020 in the Portuguese retail market was very challenging, with the pandemic causing significant changes in consumer behavior and consumer choices. The retail sale of food, beverages and tobacco grew only 1.8%.

[11] INE.2020. ESTATÍSTICAS DE COMÉRCIO. Online: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=133604&PUBLICACOESstema=00&PUBLICACOESmodo=2 [Accessed: 16-01-2020]

3.1.5.3. Poland

The Polish market is one of the most influential in Jerónimo Martins' profits, accounting for a large percentage of the group's EBITDA, as we saw earlier. The retail market in this country has experienced a solid growth by increasing almost 38% from 2011 to 2020.

In 2020, despite not registering an increase as in the previous year (5.6%), the retail market grew about 3.4% (see appendix F).

"In 2021, and still under the impact of the pandemic, growth should be similar to that in 2020, while the expectation is to return to pre-pandemic rates in the subsequent years" (Jerónimo Martins, 2020).

3.1.5.4. Colombia

There is not much available information for the Colombia retail market, so the Jerónimo Martins annual reports provide the data we use. In 2016 this market had an estimated value of 65.5 billion dollars, and in this year, its volume of sales increased around 7.4%. In the following year, the retail market had a minimal growth, primarily due to the tax reform, "which had strongly impacted consumption and the confidence of Colombian families" (Jerónimo Martins, 2017). In 2018, the retail market grew by 2.8% when compared to the previous year. In 2019, this market's growth was more substantial, increasing approximately 5%.

In 2020 Colombia retail market fell 5.4%, one of the reasons to this development was the pandemic that had a significant impact on the families wealth, "73% of families saw their average income drop more than 47%" (Jerónimo Martins, 2020). For 2021, the Food Retail market is expected to grow, but it is dependent of the pandemic control.

4. Valuation

4.1. Introduction

As described before, Jerónimo Martins group is currently present in Poland, Colombia, and Portugal. Since we have access to the whole group's annual reports (consolidated accounts), all data is already in Euros (€). Therefore, there is no need to consider exchange rates to convert the different currencies' values into euros.

The valuation will be done with the reference date of 31 December 2020. All data relating to the following years will be based on projections according to both company's expected growth and the retail market trend. It will be considered a 5-years forecasting period from 2021 to 2025.

As mentioned above, the valuation will be based on the consolidated accounts. For that reason, the Enterprise Value of the company will not be determined by summing off all enterprise values of the disaggregated business units. It will be performed using three valuation methodologies. The first will use the DCF Model with the FCFF and FCFE approaches, discounted at the weighted average cost of capital (WACC) and at the cost of equity, respectively. Secondly, it will be used the EVA method. The final methodology will be the Relative Valuation, with reference to some of the most used multiples such as PER and EV/EBITDA. In the analysis below, it is provided more concrete information regarding the methods used and all the assumptions defined to perform the valuation.

4.2. Forecasted Values and Assumptions

4.2.1. Discount rate – WACC

As previously referenced, the DCF method can be computed by using the FCFF and the FCFE approaches. In the first one, the FCFF represents the available cash flow for shareholders and creditors. Therefore, the discount rate must also consider both equity and debt. Thus, the appropriate discount rate is the WACC.

As for the second approach, FCFE represents the cash flow available for shareholders and, therefore, the correct discount rate is the company's required return on equity (Re), which takes a fundamental place in the computation of the WACC (equation 5).

4.2.1.1. Cost of Equity

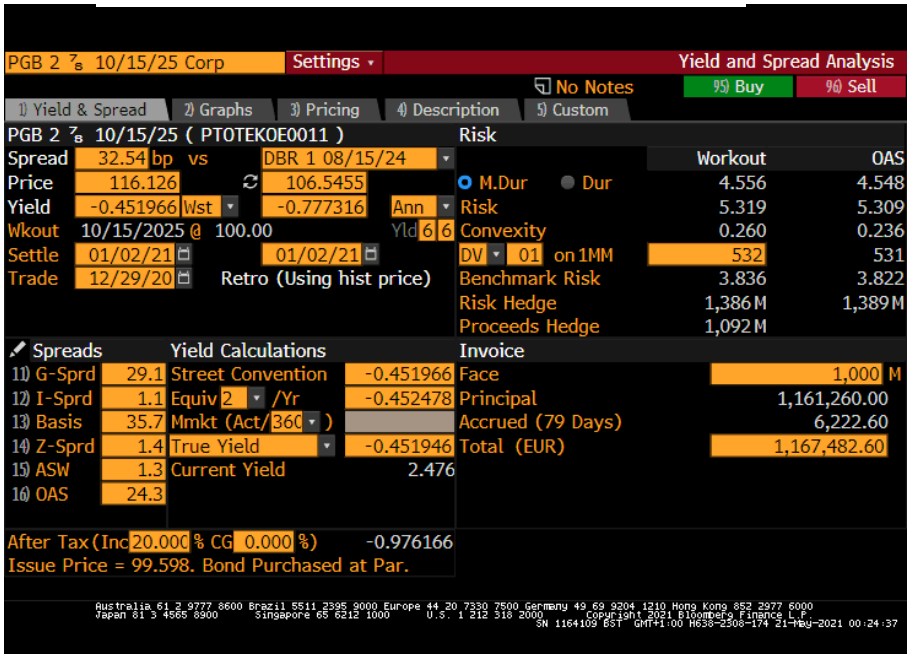
4.2.1.1.1. Risk-free rate

The Risk-free rate (Rf) should represent an investment with zero risk. According to Kivedal & Borgersen (2018), it should be considered as Rf the long term government bonds. In this analysis, it was taken into consideration the Portuguese government bonds, which, according to Standard & Poor's, have a BBB rating. Therefore, we are already taking into account the

country risk premium (CRP). In that sense, there is no need to consider it later, when computing the return by using the CAMP model, as it was suggested in equation 6, because the CRP is already reflected in the risk of the Portuguese government bonds.

To consider the most proper risk, we consulted Bloomberg to obtain the yield of a treasury bond, and the price considered was 2.476%.

Figure 4.1: Bloomberg - treasury bond at January/2020



Source: Bloomberg. Retrieved at: 21/05/2021.

4.2.1.1.2. Capital Structure

Assuming that the market value of financial debt is equal to its book value, Jerónimo Martins debt's has a value of 1,755 Billion euros (Net Debt)[12]. Notwithstanding, the market value of equity is 8,696 Billion euros and is the result of the multiplication of the outstanding shares (which in 2020 were 629,293,220 according to the company annual report) times the closing price of the year (13.82)[13].

The D/E Ratio, as the name suggests, results from the division of debt by equity and, in Jerónimo Martins case, is equal to 0.2.

By assuming that the company will maintain the same financing strategy within the period analyzed, the D/E Ratio will be constant over time.

[12] Jerónimo Martins Annual Report 2020
[13] Yahoo Finance. 2021. Jerónimo Martins historical Data. Online: https://finance.yahoo.com/quote/JMT.LS/history?period1=1606780800&period2=1609718400&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true [Accessed: 19-05-2021]

4.2.1.1.3. Market Risk Premium

As mentioned in the previous chapter, the market risk premium (MRP) considered for Portugal in 2020 was 7.1% (Fernandez et al., 2020). Consequently, we will consider this value as our MRP.

4.2.1.1.4. Cost of Equity Estimation

The cost of equity (Re) results from the CAPM equation (equation 6), and it has a value of 11%.

4.2.1.2. Cost of Debt

As Jerónimo Martins bonds are all expired, the cost of debt (Rd) cannot be obtained through the bond's yield. Therefore, Rd will be computed through the financial statement's items, particularly the financial debt and the financial expenses.

In practice, the Rd computation is given by the following equation:

$$Rd = \frac{Financial\ Expenses}{Financial\ Debt}$$

Equation 34

By looking directly at the income statement (appendix B), we can observe that the Net financial costs have a negative value of €180 million. However, as it is the net value its being considered the interest paid and the interest received. For that reason, we need more information.

To properly consider the amount of interest paid, we must look to appendix G, where we have loan's interest (28,317,000) and leases interest (126,830,000). Thus, the total amount of interest paid in 2020 by Jerónimo Martins was 155,147,000.

The interest payments are based on the outstanding debt, and the debt reflected in the balance sheet has already deducted the amount paid during the year on capital and interests. Once we have no notion of the debt evolution during the year, it would be more reasonable, for the calculation of Rd, to use the following formula:

$$Rd = \frac{Financial\ Expenses}{(Financial\ Debt\ N - Financial\ Debt\ (N-1))/2}$$

Equation 35

The value of financial debt presented above corresponds to the net debt value, to Rd purposes it is necessary to sum the cash to obtain the real debt value.

Applying equation 35, the Rd is 5,26%. Despite this value being relatively high for a company such as Jerónimo Martins, it can be explained by the loans that the company has in

foreign currencies, namely in Colombia and specially in Poland, which contributes to an increase in the company's cost of debt.

4.2.1.3. Tax Rate

According to the Portuguese legislation, the tax rate results from a marginal tax rate of 21%, plus a state surtax, which is 9% and a municipal surtax of 1.5% in Jerónimo Martins case. Thus, for Portugal, the tax rate of Jerónimo Martins should be 31.5%.

However, as it was used the consolidated accounts, it is necessary to take into consideration the changes in the tax policies both in Poland and Colombia. Therefore, it was computed the average tax rate obtained through the income statements 24,19% (see appendix H).

4.2.1.4. Beta Estimation

As levered beta (βl) we take into consideration a report from Caixa BI (Investment Bank) (2020) where it was assumed a levered beta of 1.2.

Regarding the Beta of Debt (βd), since the Rd was already computed, by using the CAPM equation, we can solve it in order to βd.

$$\beta d = \frac{(Rd - Rf)}{MRP}$$

Equation 36

By solving the equation above we obtain a βd of 0.39.

4.2.1.5. WACC Estimation

The considered WACC for Jerónimo Martins is 9.82% and is the result of the application of equation 5.

4.2.2. Revenues

To make plausible projections, the information previously described is crucial, namely the retail market's evolution and the growth in company sales over recent years. From 2016 to 2020, Jerónimo Martins revenues have grown, on average, 7.21% and it has been increasing year after year, which is a sign that this trend is likely to continue in the years to come.

Regarding the retail market, as we saw before, it had followed a similar trend. In Portugal, it has grown on average 4%, while in Poland this value was higher by almost 2% (5,75%). In Europe the retail market showed a lower growth trend, on average, the European retail market grew 0.82%.

Despite the positive expectations in terms of growth, in 2020, Europe was impacted by the Covid-19 pandemic, which brought significant changes at economic and social levels.

Naturally, the forecasted values became less predictable, and it started to be considered that in the first years after the emergence of the pandemic, there would be an economic retraction, which could also impact the company's growth and their objectives for 2021.

In that sense, the forecasted growth rates to the initial years are lower than expected, being 1% in 2021 and 2% in 2022. After that period, the economy will likely start to recover and stabilize in what would be its natural growth trend. Therefore, in 2023 and 2024, the growth rate considered was 3.5% and 4%, respectively.

In 2025, which is the last period of forecasting, the revenues will grow 5%. The revenues forecasting is detailed in appendix I.

4.2.3. Operating costs

The operating costs have grown side by side with the revenues. On average, these costs grew 7%, just less than 0.21% than revenues. As we saw previously, with the pandemic situation, it is expected that the company, to face this reality, make adjustments in some expenses. In that sense, the operating costs growth rate will be 2% in the first two years.

As for the following years, once the activity will be closer to its usual trend, the operational cost will grow side by side with the revenues, increasing 3% in 2023, 3.5% in 2024 and 4.5% in 2025. The operational cost forecasting is detailed in appendix I.

4.2.4. Depreciation and amortization

In what concerns the depreciation and amortization, the values recorded by Jerónimo Martins have fluctuated year over year. In general, depreciations and amortizations have represented around 2% of the revenues. However, in the last two years this value increased to approximately 3.8%.

Table 4.1: Jerónimo Martins historical Depreciation and Amortization

Euro thousand

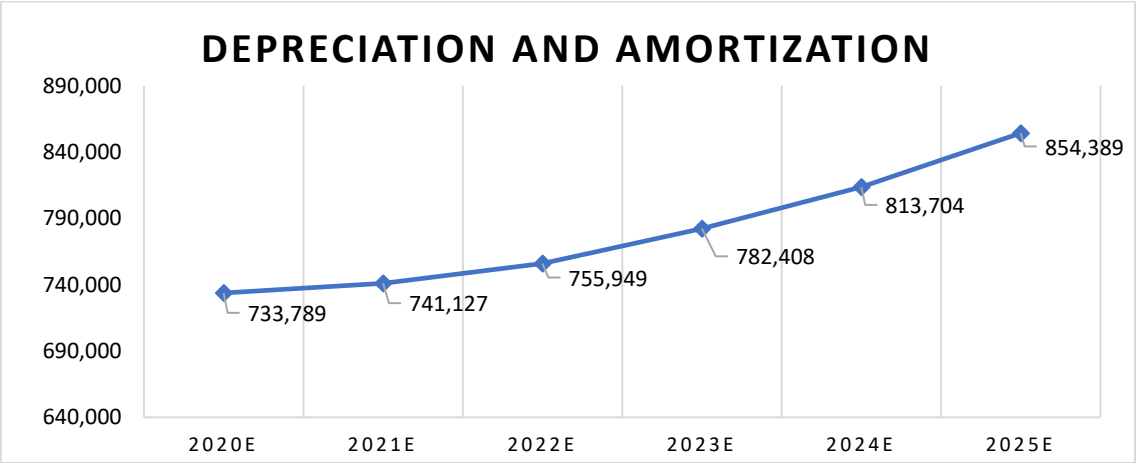
	2016	2017	2018	2019	2020
Depreciation and Amortization	294,249	330,866	-363,736	-715,027	733,789
% Revenues	2.01%	2.03%	-2.10%	-3.84%	3.80%

Source: Own estimation

In 2019 with the IFR16 application, the leases started to be recognized as assets. For that reason, it is normal to the depreciation value being higher in the years following 2019.

Therefore, in the forecasted years it was assumed that the depreciation and amortization will represent 3.8% of the revenues.

Figure 4.2: Jerónimo Martins estimated Depreciation and Amortization



Source: Own estimation

4.2.5. Working Capital

The WC computation is detailed in appendix J. On average, it represents -14.47% of the revenues. As expected, Jerónimo Martins WC is negative, which is the anticipated scenario in the supermarket/retail business, once the average collection period tends to be considerably smaller than the average payment period, which can be observed by looking into the balance sheet as the value of creditors is way higher than debtors' value.

The forecasted Working Capital will be based on the average historical performance, as a percentage of the company revenues over the last five years.

Table 4.2: Working Capital forecast

Euro thousand

	2021e	2022e	2023e	2024e	2025e
Working Capital	**-2,820,403**	**-2,876,811**	**-2,977,499**	**-3,096,599**	**-3,251,429**
Investment in Working Capital	-33,508	-56,408	-100,688	-119,100	-154,830

Source: Own estimation

4.2.6. Capital Expenditure (CAPEX)

Capital Expenditure (CAPEX), or in other words, investment in fixed assets, plays a vital role in the valuation framework. The CAPEX represents all the necessary investment to keep the business running. In Jerónimo Martins case, these expenditures are related to opening new stores and distribution centres, maintaining operations, improving the shopping experience, and storing refurbishment.

According to the company annual reports, the CAPEX from 2016 to 2019 represented, on average, 3.53% of the total revenues.

Table 4.3: Jerónimo Martins CAPEX

Euro thousand

	2016	2017	2018	2019	2020
CAPEX	485,000	724,000	658,000	678,000	470,000
% Revenues	3.32%	4.45%	3.80%	3.64%	2.44%

Source: Jerónimo Martins annual reports

The estimated CAPEX will respect the historical evolution of the last five years. In that sense, the forecasted capital expenditures will represent 3.53% of the company revenues.

Table 4.4: Jerónimo Martins forecasted CAPEX

Euro thousand

	2021e	2022e	2023e	2024e	2025e
CAPEX	687,262	701,007	725,542	754,564	792,292

Source: Own estimation

4.2.7. Profit and loss (P&L) forecasting

In the analysis above, we have detailed almost every item that is needed to properly estimate the company P&L. However, it is also necessary to forecast the Net financial costs and non-controlling interests.

Regarding the Net financial costs, it was computed a debt map where it was forecasted the debt evolution. It was assumed that the debt payments occurred at the begging of the years and therefore the inserts are computed by multiplying the debt value (long and short term) by the Rd. The Net financial costs are detailed on appendix K.

Other relevant assumption regards the debt evolution. Historically, the value of medium/long term financial debt represented around 12.05% of the revenues and the short term financial debt represented 3.57%. However, the computation of this values only considers the years 2019 and 2020. Once in 2019 with the IFRS 16 application, the financial debt suffers a substantial increase, and therefore, in the years before, the debt value does not reflect the actual level of debt (once it did not include the value of the lease).

Regarding the non-controlling interests, this item has represented on average 0.14% of the revenues. Thus, it was assumed that value in the forecast years.

The P&L forecasted values are the following.

Table 4.5: Jerónimo Martins forecasted P&L

Euro thousand

	2021e	2022e	2023e	2024e	2025e
Sales and services rendered	19,486,432	19,876,161	20,571,826	21,394,699	22,464,434
Cost of sales	-15,368,126	-15,675,488	-16,145,753	-16,710,854	-17,462,843
Other operating profits/losses	-2,859,826	-2,917,023	-3,004,533	-3,109,692	-3,249,628
EBITDA	**1,258,480**	**1,283,650**	**1,421,540**	**1,574,153**	**1,751,963**
Depreciation and Amortization	-741,127	-755,949	-782,408	-813,704	-854,389
EBIT	**517,353**	**527,700**	**639,132**	**760,449**	**897,574**
Other profits/losses	-27,442	-27,991	-28,971	-30,129	-31,636
Net financial costs	-160,103	-163,305	-169,021	-175,781	-184,571
EBT	**329,808**	**336,404**	**441,141**	**554,538**	**681,368**
Income tax	-79,768	-81,363	-106,695	-134,121	-164,796
Non-controlling interests	-27,197	-27,741	-28,712	-29,860	-31,353
Net Income	**222,844**	**227,301**	**305,735**	**390,557**	**485,219**

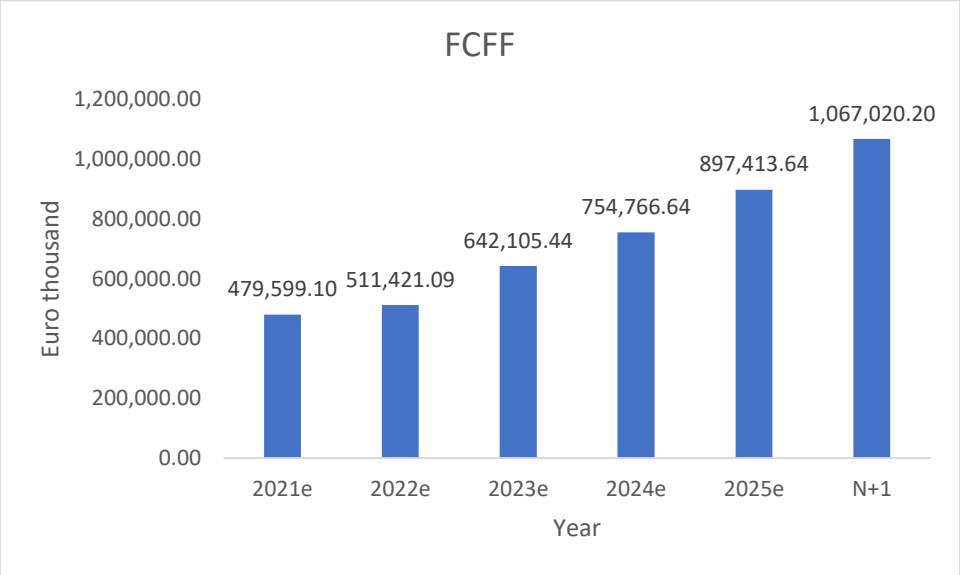
Source: Own estimation

4.3. Discount Cash Flow Method with FCFF approach

As mentioned before, the first model used to value Jerónimo Martins was the DCF under the FCFF approach, discounted at the WACC. After establishing all the assumptions and computing all the variables, it is possible to determine the FCFF (appendix L), by applying the equation 2.

The forecasted FCFF values are summarized in the next chart.

Figure 4.3: Jerónimo Martins FCFF



Source: Own estimation

4.3.1. Terminal Value

As observed in the literature review chapter, there are two hypotheses for the terminal value (residual value and steady growth). It was assumed the continuation of the company operations uninterruptedly. Therefore, it was used the steady growth methodology.

According to equation 7, the terminal value formula requires two inputs, the $FCFF_{N+1}$ and the continuous growth rate (g).

As previously explained in equation 8, to compute the g is necessary to obtain the ROIC and the Payout ratio. The Payout ratio can be computed by dividing the dividends paid by the net income. According to Jerónimo Martins annual report, for the year 2020 it was proposed by "the Annual General Shareholder's Meeting, the distribution of 181 million euros in dividend" (Jerónimo Martins, 2020). The Jerónimo Martins Net income in 2020 was 312,130,000 euros. Therefore, the Payout ratio is 0.58.

Regarding the ROIC, according to Damodaran (2007) the return on capital can be computed using the following equation:

$$ROIC = \frac{NOPLAT_t}{Book\ Value\ of\ Invested\ Capital_{t-1}}$$

Equation 37

The NOPLAT is equal to 522,484.62 thousand euros. As for the Invested capital in 2019, it had a value of 4,400 million according to Jerónimo Martins (2020). Applying equation 37, the ROIC has a value of 0.13.

Finally, using equation 8, the continuous growth rate has a value of 5.47%. As referenced in chapter 2, the g should not exceed the average long-term projected growth rates in the industry or the projected growth of the country's economy.

According to the European Commission (2021) the Polish and Portuguese economies are projected to grow fast in 2021 and 2022, possibly due to the impact caused by COVID-19 Pandemic in 2020. However, according to the Organization for Economic Co-operation and Development (OECD)[14] the long-term estimated growth rates are 1.13% for Poland and 1.39% for Portugal. Colombia long-term projected growth rate is 1.96%.

Therefore, it cannot be assumed that Jeronimo Martins will grow continuously at 5.47% per year. In that sense, is was consulted the Caixa Bank BI report (2020), where it was assumed

[14] OECD 2021. Real GDP long-term forecast. Online: https://data.oecd.org/gdp/real-gdp-long-term-forecast.htm Accessed: 14-06-2021]

a g for each business unit. It was assumed the avenge value for all business, which produced a continuous growth rate of 1.8%.

The final required input to compute the terminal value is the $FCFF_{N+1}$, to this calculation it was assumed that the cash flow will grow proportionally to the previous year, which makes it reach a value of 1,067,020.20 thousand euros.

After having all the necessary inputs and using equation 7, the terminal value is equal to 13,306,367 thousand euros.

4.3.2. Jerónimo Martins' equity value

To compute Jerónimo Martins equity value it is necessary to estimate the enterprise value, and then, as equation 10 suggests, add the non-operating assets and deduct the debt value.

In order to perform this computation, it was necessary to make some assumptions. The first assumption is related with the debt value, as mentioned earlier, it was considered the net debt. It was also subtracted from the EV the non-controlling interests.

The second assumption relate to the non-operating assets. For simplification, it was assumed that their book value (accounting value) matches its market value. In 2020 Jerónimo Martins non-operating assets had an estimated value of € 10,532.00 thousand (see appendix M).

The table below summarizes all the variables used in the EQV calculation and subsequent value per share, which has a value of €13.92.

Table 4.6: Jerónimo Martins EQV through the FCFF approach

Euro thousand

	2021e	2022e	2023e	2024e	2025e
FCFF	479,599	511,421	642,105	754,767	897,414
Terminal Value					13,306,367
PV FCFF	436,718	424,057	484,814	518,925	561,834
PV TV					8,330,569
Enterprise Value	**10,756,918**				
Non-Business Assets	10,532				
Net Debt	-1,755,783				
Non-controlling interests	-249,063				
Equity Value	8,762,604				
Value per Share	**13.92 €**				
Close Price (31/12/2020)	13.82				
UP/Downside Potential	0.76%				

Source: Own estimation

4.3.3. Sensitivity Analysis

In the valuation framework, many variables are important and must be correctly estimated. However, there are two variables that have a major impact on the final result: (i) the WACC, which impacts in the present value of the future cash flows and (ii) the continuous growth rate

(g) that is the primarily responsible for the terminal value, which typically represents more than 50% of the final value. Therefore, it is relevant to run a sensitivity analysis based on potential deviations in these variables.

The results can be observed in the table below. The test performed involved variations of 0.1%, 0.5% and 1% in the set variables.

Table 4.7: Sensitivity analysis: Target Price (€)

		Continuous growth rate (g)						
		-1.00%	**-0.50%**	**-0.10%**	**Base**	**0.10%**	**0.50%**	**1.00%**
WACC	**-1.00%**	14.66	15.58	16.41	16.63	16.86	17.85	19.26
	-0.50%	13.49	14.29	15.00	15.19	15.38	16.22	17.40
	-0.10%	12.65	13.36	14.00	14.16	14.34	15.07	16.11
	Base	12.46	13.15	13.76	13.92	14.09	14.80	15.81
	0.10%	12.26	12.94	13.53	13.69	13.85	14.55	15.52
	0.50%	11.53	12.14	12.67	12.81	12.96	13.57	14.43
	1.00%	10.70	11.24	11.70	11.83	11.95	12.49	13.23

Source: Own estimation

Table 4.8: Sensitivity analysis: Target Price variation (%)

		Continuous growth rate (g)						
		-1.00%	**-0.50%**	**-0.10%**	**Base**	**0.10%**	**0.50%**	**1.00%**
WACC	**-1.00%**	5.26%	11.88%	17.84%	19.44%	21.08%	28.16%	38.33%
	-0.50%	-3.11%	2.59%	7.70%	9.06%	10.46%	16.45%	24.98%
	-0.10%	-9.12%	-4.02%	0.51%	1.72%	2.96%	8.24%	15.70%
	Base	-10.54%	-5.58%	-1.17%	-	1.20%	6.32%	13.54%
	0.10%	-11.93%	-7.10%	-2.81%	-1.68%	-0.51%	4.46%	11.45%
	0.50%	-17.17%	-12.83%	-9.00%	-7.98%	-6.94%	-2.53%	3.65%
	1.00%	-23.13%	-19.31%	-15.95%	-15.06%	-14.16%	-10.32%	-4.99%

Source: Own estimation

The test preformed shows the importance of the variables g and WACC on the valuation result, as the target price fluctuated from €10.70 (-23.13%) to maximum value of €17.40 (38.33%), which proves that these variables are very sensitive, and they both require maximum accuracy in their estimation. In the table above we can see that in this case, the WACC plays a very important role in the final value, since when it increases 1% (maximum variation considered), not even an increase in g of the same proportion makes the target price having a positive variation. In the reverse scenario, when g decreases by 1% and the WACC decreases by the same amount, the share price has a value of €14.66 and is above 5.26% when compared with the base scenario.

4.4. Other DCF approaches

4.4.1. Discount Cash Flow Method with FCFE approach

The FCFE approach is similar to the method used above, as detailed in the literature already reviewed, the main differences are (i) the discounting rate, that in this case is the cost of equity instead of the WACC, and (ii) the starting point to the cashflow estimation shifts from the NOPLAT to the Net Income. In appendix N, it is possible to see in detail the FCFE estimation, based on equation 3.

Using the DCF under the FCFE perspective the value per share increases to €16.86.

Table 4.9: Jerónimo Martins EQV through the FCFE approach

Euro thousand

	2021e	2022e	2023e	2024e	2025e
FCFE	519,353	907,947	1,222,920	1,355,309	1,538,879
Terminal Value					11,278,068
PV FCFE	467,903	736,963	894,285	892,913	913,414
PV TV					6,694,191
Non-Business Assets	10,532				
Equity Value	10,610,201				
Value per Share	**16.86 €**				
Close Price (31/12/2020)	13.82				
UP/Downside Potential	22.00%				

Source: Own estimation

4.4.2. Economic Value Added (EVA)

As equation 33 suggests, the EVA is the result of the present value of the future MVA discounted at the WACC, and the equity value can be obtained by adding the book value of equity and the non-operating assets.

To estimate the EVA is necessary three inputs (equation 26). The first is the NOPLAT, which can be easily computed since the EBIT was already forecasted. The second part of the equation requires the WACC and the invested capital. To estimate the invested capital, it was assumed the historical average growth (5%). However, it was excluded from the average computation the year 2019, which due to the IFRS 16 application the IC had a significant increase.

Table 4.10: Invested Capital

million euros

	2016	2017	2018	2019	2020
Invested Capital	1,656	1,843	2,096	4,400	4,010
Growth		0.11	0.14	1.10	-0.09

Source: Jerónimo Martins annual report 2020

The EVA estimation is summarized in the table below.

Table 4.11: EVA estimation

Euro thousand

	2021e	2022e	2023e	2024e	2025e	N+1
Noplat	392,226	400,070	484,551	576,526	680,486	803,193
Invested Capital	4,225,955	4,453,541	4,693,382	4,946,141	5,212,511	5,493,226
WACC	9.82%	9.82%	9.82%	9.82%	9.82%	9.82%
Econimic Value Added	**-22,715**	**-37,217**	**23,714**	**90,871**	**168,677**	**263,820**
Terminal value						3,289,989

Source: Own estimation

4.4.2.1. Equity value

By using the EVA methodology, the Jerónimo Martins equity value is equal to 10.9 billion euros, which corresponds to €17.32 per share. This model produces a higher value when compared with the DCF methods applied above.

Table 4.12: Jerónimo Martins EQV through the MVA approach

Euro thousand

	2021e	2022e	2023e	2024e	2025e
Econimic Value Added	-22,715	-37,217	23,714	90,871	168,677
Terminal value					3,289,989
PV Economic Value Added	-20,684	-30,859	17,905	62,477	105,602
PV Terminal Value					2,059,726
Market Value Added	**2,194,167**				
Book Value of Equit	8,696,832				
Non-Business Assets	10,532				
Equity Value	10,901,531				
Value per Share	**17.32 €**				
Close Price (31/12/2020)	13.82				
UP/Downside Potential	25.35%				

Source: Own estimation

4.5. Relative valuation or Multiples valuation

As referenced in chapter 2 the Relative valuation, is one of the simplest methods (due to the required assumptions) and one of the most used techniques to value companies. This type of valuation requires a peer group, which is a group of companies that can be compared directly with the company we are valuating. Typically, companies in the same industry, and if possible, with a similar risk and growth profile.

Jerónimo Martins is inserted in the retail market, and therefore, the peer group assumed is composed by the following companies:

Table 4.13: Peer Group

Peer group	Country	Value per share (EUR) 02-01-2020	Market cap EUR (m)
Tesco	UK	324.81	250.00
Sainsbury	UK	249.89	6.70
Walmart	USA	117.20	310.95
Carrefour	France	14.03	13.59
Kesko	Finland	21.04	11.8
Tokmanni	Finland	16.24	1.35

Source: Yahoo finance

The data regarding the English and American companies was converted into euros using the EUR/GBP (0.9024)[15] and EUR/USD[16] (1.2300) exchange rates extracted on 31/12/2020.

4.5.1. PER – Price Earnings Ratio

The PER, as it was illustrated in equation 14, shows the relation between the company market price and the earnings per share. In the table below is possible to observe the individual PER values for each company that compose the peer group.

Table 4.14: Relative Valuation: PER

Company	PER	PER
Tesco	2.8	-
Sainsbury	N/A	N/A
Walmart	31.57	31.57
Carrefour	21.52	21.52
Kesko	25.51	25.51
Tokmanni	18.99	18.99
Median	21.52	23.52
Average	20.08	24.40

Source: Yahoo finance

Since the Tescos' PER is considerable below of the remaining companies it will be excluded from the computation of the peer group average. Thus, as the average PER obtained through the peer group has a value of 24.40. By applying the equation 14, Jerónimo Martins share value is equal to €12.10, which is significantly lower than the values achieved by the DCF models.

[15] Yahoo Finance. 2021. EUR/GBP historical Data. Online: https://finance.yahoo.com/quote/EURGBP%3DX/history?period1=1608595200&period2=1609718400&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true [Accessed: 21-06-2021]
[16] Yahoo Finance. 2021. EUR/GBP historical Data. Online: https://finance.yahoo.com/quote/EURUSD%3DX/history?period1=1608595200&period2=1609718400&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true [Accessed: 21-06-2021]

4.5.2. EV/EBITDA

As the name suggests, EV/EBITDA results from the division of the enterprise value by the EBITDA. The peer group has an average EV/EBITDA of 11.82.

Table 4.15: Relative Valuation: EV/EBITDA

Company	EV/EBITDA
Tesco	9.3
Sainsbury	9.03
Walmart	10.87
Carrefour	7.71
Kesko	18.49
Tokmanni	15.54
Median	10.085
Average	11.82

Source: Yahoo finance

After knowing the peer group average, it is possible to obtain the EV, which, in this case, has a value of 16.82 billion euros. The process to compute the EQV is similar to the one that has been used in the DCF model, which means to calculate the equity value it is necessary to subtract the debt value as well as the non-controlling interests and add the non-operating assets and finally, dividing the result by the number of outstanding shares. The Jerónimo Martins value using this multiple is equal to €23.57 per share.

4.6. Valuation Results: comparative analysis of the several methods

The table below summarizes all the values obtained through the different valuation methods used above.

Table 4.16: Jerónimo Martins value per share obtained by the several methods

Method	Value per share (EUR)
FCFF	13.92
FCFE	16.86
EVA	17.32
Relative Valuation	16.76
PER	12.10
EV/EBITADA	23.57
Average	16.93
Close Price (31/12/2020)	13.82
UP/Downside Potential	**23.5%**

The values obtained through the multiples valuation are €12.10 (PER) and €23.75 (EV/EBITDA) per share. These resulted in an average value per share of €16,93, which is relatively close to the value obtained with the EVA methodology (€17.32 per share) and almost equal to the value produced by the FCFE approach (€16.86 per share).

The DCF method under the FCFF approach produced the closest value at which the shares were quoted on the stock exchange on 31/12/2020, differing by only 10 cents.

4.6.1. Valuation: Final Recommendation

Jerónimo Martins share value at 31/12/2020 was €13.82, the closest value achieved on the valuation was €13.92, and on average the valuation result was €16.93 per share, resulting in an up potential of around 23.5%. In general, the values obtained by the several methods outperform the market, the only exception was with the multiple PER which produce a value of €12.10 per share. This value is justified by the 20% decrease in the net income in 2020 if, for instance, the net income in 2020 was equal to the value registered in 2019, the valuation produced by PER would have been €15.11 per share, which would be in line with the average valuation value obtained.

Taking into account the report from Caixa BI (2020), where the target price is €17.5, which is consistent with the values obtained, the recommendation to the market is to Buy Jerónimo Martins shares, once it is expected, in the short term, a positive return for potential investors.

5. Conclusion

The objective of this dissertation is to estimate Jerónimo Martins SGPS share value based in the literature reviewed. Jerónimo Martins had a value of €13.82 per share on 31/12/2020, this company owns Pingo Doce and Biedronka supermarket chains, being one of the major players in both Portugal and Poland retail market. Despite Jerónimo Martins having presence in other markets, the retail industry represents the core business of the group and therefore it was performed an analysis to this industry.

The retail market has been growing year after year. In Poland grew on average over 5.75% per year in the last five years and in Portugal it grew around 4%. In Europe this evolution was not so expressive once it only grew 0.8% per year in the same period of analysis. As for Colombia, this market had an irregular evolution, for example in 2019 has grown 5.4% but in 2020 had a fall of 5%. However, we must take into account that this economy was highly affected by the pandemic as "73% of families saw their average income drop more than 47%" (Jerónimo Martins, 2020).

In addition to the market analysis, the evolution of Jerónimo Martins' performance was also considered, regarding the company revenues it increased on average 7.21% per year. The firm EBITDA grew in the last five years 65%, with an average of 14.95% per year. The company Net income decrease almost 47% in this period and in 2020 had a value of 312,13 million euros, most of this negative performance can be associated with the application of the IFRS 16 that obliged the companies to recognise the leases as assets and liabilities, and with that the interests/payments associated with these liabilities are now recognised in the profit and loss statement as an expense, which naturally reduces the net profit of the company. In line with IFRS 16 application, the net financial costs in 2018 were 24 million euros and 2019 increased to 156 million euros, growing almost 530%. This new accounting standard is implemented since 2019 (included).

According to Damodaran (2006) and Fernández (2001), the two most common methods to value a company are the DCF model and the relative valuation. The last one due to its simplicity and the need for fewer assumptions is the most used method, according with Morgan Stanley Dean Winters (1999) study. Therefore, the value of Jerónimo Martins was estimated by three models: (i) by the DFC by both approach the FCCF and the FCFE, (ii) the EVA and (iii) the multiples methodology.

According to the DCF models, by the FCFF and FCEE approaches Jerónimo Martins shares are worth €13.92 and €16.86 respectively, which represent an up potential of 0.76% and

22%. Considering the EVA methodology, the firm has a value of €17.32 per share which represents an appreciation of 25.35% when compared with the current market price. Finally, in the relative valuation, the multiples considered to value Jerónimo Martins were the PER and the EV/EBITDA, the results produce were €12.10 and €23,57 per share.

As final recommendation regarding Jerónimo Martins shares, once the average value obtained through the several methods of valuation is €16.93 and represents an increase of 23.5% when compared to the current share price, the final recommendation is to Buy the company shares, once the marked in not reflecting the true value of the firm and it is expected, in the short term, to adjust that value, which may represents a potential gain to the investors.

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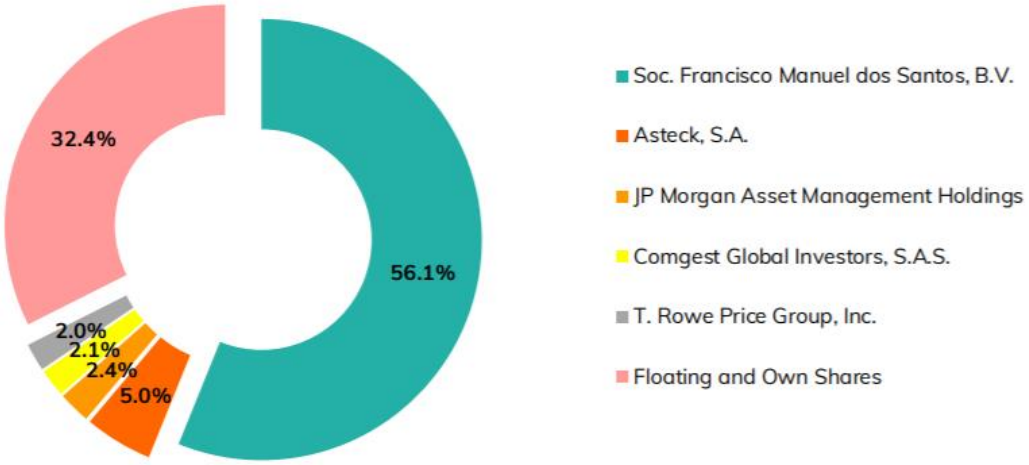
7. Appendices

Appendix A: The Company's shareholder structure, with reference to 31 December 2020.

Figure 7.1: Jerónimo Martins shareholder structure



Source: Jerónimo Martins

Appendix B: Jerónimo Martins Profit and Loss (P&L).

Table 7.1: Jerónimo Martins P&L

Euro thousand

	2016	2017	2018	2019	2020
Sales and services rendered	14,621,738	16,276,150	17,336,708	18,638,220	19,293,497
Cost of sales	-11,508,992	-12,817,884	-13,576,829	-14,562,712	-15,066,790
Gross profit	**3,112,746**	**3,458,266**	**3,759,879**	**4,075,508**	**4,226,707**
Distribution costs	-2,307,621	-2,605,993	-2,874,490	-3,031,343	-3,203,063
Administrative costs	-237,555	-261,139	-289,299	-322,294	-334,477
Other operating profits/losses	-31,994	-13,940	-9,376	-15,840	-50,280
Operating profit	**535,576**	**577,194**	**586,714**	**706,031**	**638,887**
Net financial costs	-17,356	-12,166	-25,112	-158,704	-180,489
Gains (losses) in joint ventures and associate	10,271	-13	188	-2	114
Gains (losses) in other investments	215,704	-198	0	1,901	144
Profit before taxes	**744,195**	**564,817**	**561,790**	**549,226**	**458,656**
Income tax	-129,969	-152,236	-131,930	-128,459	-135,936
Profit before non-controlling interests	**614,226**	**412,581**	**429,860**	**420,767**	**322,720**
Non-controlling interests	21,008	27,225	28,816	30,901	10,590
Jerónimo Martins Shareholders	**593,218**	**385,356**	**401,044**	**389,866**	**312,130**

Source: Jerónimo Martins Annual Report. Retrieved at [10/05/2021]: https://www.jeronimomartins.com/en/investors/presentations-and-reports/?search=

Table 7.2: Other relevant information

Euro thousand

	2016	2017	2018	2019	2020
EBITDA	**861,819**	**922,000**	**959,826**	**1,436,898**	**1,422,956**
Depreciation and Amortization	-294,249	-330,866	-363,736	-715,027	-733,789
EBIT	**567,570**	**591,134**	**596,090**	**721,871**	**689,167**
Other operating profits/losses	-31,994	-13,940	-9,376	-15,840	-50,280
Net financial costs	208,619	-12,377	-24,924	-156,805	-180,231
Income tax	-129,969	-152,236	-131,930	-128,459	-135,936
Non-controlling interests	-21,008	-27,225	-28,816	-30,901	-10,590
Net Income	**593,218**	**385,356**	**401,044**	**389,866**	**312,130**

Appendix C: Jerónimo Martins Balance Sheet

Table 7.3: Jerónimo Martins Balance Sheet

Euro thousand

	2016	2017	2018	2019	2020
			Assets		
Tangible assets	3,023,360	3,474,835	3,687,053	3,969,937	3,817,255
Intangible assets	786,983	811,040	792,514	794,010	757,368
Investment property	13,952	13,714	11,676	8,563	8,523
Right-of-use assets	0	0	0	2,334,949	2,166,551
Biological assets	0	0	3,398	3,336	3,338
Investments in joint ventures and associates	0	1,557	3,245	5,193	5,594
Other financial investments	1,000	1,417	1,321	1,327	1,327
Trade debtors, accrued income and deferred cos	112,836	111,383	84,713	86,767	70,338
Derivative financial instruments	0	227	0	0	0
Deferred tax assets	69,756	106,025	114,840	138,130	163,420
Total non-current assets	**4,007,887**	**4,520,198**	**4,698,760**	**7,342,212**	**6,993,714**
Inventories	718,618	841,565	970,653	1,038,627	973,919
Biological assets	1,181	5,498	3,790	5,563	4,786
Income tax receivable	2,037	5,094	5,035	11,469	17,467
Trade debtors, accrued income and deferred cos	311,130	387,833	435,642	424,689	393,023
Derivative financial instruments	1,277	294	59	0	3,611
Cash and cash equivalents	643,512	681,333	545,988	929,311	1,041,390
Total current assets	**1,677,755**	**1,921,617**	**1,961,167**	**2,409,659**	**2,434,196**
Total assets	**5,685,642**	**6,441,815**	**6,659,927**	**9,751,871**	**9,427,910**
			Shareholders' equity and liabilities		
Share capital	629,293	629,293	629,293	629,293	629,293
Share premium	22,452	22,452	22,452	22,452	22,452
Own shares	-6,060	-6,060	-6,060	-6,060	-6,060
Other reserves	-96,865	-51,109	-77,046	-67,011	-128,654
Retained earnings	1,189,191	1,193,319	1,209,259	1,396,293	1,491,097
Non-controlling interests	252,500	225,298	238,356	253,941	249,063
Total shareholders' equity	**1,990,511**	**2,013,193**	**2,016,254**	**2,228,908**	**2,257,191**
Borrowings	114,829	237,762	288,390	308,764	363,798
Lease liabilities	0	0	0	1,999,293	1,896,547
Trade creditors, accrued costs and deferred inco	793	779	774	764	779
Derivative financial instruments	293	0	62	0	0
Employee benefits	61,823	66,482	65,069	69,669	70,079
Provisions for risks and contingencies	21,582	29,308	26,565	27,780	32,831
Deferred tax liabilities	59,742	71,579	75,627	70,678	65,808
Total non-current liabilities	**259,062**	**405,910**	**456,487**	**2,476,948**	**2,429,842**
Borrowings	224,581	299,505	350,814	423,685	159,730
Lease liabilities	0	0	0	384,980	376,694
Trade creditors, accrued costs and deferred inco	3,166,527	3,662,293	3,794,411	4,182,149	4,153,837
Derivative financial instruments	317	2,805	159	3,056	404
Income tax payable	44,644	58,109	41,802	52,145	50,212
Total current liabilities	**3,436,069**	**4,022,712**	**4,187,186**	**5,046,015**	**4,740,877**
Total shareholders' equity and liabilities	**5,685,642**	**6,441,815**	**6,659,927**	**9,751,871**	**9,427,910**

Source: Jerónimo Martins Annual Report. Retrieved at [10/05/2021]: https://www.jeronimomartins.com/en/investors/presentations-and-reports/?search=.

Appendix D: Jerónimo Martins stores

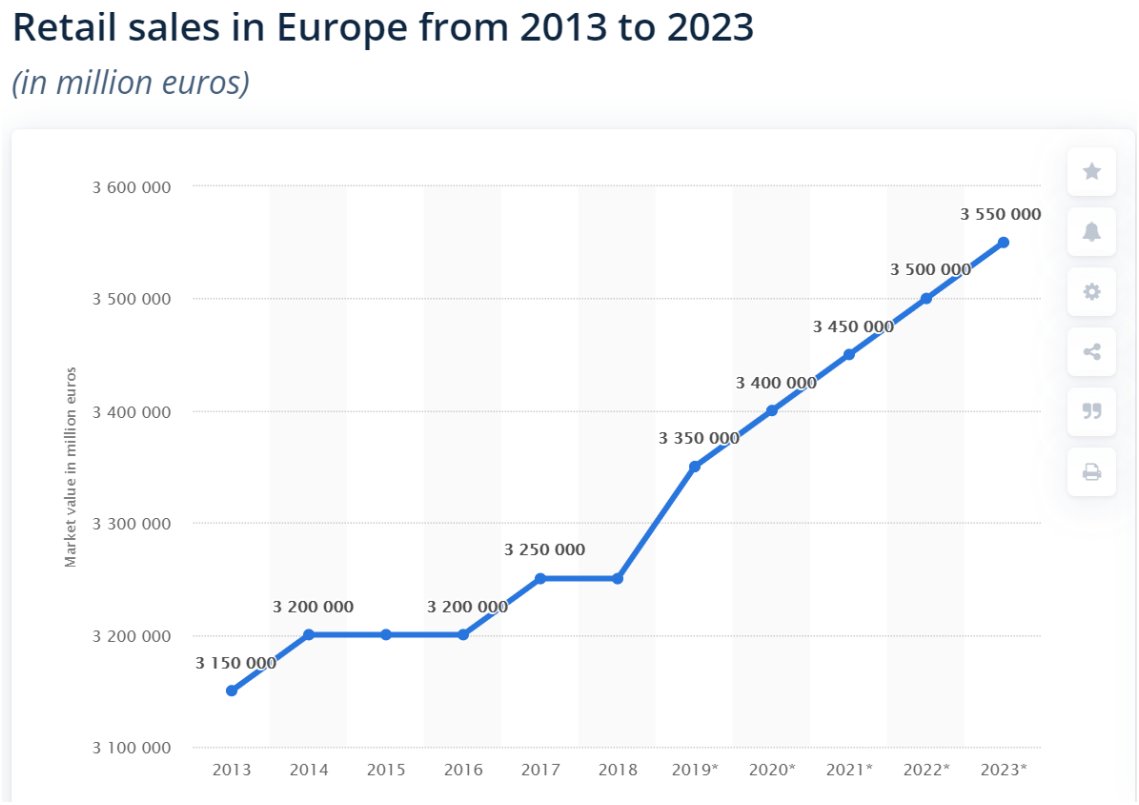
Table 7.4: Jerónimo Martins stores

Stores	2016		2017		2018		2019		2020	
	Stores	New	Stores	New	Stores	New	Stores	New	Stores	New
Ara	221	-	389	168	532	143	616	85	672	56
Biedronka	2722	-	2823	101	2900	77	3002	102	3131	129
Hebe	153	-	182	29	230	48	273	46	295	22
Hussel	24	-	24	0	24	0	23	-1	23	0
Jeronymo	29	-	21	-8	22	1	22	0	22	0
Pingo Doce	413	-	442	29	432	-10	441	9	454	13
Recheio	42	-	43	1	42	-1	42	0	42	0
Total	**3604**	0	**3924**	320	**4182**	258	**4419**	241	**4639**	220

Source: Jerónimo Martins Annual Report. Retrieved at [10/05/2021]: https://www.jeronimomartins.com/en/investors/presentations-and-reports/?search=.

Appendix E: Retail sales in Europe

Figure 7.2: Retail sales in Europe



Source: Statista Report. Retrieved at [28/01/2021]: https://www.statista.com/statistics/491543/retail-market-value-western-europe/.

Appendix F: Turnover and volume of sales in wholesale and retail trade - annual data

Table 7.5: Turnover and volume of sales in wholesale and retail trade

Source of data	Eurostat
Time frequency	Annual
Business trend indicator	Index of deflated turnover
Classification of economic activities - NACE Rev.2	Retail trade, except of motor vehicles and motorcycles
Seasonal adjustment	Calendar adjusted data, not seasonally adjusted data
Unit of measure	Index, 2015=100

GEO/TIME	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
European Union - 27 countries (from 2020)	97.3	95.9	95.5	96.9	100.0	102.1	105.1	107.3	110.2	109.5
European Union - 28 countries (2013-2020)	96.2	95.1	94.9	96.7	100.0	102.6	105.3	107.6	110.4	:
Euro area - 19 countries (from 2015)	98.5	96.9	96.2	97.3	100.0	101.6	104.2	105.9	108.5	107.5
Belgium	98.1	97.8	98.8	99.2	100.1	99.5	100.1	100.2	100.9	102.8
Bulgaria	74.3	78.2	81.2	89.5	100.0	106.1	111.8	115.6	122.1	109.1
Czechia	93.2	92.3	92.2	94.5	100.0	104.6	110.9	116.4	122.0	120.8
Denmark	102.4	99.1	97.8	99.1	100.1	101.4	102.2	103.8	104.5	108.4
Germany (until 1990 former territory of the FRG)	94.8	94.9	95.3	96.4	100.1	102.1	105.8	107.5	111.0	115.6
Estonia	83.1	87.8	89.1	95.6	100.1	104.1	105.9	107.0	111.7	115.7
Ireland	88.9	88.4	89.7	94.8	99.5	104.5	110.8	115.3	120.9	125.7
Greece	126.2	110.8	101.9	101.5	100.0	99.4	100.6	102.1	102.9	98.6
Spain	108.8	100.0	95.0	96.0	100.0	103.9	104.7	105.4	107.8	100.9
France	91.4	93.1	94.8	96.5	100.0	102.9	106.7	109.7	112.8	110.5
Croatia	100.9	97.1	97.5	97.0	100.2	101.5	105.2	109.8	114.4	109.4
Italy	103.8	100.2	97.9	98.3	100.0	99.9	100.1	99.6	100.4	92.5
Cyprus	105.2	100.4	93.4	95.2	100.0	104.8	111.2	117.0	121.2	118.8
Latvia	82.4	88.5	92.0	95.3	100.0	102.1	106.6	110.8	113.3	114.9
Lithuania	83.2	86.0	90.0	94.8	100.0	106.5	111.4	118.7	125.1	128.3
Luxembourg	97.0	115.5	130.1	140.7	100.0	43.3	29.8	30.8	32.3	31.5
Hungary	90.1	88.3	90.0	94.7	100.0	104.8	110.8	118.3	125.7	125.3
Malta	93.4	94.0	93.6	93.3	99.9	102.8	108.1	109.8	117.7	110.0
Netherlands	103.0	99.9	96.4	97.7	100.0	101.5	104.7	107.8	110.0	112.7
Austria	98.8	98.4	98.2	98.5	100.1	100.9	102.0	102.6	103.8	103.2
Poland	90.5	89.2	93.1	93.9	100.0	105.5	112.3	119.5	125.1	128.5
Portugal	104.7	98.6	97.0	97.6	100.0	102.8	107.0	111.4	116.3	112.7
Romania	82.2	85.7	86.2	91.8	100.4	112.7	125.3	132.2	141.6	144.4
Slovenia	105.0	102.7	99.4	99.1	99.9	103.9	112.4	117.9	121.8	110.0
Slovakia	95.7	94.7	94.9	98.3	100.0	102.2	108.3	112.2	110.7	109.5
Finland	100.4	101.7	100.8	99.7	100.1	101.5	104.7	106.7	109.2	113.5
Sweden	87.4	89.0	91.1	93.4	100.0	102.2	104.1	105.6	107.7	108.5
Norway	94.5	97.1	98.8	100.0	100.5	99.7	101.9	102.7	102.8	110.7
Switzerland	93.8	97.2	99.1	100.0	100.0	98.7	100.4	101.2	102.3	103.8
United Kingdom	91.3	91.6	92.5	96.2	99.7	104.4	106.1	108.7	111.8	:
Montenegro	82.6	86.1	94.4	97.9	100.0	102.4	105.8	109.4	115.1	95.9
North Macedonia	116.7	109.7	102.5	95.8	100.2	108.9	107.2	114.4	127.6	114.0
Albania	82.2	85.3	89.9	94.4	100.0	106.5	107.8	110.5	114.5	113.1
Serbia	105.4	102.6	96.6	98.6	99.8	107.5	111.8	116.5	128.0	133.8
Turkey	80.1	85.0	90.3	93.7	100.0	102.2	108.0	109.6	109.5	113.3
Bosnia and Herzegovina	85.2	86.9	91.4	92.9	100.0	107.0	112.5	121.7	127.8	117.2

Source: Eurostat Report. Retrieved at [10/02/2021]: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sts_trtu_a&lang=en.

Appendix G: Jerónimo Martins cash flow statement

Table 7.7: Jerónimo Martins cash flow statement

Euro thousand

	Notes	2020	2019*
Net results		312,130	389,866
Adjustments for:			
Non-controlling interests		10,590	30,901
Income tax		135,936	128,459
Depreciations and amortisations		733,789	715,370
Provisions and other operational gains and losses		56,246	33,288
Net financial costs		180,489	158,704
Gains/Losses in associated companies		(114)	2
Gains/Losses in other investments		(144)	(1,901)
Profit/ Losses in tangible, intangible and right-of-use assets		4,919	6,074
Operating cashflow before changes in working capital		**1,433,841**	1,460,763
Changes in working capital:			
Inventories		(30,955)	(84,777)
Trade debtors, accrued income and deferred costs		22,005	(5,770)
Trade creditors, accrued costs and deferred income		197,996	276,380
Cash generated from operations		**1,622,887**	1,646,596
Income taxes paid		(174,012)	(154,503)
Cash flow from operating activities		**1,448,875**	1,492,093
Investment activities			
Disposals of tangible and intangible assets		3,822	1,831
Disposals of other financial investments and investment property		-	5,000
Interest received		2,370	3,611
Dividends received		206	96
Acquisition of tangible and intangible assets		(513,702)	(575,529)
Acquisition of other financial investments and investment property		-	(6)
Acquisition and investments in joint ventures and associates		(350)	(2,000)
Collateral deposits associated to financial debt		19,367	-
Cash flow from investment activities		**(488,287)**	(566,997)
Financing activities			
Loans interest paid		(28,317)	(33,057)
Leases interest paid	6	(126,830)	(132,642)
Net change in loans	18	(145,906)	99,937
Leases paid	11.2	(274,065)	(264,197)
Dividends paid	16.3	(232,274)	(219,501)
Cash flow from financing activities		**(807,392)**	(549,460)
Net changes in cash and cash equivalents		**153,196**	375,636
Cash and cash equivalents changes			
Cash and cash equivalents at the beginning of the year		929,311	545,988
Net changes in cash and cash equivalents		153,196	375,636
Effect of currency translation differences		(41,117)	7,687
Cash and cash equivalents at the end of December	15	**1,041,390**	929,311

To be read with the attached notes to the consolidated financial statements

* As allowed by IAS 7, par. 18, cash flows from operating activities are now presented using the indirect method. 2019 information was restated accordingly.

Source: Jerónimo Martins Annual Report. Retrieved at [28/11/2020]: https://www.jeronimomartins.com/en/investors/presentations-and-reports/?search=

Appendix H: Jerónimo Martins tax rate estimation

Table 7.8: Jerónimo Martins tax rate estimation

	2016	2017	2018	2019	2020
Profit before taxes	744,195	564,817	561,790	549,226	458,626
Income tax	129,969	152,236	131,930	128,459	135,936
Tax Rate	17.46%	26.95%	23.48%	23.39%	29.64%
			Average		**24.19%**

Source: Own estimates and Jerónimo Martins annual reports

Appendix I: Jerónimo Martins expected operational activity

Table 7.9: Jerónimo Martins expected operational activity

Euro thousand

	2021e	2022e	2023e	2024e	2025e
Sales and services rendered	19,486,432	19,876,161	20,571,826	21,394,699	22,464,434
Cost of sales	-15,368,126	-15,675,488	-16,145,753	-16,710,854	-17,462,843
Other operating profits/losses	-2,859,826	-2,917,023	-3,004,533	-3,109,692	-3,249,628
EBITDA	**1,258,480**	**1,283,650**	**1,421,540**	**1,574,153**	**1,751,963**

Source: Own estimates

Appendix J: Jerónimo Martins Working Capital estimation

Table 7.10: Jerónimo Martins Working Capital estimation

Working Capital

Euro thousand

	2016	2017	2018	2019	2020
Current Assets					
Trade debtors, accrued income and deferred costs	311,130	387,833	435,642	424,689	393,023
Inventories	718,618	841,565	970,653	1,038,627	973,919
Total	1,029,748	1,229,398	1,406,295	1,463,316	1,366,942
Current Liabilities					
Trade creditors, accrued costs and deferred income	3,166,527	3,662,293	3,794,411	4,182,149	4,153,837
Total	3,166,527	3,662,293	3,794,411	4,182,149	4,153,837
Working Capital	**-2,136,779**	**-2,432,895**	**-2,388,116**	**-2,718,833**	**-2,786,895**
% Revenues	-14.61%	-14.95%	-13.77%	-14.59%	-14.44%
Investment in Working Capital		-296,116	44,779	-330,717	-68,062

Source: Own estimates

Appendix K: Net financial costs and Debt map estimation

Table 7.11: Jerónimo Martins Net financial costs and Debt map estimation

Euro thousand

	2016	2017	2018	2019	2020	
Cash and cash equivalents	643,512	681,333	545,988	929,311	1,041,390	
historical % (Revenues)	**4.4%**	**4.2%**	**3.1%**	**5.0%**	**5.4%**	5.19%

Euro thousand

		2016	2017	2018	2019	2020	
Medium/Long term financial debt		**115,122**	**237,762**	**288,452**	**2,308,057**	**2,260,345**	
Borrowings		114,829	237,762	288,390	308,764	363,798	
Lease liabilities		0	0	0	1,999,293	1,896,547	
Derivative financial instruments		293	0	62	0	0	
	%	-	107%	21%	700%	-2%	
historical % (Revenues)		**0.8%**	**1.5%**	**1.7%**	**12.4%**	**11.7%**	12.05%

Short term financial debt	**224,898**	**302,310**	**350,973**	**811,721**	**536,828**	
Borrowings	224,581	299,505	350,814	423,685	159,730	
Lease liabilities	0	0	0	384,980	376,694	
Derivative financial instruments	317	2805	159	3056	404	
%	-	34%	16%	131%	-34%	
historical % (Revenues)	**1.54%**	**1.86%**	**2.02%**	**4.36%**	**2.78%**	3.57%

Euro thousand

Financial Debt Map	**2020**	**2021e**	**2022e**	**2023e**	**2024e**	**2025e**
Medium/Long term financial debt	2,260,345	2,348,022	2,394,982	2,478,807	2,577,959	2,706,857
Short term financial debt	536,828	695,429	709,338	734,164	763,531	801,708
Cash	1,041,390	1,011,704	1,031,938	1,068,055	1,110,778	1,166,317
Debt payments		-536,828	-695,429	-709,338	-734,164	-763,531
Net Debt	**1,755,783**	**1,494,919**	**1,376,953**	**1,435,578**	**1,496,548**	**1,578,717**
Net financial costs		160,103	163,305	169,021	175,781	184,571

Source: Own estimates

Appendix L: FCFF forecasted values

Table 7.12: FCFF estimation

Euro thousand

	2021e	**2022e**	**2023e**	**2024e**	**2025e**	**N+1**
EBIT	**517,353**	**527,700**	**639,132**	**760,449**	**897,574**	
Tax rate	**24.19%**	**24.19%**	**24.19%**	**24.19%**	**24.19%**	
NOPLAT	392,226	400,070	484,551	576,526	680,486	
Depreciation and Amortization	741,127	755,949	782,408	813,704	854,389	
Operational Cash Flow	**1,133,353**	**1,156,020**	**1,266,959**	**1,390,230**	**1,534,876**	
Δ WC	-33,508	-56,408	-100,688	-119,100	-154,830	
CAPEX	687,262	701,007	725,542	754,564	792,292	
FCFF	**479,599**	**511,421**	**642,105**	**754,767**	**897,414**	**1,067,020**
Terminal value					13,306,367	

Source: Own estimates

Appendix M: Jerónimo Martins Non-Business Assets

Table 7.13: Jerónimo Martins Non-Business Assets

Non-Business Assets	Euro thousand
Investments in joint ventures and	5,594
Other financial investments	1,327
Derivative financial instruments	3,611
Total	**10,532**

Source: Own estimates

Appendix N: FCFE forecasted values

Table 7.14: FCFE estimation

Euro thousand

	2021e	**2022e**	**2023e**	**2024e**	**2025e**	**N+1**
Net Income	222,844	227,301	305,735	390,557	485,219	
Depreciation	741,127	755,949	782,408	813,704	854,389	
Investment in CAPEX	217,262	13,745	24,535	29,022	37,728	
ΔWorking capital	-33,508	-56,408	-100,688	-119,100	-154,830	
Δ Debt	-260,864	-117,966	58,625	60,970	82,169	
FCFE	**519,353**	**907,947**	**1,222,920**	**1,355,309**	**1,538,879**	**1,037,131**
Terminal value					11,278,068	

Source: Own estimates