
# Vista Alegre Equity Valuation

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Dissertation written under the supervision of professor José Tudela Martins

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**Abstract:**
Title: Vista Alegre Equity Valuation

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The objective of this dissertation is to provide a fair share price for the company of Vista Alegre. The Vista Alegre was founded in 1824 and is the biggest ceramic producer in Portugal being known worldwide by the quality and design of its pieces. To attain the share price two different methodologies are used, the DCF method and the relative valuation, with the last being added as a methodology to verify the coherence of the DCF provided price. Within the DCF, the model used is the FCFF and in the relative valuation is the P/E and EV/EBITDA. At the end of this dissertation, the concluding share price of the company is of 1,34 euros, fully provided by the DCF model.

As of 31 of march, the market share price of Vista Alegre is 0,81 euros. Nonetheless, the fair value of the share price is 1,34 euros according to the valuation provided in this dissertation, meaning that, currently, the price is undervalued and is expected that, assuming market efficiency, the market price will converge to the fair price providing a BUY recommendation. Furthermore, the recommendation and share price are compared to a report provided by the Marketscreener, that presents a fair value price of 1,40 euros and a BUY recommendation being aligned with the recommendation provided by this dissertation.

Keywords: Equity Valuation, Vista Alegre, Visabeira, DCF, ceramics

**Abstrato:**

Título: Avaliação das ações da Vista Alegre

Autora: Vanessa Pais

O objetivo desta tese é de providenciar um valor justo de preço de ação da Vista Alegre. A Vista Alegre foi fundada em 1824 e é atualmente a maior produtora de cerâmica em Portugal sendo conhecida mundialmente pela qualidade e design das suas peças. Para a obtenção do preço, duas metodologias foram utilizadas, DCF e avaliação relativa, sendo que a última foi adicionada para garantir a coerência do preço proveniente da metodologia de DCF. Da metodologia DCF, o modelo usado é o FCFF e da avaliação relativa foram usados os múltiplos P/E e EV/EBITDA. No final desta tese o preço obtido é de 1,34 euros, providenciado pelo método DCF.

Ao dia 31 de março, o valor de mercado das ações da Vista Alegre é 0,81 euros. No entanto, o valor obtido nesta tese é de 1,34 euros, implicando que neste momento o preço da ação da empresa se encontra subavaliado e é expectável que, assumindo um mercado eficiente, o valor de mercado se aproxime do valor justo da ação levando a que a recomendação seja de compra da ação. Adicionalmente, a recomendação e o preço de ação é comparado a um reporte providenciado pelo Marketscreener apresentando um valor justo de ação de 1,40 euros e uma recomendação de compra, estando alinhada com a recomendação desta dissertação.

Palavras-chave: Avaliação das ações, Vista Alegre, Visabeira, DCF, cerâmica

**List of abbreviations:**

APV – Adjusted present value

BV – Book value

CAGR – Compound Annual Growth rate

CAPEX – Capital Expenditures

CAPM – Capital Asset Pricing model

DCF – Discounted cash flows

D&A – Depreciation and amortization

EBIT – Earnings before interest

EBITDA – Earnings before interest, taxes, depreciation and amortization

EPS – Earnings per share

EV- Enterprise value

FCFE - Free cashflows to equity

FCFF – Free cash flows to the firm

GDP – Gross Domestic product

WACC – Weighted average cost of capital

# Table of Contents

# 0. Introduction:

The main purpose of this dissertation is to provide a recommendation for the stock VAA – Vista Alegre Atlantis, of group Vista Alegre, based on the estimated price of the share. The estimation of the price of the stock will be provided after the development of this dissertation, according to the following methodologies FCFF and multiples.

The group Vista Alegre was founded in 1824 by José Ferreira Pinto Basto and was the first porcelain factory in Portugal. In 1987, the company became publicly traded and expanded itself, becoming a group with the integration of Cerexport and Atlantis in 1997 and 2001, respectively. Nowadays, the group produces pieces made of porcelain, glass, and crystal, mostly pieces of tableware and decorative elements.

Throughout the years, the group faced a lot of financial problems, being on the verge of bankruptcy in 2009, during the international financial crisis of 2007/2008. In order to avoid that fait, the group accepted the public offer of acquisition made by Group Visabeira, becoming one of the many brands majorly owned by that group. Currently, group Visabeira owns 85,6 % of group Vista Alegre, while the remaining corresponds to 11,9 % free float and 2,5% by Caixa Geral de Depósitos.

To attain the purpose aforementioned, the dissertation will be divided into four sections. The first section will be dedicated to literature review, where it will be presented past research, relevant for this dissertation, as well as the theory concerning some models used in equity valuation. Then it follows the second section, the company description and the industry, in which the company operates. In this section it will be developed the information relevant for the application of the valuation methods, that will be further developed on the third section. Lastly, the fourth section will be the comparison between the results aroused on the third section and the investment report retrieved from Marketscreener.

# 1. Literature review:

## 0. Introduction

Equity valuation tries to assess the correct value of a company and plays a central role in Finance. In fact, Damodaran states that *"Valuation can be considered the heart of finance"*. More precisely, it is very important, for example in portfolio management, in which the goal is to use equity valuation in order to search for companies that are undervalued in the market, with the hope that later on this price will be adjusted, according to its valuation (Damodaran 2018: 23). Additionally, it is also very important in Mergers and Acquisitions as the bidder wants to know the fair value of the company, in order to make the bid, and the targeted firm wants to know this value, in order to accept or refuse the bid made (Damodaran 2018: 23).

## 1. Methods

In order to provide a valuation for a company, equity valuation uses several methods. Nevertheless, it is important to refer that company valuation it's a subjective science as there isn't a model that fits perfectly to a company, as well as the fact, that the appliance of the models are subject to assumptions made.

Despite the subjectivity, according to Damodaran (2006) the methods applied in equity valuation can be divided into four groups, liquidation and accounting valuation, relative valuation, discounted cash flow valuation and contingent claim valuation methods (Damodaran, 2006).

In the following section, the groups are further developed.

### 1.1 Liquidation and Accounting valuation

The methods comprising the liquidation and accounting valuation methods evaluate the value of the company by its assets and liabilities, that is, the value of the company rely on its balance sheet. This method is static, as it is not able to capture growing assets, evolution or even money's temporary value (Fernandez, 2007). With the last, we realize that for companies were there is a lot of growth there will be provided a lower evaluation (Damodaran, 2006). Additionally, it is important to refer that these methods don't take into consideration the type of industry where the company operates, human resources and structural problems that the company may face (Fernandez,2007).

Some of those methods can be defined as the following: book value and adjusted book value.

### 1.1.1 Book value

The book value method states that the value of a company can be given by the book value of assets and liabilities. More specifically, the method provides a valuation of the company by retracting the value of the liabilities to the value of the assets (Fernandez,2007) , as can be perceived with the formula presented below:

$$Book\ value\ of\ equity = Book\ value\ of\ assets - Book\ value\ of\ liabilities$$

Nonetheless, this method is very subjected to biases provided in accounting (Fernandez, 2007). For example, a study made by Xiao-Jun Zhang (Zhang, 2000) shows that conservative accounting has greater impact in book value method, affecting the valuation provided by it.

Additionally, as the value used is the one stated on the balance sheet, book value, the value may not be representing the true market value, due the reasons exploited above. Consequently, for the approach to be reliable, that is, be able to provide a more or less accurate estimate of the value of equity, the studied company must be a mature firm, with most of the assets fixed, with little or no growth opportunities and no perspective of excess returns ( Damodaran, 2006).

### 1.1.2 Adjusted book value

The adjusted book value method is a variation of the book value method previously seen, and tries to assess the market value of the liabilities and assets, in order to estimate the fair value of equity of the company. By doing this, this method overcomes the downsides of the book value method, presented above (Fernandez, 2007).

As the name entails, the method builds up on what is reflected on the balance sheet of the company by being adjusted. More specifically, its performed a line by line analysis on the values stated on the balance sheet and whenever the value reflected doesn't seem to correspond to its fair value (R.Miller, F. Reilly, 2018) the analysts adjust it. This analysis is based on valuations, as well as professional judgment and as such, it carries some subjectivity.

This method is mostly used in companies that are an ongoing concern or facing liquidation.

## 1.2 Relative Valuation

Relative valuation methods refer to methods that use values of assets of comparable companies to the one in study , in order to provide an estimate of the value of the equity (Nel,2009). Consequently, the assumption behind the methods rely on the market being evaluating the assets

correctly, that is, the market isn't consistently under-pricing and overpricing the assets (Damodaran, 2006).

The most common method concerning relative valuation methods is multiples. This method will be further developed in this section.

Regarding the appliance of relative valuation methods, these are comprised by three steps. Firstly, find comparable firms in which the assets are priced in the market, then, scaling the market prices to a common variable to standardize values and lastly, adjust the values for differences when comparing the standardised values. (Damodaran, 2006).

- **Comparable firms:**

As previously seen, the relative valuation methods base the valuation of the company on comparable companies, thus, the process of this choice is important for the result of the estimation of the value of equity.

According to Damodaran (2006), the ideal comparable firm/firms would be the one/ones with the exact same growth, cash-flows and risk , disregarding the industry on what the company operates (Damodaran, 2006). Nonetheless, researchers tend to choose comparable companies within the same industry of the one in study. This occurs, under the assumption that by belonging to the same industry the companies present similar risks, growths and cash-flows (Damodaran, 2006).

A study conducted by Boatsman and Baskin (1981) shows that, within the same industry, valuation errors are smaller when the comparable firms are chosen according to historical growths and not in a random base. Furthermore, Alford (1992) shows that valuation errors are smaller when the industry definition is narrowed from one digit SIC code to two and even further with three while taking into consideration the P/E ratio multiple. Additionally, his study concludes that if the industry would be narrowed for more digits than one, controlling for size and earnings wouldn't decrease valuation errors.

In conclusion, in order to search for comparable firms the researchers should take into consideration the industry in which the company operates, as well as the growth. Nevertheless, even with this, it is impossible to find comparable firms that are exactly equal to the one in study and thus, there is the need to adjust or control for those differences (Damodaran, 2006).

### 1.2.1 Multiples

According to Damodaran (2002), 90% of equity research uses a combination of multiples and comparable firms. Furthermore, a study conducted by the CFA Institute research Foundation concludes that amongst academia and analysts the most used multiples are the market multiples, on from which, the P/E multiple, EV/EBITDA are the most preferred multiples, respectively (Fabozzi, Focardi and Jonas, 2017).

Despite the fact that multiples are widely used in valuations, there isn't a lot of research in academia that evaluates their performance (Nel, 2009). Nonetheless, according to a study conducted by Liu, Nissim and Thomas (2001) the forward earnings multiple is the multiple that presents a better performance (Liu, Nissim and Thomas, 2001), which is coherent with its preference, amongst researchers and analysts. Additionally, the same research shows that despite some controversy, the industry in which the company in study operates shouldn't be a factor to take into consideration while choosing the multiples, as their performance is more or less the same across industries (Liu, Nissim and Thomas, 2001).

- **P/E**

The price to earnings ratio provides the relationship between the price of the stock and earning per share and can be given by the following formula:

$$\frac{P}{E}\ ratio = \frac{Price\ of\ the\ stock\ (P)}{Earnings\ per\ share\ (EPS)}$$

The downside of using this multiple is that is affected by the capital structure of the company.

- **EV/EBITDA**

The EV/EBITDA ratio provides the relationship between enterprise value to the EBITDA, which represents the earning before depreciation and taxes. This can be given by the following formula:

$$\frac{EV}{EBITDA} = \frac{Enterprise\ value}{Earning\ before\ interest, taxes, depretiation\ and\ amortization}$$

This ratio allows the comparison between companies with different capital structures which is a downside from the P/E ratio. Nonetheless, this ratio can overestimate the value of equity as this multiple doesn't take into consideration capital expenditures (CAPEX).

### 1.3 Discounted cash flows valuation

The discounted cash flow valuation seeks to estimate the value of the assets, based on the discounted expected future cash-flows to the present. (Damodaran ,2006). As such, contrary to the methods previously seen, these methods value the company by its intrinsic value, making it one of the strongest methods (Fernandez, 2007).

Nonetheless, the DCF models are also prone to some downsides. The major downside presented for these models is that is highly sensitivity to subjectivity, as for example, while doing forecasts. In addition, as a more complex model in comparison with the previous, is more subject to errors.

The general equation that sets the start for all the discount cash flow valuation methods is the following (Fernandez 2007):

$$V = \frac{Cf_1}{(1+r)^1} + \frac{Cf_2}{(1+r)^2} + (\dots) + VR_t$$

$$VR_t = \frac{Cf_t * (1+g)}{(r-g)}$$

In which:

Cf – Cash flow

g- Growth rate

r – Discount rate

t - period

V – Value of the company

VR – Residual value of the company computed in perpetuity

In the previous equations, two different timelines are presented. On the right side of the first equation, the period (t) represent the forecasted years that are taken into the valuation. Nonetheless, it is assumed that after some years the company attains a state in which the company is grown and stable and as such, it is reasonable to assume that the cash-flows grow at a steady pace (g). The last, correspond to the left side of que equation, called residual value of the company. The period (t) in which this transaction is made depends on the current state of the company and industry trends.

The most common methods, comprising Discounted Cash-flow valuation, are further developed below and are the following: Free cash-flow to the firm (FCFF), Free cash-flow to Equity (FCFE) and Adjusted present value (APV). Other models, concerning Discount cash-flow valuation, are Dividend based models (DGM and DYM) and Excess return models.

### 1.3.1 FCFF

The Free cash-flow to the firm evaluates the company total value. This value is attained by discounting the Free cash-flow to the firm by the weighted average cost of capital (WACC) (Damodaran, 2006).

This method can be divided into two main steps. Firstly, the computation of the free cash-flow to the firm and secondly, the computation of the weighted average of cost of capital. On what concerns the computation of the cash-flows to the firm, it is calculated as the firm has no debt and no tax benefits from interest expenses (Damodaran, 2006). The formula used for its computation is the following:

$$\begin{aligned} &Free\ cash\ flow\ to\ the\ firm \\ &\quad = After\ tax\ operating\ income - (CAPEX - Depretiation) \\ &\quad - \Delta\ net\ working\ capital \end{aligned}$$

The second step to attain the value of the firm is to compute the value of the WACC by which the free cash-flow to the firm will be discounted.

- **WACC**

The weighted average cost of capital is the appropriate discount rate for the FCFF, as this measure accounts for the cost of equity and debt ($Enterprise\ value = E + D$) in the proportion that the company is financed (Fernandez, 2007). Implicit in this approach, is the assumption that this measure captures the tax benefits of borrowing and the expected bankruptcy costs (Damodaran, 2006).

The formula used in the computation of WACC is the following (Fernandez, 2007):

$$WACC = \frac{E\ Ke + D\ Kd\ (1 - T)}{E + D}$$

Where:

E - Market value of Equity

D - Market value of Debt

Kd – required return to equity

Ke – required return to debt

T – Tax rate

- **Cost of equity**

One of the components of the WACC is the cost of equity. The cost of equity represent the compensation required from investors for their investment and the risk carried. Within the firm, this measure allows the managers to assess the attractiveness of investments or acquisitions.

One of the most common methods to compute cost of equity is the Capital Asset Pricing model (CAPM) and has been proven that works in well developed countries which is the case of the countries involved in the scope of the thesis.

The formula used to compute the cost of equity, according the CAPM model, is the following (Fernandez, 2007):

$$Ke = Rf + \beta(Rm - Rf)$$

Where:

Ke – Cost of equity

Rf – Risk free rate

B – Shares Beta

Rm – Expected market return

- **Cost of debt**

The other component of the WACC is the cost of debt. This measure represents the compensation given to credit holders and bondholders, for the risk undertaken in lending money to the firm. In cases of a firm with a simple capital structure and debt, this measure can be computed by looking to the Yield to maturity (YTM) of a company's debt, or by dividing the interest paid on debt by its total amount.

Lastly, the last step in order to obtain the valuation is to compute the firm value. For this purpose, the following formula is used:

$$Firm\ value = \sum_{T=1}^{n} \frac{FCFF_T}{(1+WACC)^T} + \frac{Terminal\ value}{(1+WACC)^T}$$

$$Terminal\ value = \frac{FCFF_T * (1+g)}{(WACC - g)}$$

Where:

T- Period

g – Growth rate

### 1.3.2 FCFE

The differences between FCFF and FCFE are mainly two. The first difference is that Free cash-flow to Equity (FCFE) is calculated after taking interest payments and debt cash-flows into account, whereas Free cash-flow to the firm (FCFF) is calculated as if the firm doesn't have debt and by doing so, enjoys no tax benefits from interest expenses. The second difference is that FCFE is discounted by the return on equity whereas the FCFF is discounted by the WACC (Nel, 2009).

The FCFE model evaluates the equity value of the firm. This value is attained by discounting the potential dividends of the firm by the return on equity, as previously stated (Damodaran, 2006).

Similar to FCFF, FCFE can be divided into two main steps. The first step is to obtain the free cash-flows to equity according the following formula:

$$FCFE = Net\ Income + Depretiation - CAPEX - \Delta\, non\ cash\ working\ capital - (New\ debt\ issued - Debt\ repayements)$$

This cash-flows assume a specific financing structure of the firm in each period, in which the interest of the debt is paid, the instalments of the principal are paid and funds from new debt are received. The remaining cash available, will be allocated to paying dividends or buying back shares. (Fernandez, 2007).

The second step is to compute the cost of equity as previously described. Lastly, the last step in order to obtain the valuation is to compute the equity value. For this purpose, the following formula is used:

$$Equity\ value = \sum_{T=1}^{n} \frac{FCFE_T}{(1+Ke)^T} + \frac{Terminal\ value}{(1+Ke)^T}$$

$$Terminal\ value = \frac{FCFE_T * (1+g)}{(Ke-g)}$$

Where:

T- Period

g – Growth rate

Ke – Cost of equity

### 1.3.3 APV

In the adjusted present value method (APV), the effects on value of debt financing from the value of the assets of a business are separated. Contrary to the conventional methods, in which the effects on debt are captured in the discount rate, the APV tries to assess the expected dollar value of debt and its costs separately from the value of operating assets (Damodaran, 2006). This approach is built according the presumption that is more precise to compute the value of debt in absolute terms than in proportional ones (Damodaran, 2006).

The general formula used to computed to APV is presented below:

$$Value\ of\ the\ firm$$
$$= Value\ of\ the\ firm\ (\ 100\%\ equity\ financed)$$
$$+ PV\ of\ expected\ tax\ benefits\ of\ debt - Expected\ bankruptcy\ costs$$

From the aforementioned formula, three main steps can be distinguished. The first step is to compute the unlevered value of the firm. Secondly, the expected tax benefits of debt and lastly, the expected bankruptcy costs.

- **Unlevered value of the firm**

The unlevered value of the firm is computed by discounting the free cash-flows to the firm by the rate of required return of equity, as if it company was fully equity financed.

$$Unlevered\ value\ of\ the\ company = \frac{FCFF\ (1+g)}{(Ku-g)}$$

Where:

Ku – Unlevered Rate of required return

- **Present value of tax shields**

The present value of tax shields its an addition to the unlevered value of the firm as in reality, the company is also financed with debt and represents the lower taxes paid by the company due the payment of interests on debt (Fernandez, 2007).

In order to compute the present value of tax shields, the following formula is used:

$$PV\ of\ tax\ shield = \frac{Payable\ interest\ rate * Tax\ rate}{Cost\ of\ debt}$$

Concerning cost of debt, this measure is a controversial themed amongst researchers. Nonetheless, some suggest to use debt's market cost as the measure to use as a discount factor (Fernandez, 2007).

- **Expected Bankruptcy costs**

The computations of expected bankruptcy costs are the ones that have a higher need of estimation and can't directly be determined. Nonetheless, its computations can be generalized by the following formula:

$$Expected\ Bankruptcy\ costs = Porbability\ of\ bankruptcy * PV\ of\ bankruptcy\ costs$$

### 1.4 Contingent claim valuation

Contingent claim valuation or real option valuation rely, in practice, on the appliance of option pricing models, for equity valuation purposes.

Throughout the years, there has been an increasing number of researchers that think that some of the assets of the company are in reality options and as such, must be valued using option pricing models and not DCF ones, as for example, patents (Damodaran, 2006). Despite that, these methods should be used as a complement of the Discounted cash flow models and not in detriment of it (Putten and MacMillan, 2004).

According to a research conducted by Buckley, Tse, Rijken and Eijgenhuisen (2002) the use of real option valuation bring value in cases, in which, the companies have a lot of significant growth opportunities, as well as, strong competitive advantages that allow them to be capable of scaling-up its operations. In other cases, these methods don't bring much added value.

### 2. Conclusion

Concerning the valuation of the Group Vista Alegre, this dissertation will apply two different methods. Firstly, it will consider FCFF and FCF, as the discount factor models. This methods take the intrinsic value in order to do the valuation and by doing so, are the strongest models presented above. Moreover, APV it is excluded from the valuation as there is a lot of subjectivity and difficulty on computing the cost of equity, as well as distress costs. Additionally, considering that there isn't a model that fits perfectly to each company, a relative valuation model is taking into consideration, more precisely multiples with is the most widely used. Within, the multiples P/E and EV/EBITDA using forward values, are taken into consideration as one represents an equity multiple and the other an enterprise multiple and are the most widely used.

## 2. Company and Industry description

This present section intends to develop further the company in analysis and industry, providing a context for the valuation. In that manner, the section is divided into two small chapters.

Firstly, the first chapter describes the company overview that explores the operational part of the company, financials and future strategy. The second chapter focuses on a brief macroeconomic analysis and on how it can affect the group deepening into an industry analysis, where is described prospects of growth, as well as, possible concerns for the group.

### 2.1 Company overview

The group Vista Alegre was founded in 1824 by José Ferreira Pinto Basto and is currently part of Group Visabeira. Vista Alegre belongs to the tools & housewares sector and is composed by three main brands, Vista Alegre, Bordalo Pinheiro and Casa Alegre. The last, is a private channel whose purpose is to promote and sell Portuguese products. Currently, the channel sells 66 Portuguese brands including the two of the group. Nonetheless, besides Casa Alegre the other brands also exploit news opportunities by pursuing partnerships with many contemporary artists and world class brands as for example, Pineda Covalin and Franck Muller.

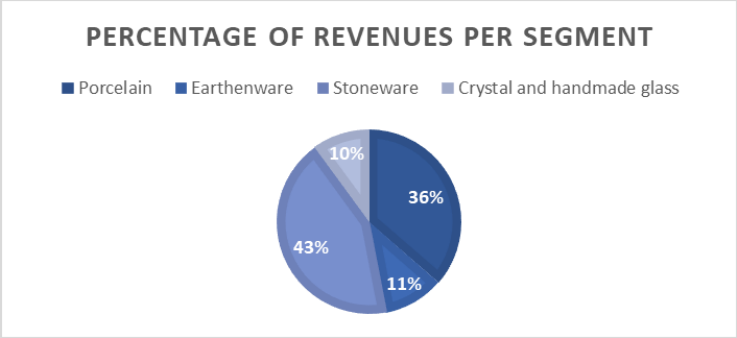
In 2021, the revenues amounted to 116 millions euros, representing a 6% increase comparing to the revenues of 2020, and a net income of 1,599 million euros.

In operational terms, the group is divided into 17 factories and subsidiaries, spread across 9 countries: Portugal, Mexico, India, Spain, Brazil, Mozambique, France, United States, United

Kingdom. Moreover, the group's operations is divided into 4 segments: Porcelain, Earthenware, Stoneware and Crystal and handmade glass.

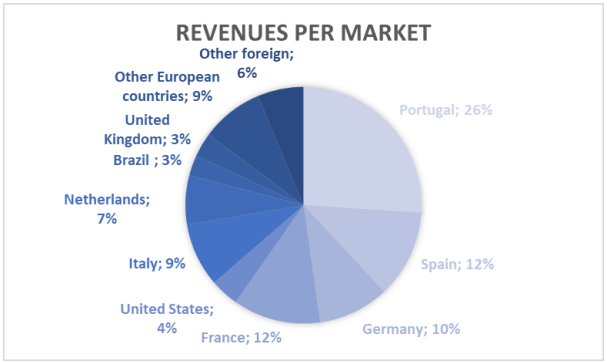
Regarding this segments, stoneware has been consistently the segment with more weight on revenues, followed by Porcelain. Despite that, Porcelain was the segment that contributed more for the 2021 turnover with a 42% growth compared to 2020. Additionally, earthenware is the newest segment in the group, being introduced in 2018 with the acquisition of Bordallo Pinheiro, which already represents more weight on revenues than Crystal and handmade glass, which is the segment with lower weight, as well as, less growth (Figure 1). The semestral report of 2022 is consistent with the information of the end of 2021 and as such, the last was considered for the analysis as it corresponds for a whole year.

*Figure 1 - Percentage of revenues per operational segment of the Group*




Furthermore, in 2021, 78,7% of the revenues came from external markets. More precisely, the external countries that contributed more for the revenues were Spain, Germany and France. In terms of growth, Spain, USA and Brazil were the countries that presented an higher growth while comparing to 2020. Additionally, USA and Brazil are also considered ones of the most important markets for strategical purposes, mainly the dimension of the markets. As in the case of the segments, the semestral report of 2022 is coherent with the market segmentation in 2021 and as such, the last was taken into consideration.

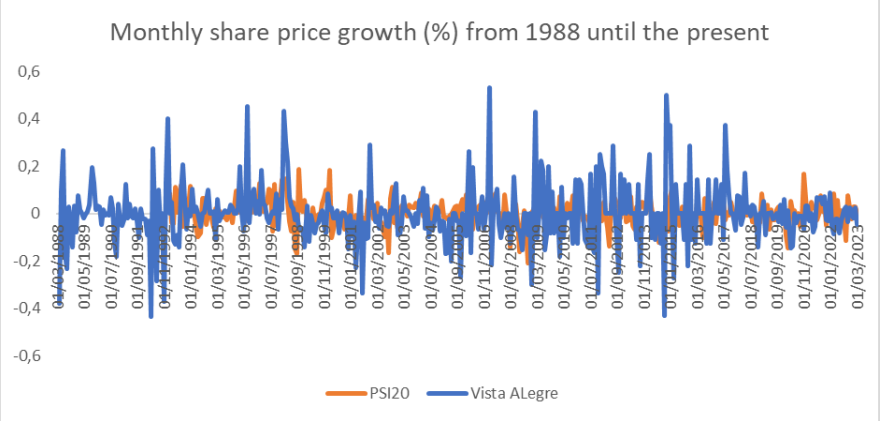
*Figure 2 - Revenues per country in 2021*



### 2.1.1 Historical Share price and dividends

As previously stated, the group became public in 1987 counting with 35 years in the market. Throughout those years, the share price has suffered fluctuations in price presenting a maximum share price of 28,04 euros in 1998 and a minimum of 0,4 in 2011. Moreover, from the past 2000's the share price has been presenting a downward tendency due the financial trouble the group emerged himself into (Figure 3). Even with the acquisition of the Visabeira in 2008, the share price didn't improve as much. In the table below, it is possible to draw a comparison between the movements of Vista Alegre's price and the share price of the Portuguese index (PSI20).

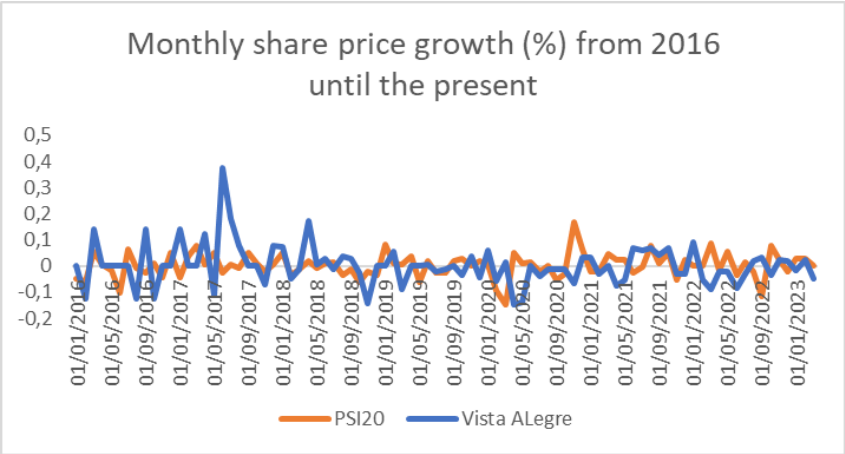
*Figure 3 - Monthly share price of Group Vista Alegre and PSI20 from 1988 until present*




The index was only made available in the market in 1993 and as such, it is impossible to draw a comparison with the period before. During the analysed period, it is possible to see that both of PSI20 and Vista Alegre follow, more or less, the same pattern in which, generally, the impact in Vista Alegre is superior that in the case of PSI20. The last can be explained by the fact, that PSI20 is an index and is less exposed to idiosyncratic risk.

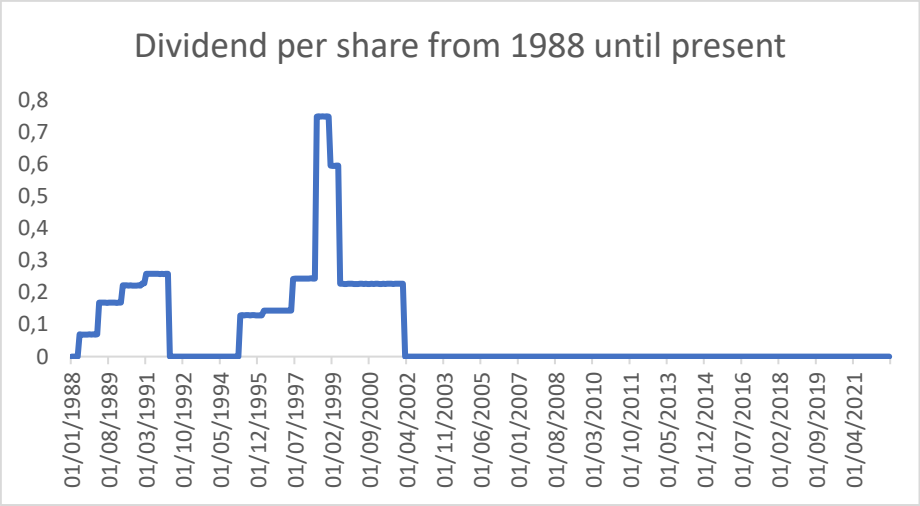
From 2015 onwards the group has started to improve with the news of the acquisition of Bordallo Pinheiro in 2018 with a maximum share price of 1,8 euros. During this period, the index of PSI20, as can be perceived in (Figure 4), was pretty stable up until 2020 with the pandemic, which were felt until middle of 2021.

*Figure 4 - Monthly share price (%) of Group Vista Alegre and PSI20 from 2016 until the present*




As previously stated and as can be perceived by the extreme volatility in the share price growth, the group financially struggled the majority of the first decade of the 2000's up until 2016, which is the first year, since 2003, that the group presented a positive net income. Consequently and adding the financial restructuring imposed by Group Visabeira, during the acquisition, increasing the levels of debt, the group wasn't been able to distribute dividends since 2003. Furthermore, the financing given by Caixa Geral de Depósitos and Millenium BCP has prohibited the distribution of dividends in the last years that was supposed continue until 2026 until the company fully repaid the loan in 2019. Nonetheless, even with the repayment the company didn't pay dividends neither increased its capital.

*Figure 5 - Dividend per share of Group Vista Alegre from 1988 until the present*




### 2.1.2 Strategy

The strategic vision of Vista Alegre consists in the recognition of the brand worldwide and its association with the word's prestige, luxury and design. In order to do so, the group has consistently put effort in exploring external markets through innovative products, promote

brand extensions into the luxury segment, as well as, build worldwide partnerships with well known brands associated with luxury and prestige.

In order to pursue external markets in the following years, the group intends to associate contemporary elements to its portfolio and continue to follow partnerships with world class brands, in order to enhance the uniqueness and originality of the brand. This action pretends to solidify the position of the brand in Portugal and has the intention to elevate its position in the external markets where is less known, specially Brazil and USA, outside Europe, where the group acknowledges potential of growth. Furthermore, it should be highlighted that despite the presence of other countries with higher growth demand for ceramics, as for example China, the group is highly conditioned in terms of investment, due their level of debt.

Concerning the focus on the luxury segment, the group has introduced textiles in the form of shawls and throws which are very much in the luxury segment in terms of price point, and which are designed to test the luxury credentials of the Vista Alegre brand. Furthermore, intends to increase the focus on the crystal products, on the luxury packing segment. This action will allow the group to increase its prices.

In terms of channels, the group has introduced a third brand in its portfolio known as Casa Alegre. As previously mentioned, this brand is a channel with the purpose of promoting and selling Portuguese products. Besides the internal brands of the group Vista Alegre and Bordallo Pinheiro, the channel accounts already with more 64 Portuguese brands. Introduced in the second part of 2021, Casa Alegre has allowed to group to increase its online presence and sells of its own brands and at the same time, reaching a younger target.

Lastly, in the following years the group pretend to explore and reinforce the developments made towards hotel ware given the importance of that business area and the positive prospects for that segment on the market.

## 2.2 Macroeconomic and Industry Analysis

### 2.2.1 Macroeconomic analysis

The last two years were severely marked by the pandemic crisis felt worldwide, with the appearance of Coronavirus at the end of 2019. Specially in 2020, the uncertainty associated with the virus and its characteristics have led to governmental imposed lockdowns, travel restrictions and above all, a lot of uncertainty felt by people. Ultimately, this combination have led to a decrease in consumption as well as production, less investments and a lot of instability on what concerns markets, leading to the forth major decrease in the S&P 500 in 7,66% .

Despite the year of the year 2020, there were positive expectations for the year of 2021, estimating that at the end of the year the pressure felt by the pandemic would be lower and the economy would start to slowly recovered. In reality, at the end of the year of 2021 the global GDP per capita was higher than the values of 2019, attaining a value of 12,263 $ compared to 11,407 $ in 2019, providing confidence to the positive outlook estimated. The same happened in the Portuguese economy according the World Bank, with 24, 262 $ and 23, 330 $ in 2021 and 2019, respectively.

Nonetheless, besides the financial pushback is also important to highlight the changes in consumption habits, which ultimately pressured brands to adapt quickly in order to accompany the pace of those changes, translated into more investments. One of the most important ones was the change in channels used to make sales, more concretely, due to the lockdowns imposed people started to purchase products online and that became a habit even after. This habit was maintained as the people started to enjoy the comfort of being able to purchase without leaving their home. Furthermore, companies dedicated more effort in turning the online purchase experience more trustworthy and easy, for example with the improvement of client support and the addition of other payment methods as the case of Mbway in Portugal.

The beginning of 2022 was expected to be a positive year with an accelerated economic growth as the world was still recovering from the negative effects of the pandemic. Nonetheless, in February of 2022 Russia invaded Crimea, part of the Ukrainian territory as a result of the tensions already felt between those countries, since 2014. Once again, this event brought uncertainty about the duration and future repercussions of the conflict, specially to Europe due the proximity of the conflict in addition to the economic dependence to both of the countries.

The act of invasion was highly condemned worldwide and packs of sanctions were imposed to Russia throughout time, in order to pressure the country to retract its troops. These sanctions include individual ones, economic and diplomatic measures. One of the most important ones was the restriction of exports and imports to/from Russia, specially concerning oil products as its exports accounted for 21,7 % of Russia's GDP in the first quarter of 2022, prior to the imposition of sanctions.

Russia is the third largest oil producer behind United Sates and Saudi Arabia and was the number one supplier to the European Union and second worldwide, in 2019. After the sanctions imposed and with the fear of Russia shortages, the price of the oil has continued to increase since the beginning of the war, even with the efforts of USA to try to maintain the price of oil

more or less stable by exporting to the countries that were previously being supplied by Russia. Consequently, a lot of industries have been facing an increase cost of production that, ultimately, led to an increase in price for the final consumer. In the case of Vista Alegre this is a major concern as the production of its products its highly dependent on energy.

Besides the energy crisis, another highly important consequence brought by the conflict is the increase in the price of cereals, as the case of wheat and corn, and sunflower oil. According to Reuters, Russia and Ukraine represent 29% of global exportations of wheat, 19% of corn and 80% of sunflower oil, as such, the lack of exportation of these products have led to a rise in its price and as affected also the price of its derivatives, as for example pasta, in the case of wheat.

Ultimately, the combination of these events, that is, a pandemic followed by an European conflict between Russia and Ukraine have led not only to the consequences aforementioned but also to the rise of inflation worldwide. In Portugal the inflation, reached a peak in October of 2022, was of 10,6 % an increase of 0,9 percentual points while comparing to September and representing the highest value in 30 years. In the same way for example, the eurozone, for the same month, registered a record value of 10,7%, an increase from the last month.

To face the increase of inflation, Central banks started to increase interest rates and are still increasing at March of 2023. Consequently, besides the increase in prices of energy and food, which are a direct consequence of the times that we are living, the increase in interest rates have led to an increase in mortgages, which for example in Portugal can lead to a 200 euros monthly increase in some cases. In addition, as the inflation rates are so high, companies and the government aren't able to increase pensions and salaries at the same rate, which ultimately translates to a decrease in real consumption power.

### 2.2.2 Industry analysis

Before deepening into the industry analysis it is important to acknowledge that up until march of 2023 there aren't a lot of research disclosed from the final year of 2022 with the most recent projections of growth.

Vista Alegre operates in the tools & houseware industry, that presented an estimated market value of 1465,52 million dollars in 2021, according to Data Bridge Market Research. In addition, presents had estimated a CAGR of 3,8 % for the year of 2022 and an accelerated CAGR of 4,5% for the year of 2023.

The growth concerning this industry is mainly caused by the pandemic. Despite the previously discussed negative effects of Covid, there were some changes that benefited some industries, as is the case of houseware. During the year of 2020 specially, government confinements were imposed and people started to spent a lot of time at home, from this, people started to give more importance to house appliances and as such, the demand for houseware products rose.

Furthermore, this industry can be segmented by product type, application and/or distributional channel. On what concerns Vista Alegre, the group positions itself in the subsector of ceramic tableware and decoration, concerning product type. More specifically, all of the Vista Alegre's segments, except earthenware, have products of tableware and in which stoneware products are sold to hotels and restaurants. In terms of decoration, the products are only made with porcelain, crystal , glass and earthenware.

Moreover, in terms of applications and distribution channels the group doesn't have a specific position, that is, it operates both in residential and commercial in terms of application and uses both physical and online channels for distribution, highlighting the brand Casa Alegre for the last as only focuses on online retail.

The market size of the ceramic pottery market presents a value of 10,72 billion dollars in 2021. The ceramicware considers the products of earthenware, stoneware, and Porcelain of Vista Alegre. Within this market, the tableware segment is the one that contributes the most in terms of revenues and is expected to present a CAGR of 3,8%, from the period between 2022 and 2032. In addition, a report launched in march of 2023 concludes that the expected CAGR between the period of 2023 and 2030 is 4,11%, which is even higher than the one considered between 2022 and 2023 . This increase in demand comes from the fact that ceramic tableware has been increasingly popular among restaurants and hotels as it can give a more personal and unique touch. In fact, concerning application the commercial use accounted for 69,47% of market share in 2021. Additionally, this segment has also presented an increase demand for households purposes, specially considering that people are betting in more durable and fine products .

Furthermore, the art ware segment, that considers the pieces of decoration, is the segment that is expected to present the higher CAGR of 5,1% between the period previously considered. This growth comes from the fact that consumers are giving more importance to decoration and specially pieces that are unique and have some significance, for example, culture representation. Nonetheless, it is important to take into consideration that consumers are becoming more

conscient about environmental problems and as such, are changing to products that are more eco-friendly, which is not the case of ceramic products.

# 3.Valuation

As previously mentioned at the end of the literature review, the valuation of Vista Alegre will be based on two different methodologies: discounted cash flow models and relative valuation. Within each of those two different methodologies, the dissertation focuses on the FCFF as discount-factor model and forward P/E and EV/EBITDA multiples, concerning relative valuation.

This section intends to develop in depth each of the methods applied and the rational behind the assumptions made throughout the process.

For the purpose of the valuation, the information applied was retrieved mainly from the management reports provided by the group and Thomson Reuters, Refinitiv Eikon Datastream. In addition, market studies with forecasted market data were take into consideration. Certain topics were directly discussed with the investor relations of the group Visabeira.

## 3.1 Discounted cash flow valuation

### 3.1.1 FCFF

The discounted cash flow valuation assesses the value of the company by measuring its intrinsic value. In the present case, within the discounted cash flow valuation methods, the methods of FCFF, discounted by the WACC.

In order to implement the model a timeline of 10 years growth prior to terminal growth (2023-2032) was considered. This wide timeline was taken into consideration as the company is still trying to surpass their lack of financial stability, as well as the fact that, the group has made some structural decisions in the last years which will still take some time until attaining terminal growth. Those decisions are the introduction of the second and third brand in 2018 and 2021, respectively. In addition, the company still haven't disclosed the final values for 2022, as such, the values considered for 2022 are based on the disclosed values from the third trimester and a projection for the remaining months (September – December).

This section will be divided into the drivers of the model.

### 3.1.1.1 Operating revenues

As previously explained, the values considered for the year of 2022 are based on the historical values given by the third trimester and a projection for the fourth one. In the case of operating revenues, up until September of 2022 the company had sales amounting to 102,717 million euros, which represent an increase of 28,3% while comparing to the same period in 2021, which was 80 million. The fourth trimester of 2021 registered revenues amount of 36,989 million euros.

Concerning the fourth trimester, it is important to consider the seasonality of Vista Alegre, more specifically, concerning the month of December. In some years, this month sales are equal to the entire first trimester of the company. For the fourth trimester projection the historical growths were taken into consideration. Moreover, it is important to refer that despite acknowledging the high inflation rate during the period forecasted, it is assumed that the impact isn't immediately felt, that is, the impact of inflation will be felt in 2023.

In the last five years, between the period of 2017 and 2021 the fourth trimester growths were equal to around of 0,5% and on average represented 30% of the whole year, with the only exception between the period of 2019 and 2020, in which there was a decrease of growth revenues of 0,5%. Given the stability of the growths and considering that it is assumed the impact of inflation wasn't felt in the short term, the forecast revenue amount for 2022 is equal to 102,717 + 36,989 * (1 + 0,005).

From the period between 2023 and 2032 the forecasts were made based on the different ceramic type of segmentation, meaning, earthenware, stoneware, porcelain and Crystal and handmade glass. In order to project the revenue amount per segment the historical growth was considered, as well as market research and Vista Alegre's strategy.

*Figure 6 - Revenue's historical growth per segment*

| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|
| *Earthenware* | | - | - | 198,5% | -8,6% | 53,2% | 84,9% |
| *Stoneware* | | 7,0% | 16,5% | 38,9% | 24,9% | -17,1% | 9,2% |
| *Porcelain* | | 18,5% | 11,2% | 1,5% | -39,1% | 42,7% | 22,3% |
| *Crystal and handmade glass* | | 7,5% | 10,7% | 6,4% | -14,0% | -0,1% | 3,0% |

From the table above it is important to acknowledge that the segment of earthenware is very recent to the company, only entering in 2018 with the acquisition of Bordalo Pinheiro. In that order, it is the segment that presents the higher difference between growths throughout the period. Furthermore, for the same reason, it is the first segment with higher growth rates. In adition, it is important to refer that the company was affected by the pandemic and as such, the

growths presented between 2020 and 2021 shouldn't be considered in order to compute the historical average.

The other segments present a more or less a stable growth with the exception of the years between 2019 and 2021, highlighting the porcelain segment which in the last five years presented a average historical growth of 14% and was the only segment that in 2020 had a positive growth with the effects of covid followed by a decrease in 2021. Furthemore, it is importanto to consider that despite the higher growths from the past years it is expected that the segments will not attain that type of growth anymore as the company matures-

The growth of revenues considered for the projection period are the following.

*Figure 7 - Revenue's forecasted growth per segment*

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Earthenware* | 3,00% | 6,00% | 8,00% | 8,00% | 12,00% | 12,00% | 6,00% | *6,00%* | *3,00%* | *3,00%* |
| *Stoneware* | *2,00%* | *6,00%* | *6,00%* | *8,00%* | *9,00%* | *9,00%* | *8,00%* | *6,00%* | *3,00%* | *3,00%* |
| *Porcelain* | *2,00%* | 5,00% | 5,00% | 5,00% | 7,00% | 7,00% | 7,00% | 7,00% | 5,00% | 2,00% |
| *Crystal and handmade glass* | *0,20%* | *1,00%* | *2,00%* | *2,00%* | *3,00%* | *3,00%* | *2,00%* | *2,00%* | *2,00%* | *2,00%* |

Despite the projection of CAGR of 5,3% growth in the ceramics market during the year of 2023, for the case of Vista Alegre it is assumed that the growth will be lower than the report projection as the inflation felt in the last thrimester of 2022 up untill now will take a tool in the revenues of the company, specially considering that the majority of the countries for which Vista Alegre sells are from the European Union and from countries that present higher inflation, the majority Portugal which presents a higher inflation than the average of the Euro area as can be seen in (Appendix 8)

Furthermore, the growth will be enhanced between the period of 2027 and 2029 as the brand Casa Alegre positions itself in online retailing. After a peak, it is assumed that the segments will start to mature and as such, the growth will be lower throughout the remaining of the period considered.

**Earthenware:**

As discussed while looking to the historical growths Earthenware is the only segment that doesn't present a more or less stable growth which is reasoned by the fact that is a new segment. As the segment seel for the same target of Stoneware it was assumed that the growths will follow the same pattern are both will be influenced by the tendencies of the hotel& restaurant industry, nonetheless, the growth will be higher as the segment is new and as such there is more space to grow and that the position of Bordalo Pinheiro is higher leading to higher revenues while compared to stoneware. So for the period considered it is projected that the segment will

attain a maximum growth of 12% after three years considering that the company needs to integrate the new segment into the company.

For the period of 2030 onwards we will expect that the grow decrease a little bit as the segment matures.

**Stoneware:**

In historical terms, the Stoneware segment was the only segment in which the Covid didn't created a negative impact during 2020, registering a 25% increase in that year. Nonetheless, in the year of 2021 registered a decrease in the revenues of 17% . On average, during the period of 2017 and 2021 this segment presented an average growth of 10%, in which the value was pushed by the 25% increase registered in 2020. In this case, it is assumed that between the period of 2023-2030 the growth will continue to increase attaining a value of 9% in 2030 , average of the historical growth excluding the years considered outliers. This continued increase comes from the expected growth provided by what happened in the past enhance by the growth of the market. Similarly, to earthenware, the stoneware segment is also increasingly used in restaurants in hotels. Despite, the segments of Stoneware and Earthenware having similar targets their position within the company is different, for example Stoneware is sold within the brand Vista Alegre and Earthenware within Bordalo Pinheiro.

**Porcelain and Crystal:**

For the Porcelain and Crystal segments, also the more mature segments of the company, the aproach considered was to take the historical average as the base value of the growths, excluding 2019-2021. It is assumed that given the industry grow, specially, in the art segment with a CAGR of 5,1%, in which the segments play a bigger role the segments will present higher growth during a the period of time of 2027 and 2029. Furthermore, it was assumed that the growths of Crystal will be lower than the average

### 3.1.1.2 Operating expenses

Firstly, for the closing values of the year of 2022 the same approach was taken as the operating revenues.

As previously written, in order to attain the value for the year 2022 a projection for the fourth trimester must be done. The historical growths for the growth for the fourth trimester are equal to the growth of operating revenues, that is, 0,5%. In that sense the value for the end of the year

of 2022 will be equal to the operating expense 30,54 * (1+ 0,5%)+ (30,84+33,04+ 26,07) which equals to 122,017.

In addition, while looking to the historical growths of the operating expenses it is possible to recognize a more or less stable growth. Nonetheless, an exception occurred during the transition between 2018 and 2019, which can be explained by the acquisition of the brand Bordalo Pinheiro. During the acquisition, the costs for operational expenses increased a lot as the company was still recognizing synergies between the production of earthenware's products and the products composed by others type of ceramic segments, as well as, incurred in other expenses in order to adapt the product to the company, as for example, personnel costs. The average historical growth in the analyzed period is 7% , nonetheless it should be highlighted that the average is influenced by the expense growths during the acquisiton of Bordalo Pinheiro. Excluding these, abnormal years the average expense growth is of 4%.

*Figure 8 - Expense's historical growth*

| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|
| *Operating expenses* | | 7% | 14% | 16% | 5% | 2% | 5% |

In the table below are displayed the projected growths for the period between 2023 and 2033:

*Figure 9 - Expense's projected growth*

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Operating Expenses* | 5,00% | 5,00% | 5,00% | 5,00% | 5,00% | 5,00% | 5,00% | 3,00% | 3,00% | 3,00% |

While analyzing the projections of operating expenses it was very important to consider the current macroeconomics and in which extent this could enlarge the expenses of the company. As Vista Alegre operation considers dealing with ceramics, one of the main variable costs that the company deals is energy, which considering the macroeconomic situation could have a huge impact in the increase of expenses. In reality, it is only of the few vairbale costs that the company entails, as the remaining costs are mainly fixed, and this is why it is possible to verify a more or less stable growth in operational expenses in years in which the revenues don't present stable growths

Nonetheless, it is considered that despite having an impact it will not be extremely significant as the main operations of the company are based in Portugal and the main gas supplier in Portugal is Morocco. Furthermore, the company has contracts with, for example, IKEA and private labels that protect Vista Alegre to major exposure of costs. In that sense, it is projected that during the period of 2023 up until 2029, the expenses growth will be higher than the average caused by the increase in the price of gas and afterwards due the increase of revenues projected

during that year. The last, is reasoned by the fact that despite having mainly fixed costs Vista Alegre is currently near full capacity, meaning that increasing the revenues will mean that the company has to incur into more costs, ovens, storage capacity, etc.

#### 3.1.1.3 Depreciation and amortization

The value of depreciation and amortization is computed based on the value of Property, Plant & Equipment as the amount depreciated is dependent on the value of the tangible assets that the company holds. In that sense, previous to determine the value of the depreciation and amortization the value of Property,Plant & Equipment should be projected. Furthemore, there isn't a projection of amortization as in the last year the value of amortization was zero (Appendix 1).

On what the regards the last measure, Vista Alegre is highly conditioned in tems of financing, due the amount of debt that presents, and for that reason it is expected that up until 2026, corresponding to the maturity of the loan, the company will not invest heavily in any property and equipment for the company, except residual investments in tools necessary for production. This argument is sustained by the fact that since 2019 and excluding that year, when the company issued bonds in the amount of 50 million, the PP&E growth has been negative, inclusive in 2022.For this year it was assumed that the value of PP&E presented on the third trimester corresponds to the final value of the year.

*Figure 10 - PP&E's historical growth*

| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|
| *Property, Plant & Equipment* | 2% | 11% | 42% | 18% | -6% | -2% | -3% |

Furthermore, for the same period the depreciation and amortization growth average is equal to 2%, except in 2020 wich makes sense considering that in previous year the value of PP&E presented a growth of 18%

*Figure 11 - Depreciation and amortization's historical growth*

| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|
| *eciation and amortization expe* | -3% | 8% | 1% | 70% | 20% | 2% | 2% |

From that point onwards up until 2026 it is expected that the PP&E continues to present a decrease as its highly constraint by thecompany's debt, nonetheless, it is that from that point considering that its revenues are expected to present a continued increase and as the company is already near full capacity will invest in storage and on the increase of its production capacity. As the company uses a straight-line depreciation method this means that depreciation expense

concerning the assets is the same throughout the useful life of the asset, which in terms of growths means that this measure only presents a growth in the year of the acquisition or in the year after depending on the exact time of the acquisition.

*Figure 12 - Depreciation and amortization's projected growth*

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Depreciation & amortization* | 2,00% | 2,00% | 1,00% | 1,00% | 2,00% | 5,00% | 5,00% | 2,00% | 2,00% | 2,00% |

The years between 2025 and 2026 the depreciation decrease as the value of PP&E presents a decrease from 2019 onwards, and some of the tangible assets will be at the end of its useful life.

### 3.1.14 Net Capex

The Net Capex is given by the difference between the net current and the past Property, Plant & Equipment plus the current depreciation.

$$Net\ Capex = Current\ PP\&E - Past\ PP\&E + Current\ depreciation$$

As previously seen, while describing the value for depreciation and amortization, in order to project the value for Property,Plant and Equipment the historical average of 0,5% was considered, in exception to the years of 2027 and 2028, in which is estimated that the growth will be of 2% considering that the company will not be anymore restrained in terms of financing aggregated with the fact that the company is already near full capacity.

*Figure 13 - PP&E projected values between 2023 up until 2033*

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Property, Plan & Equipment* | -2,0% | -2,0% | -1,0% | 0,5% | 2,0% | 2,0% | 0,5% | 0,5% | 0,5% | 0,5% |

After the projection of this metric the Net Capex was computed according the formula explained at the beginning of this section.

#### 3.1.1.4 NOPAT

The Net Operating profit after tax is computed by deducting the value of EBIT to the Effective tax rate in each year. More specifically the formula is given by:

$$NOPAT = EBIT * (1 - Effective\ tax\ rate)$$

In order to attain the NOPAT it is assumed that the effective tax rate for the projected period is equal to the marginal tax rate of 21% as the company has been presenting positive profits in the most recent years, as well as the fact that the Effective tax rate historically hasn't been consistent. In fact, in 2021 the effective tax rate of the company was of 56%

#### 3.1.1.5 Net working capital

Net working capital is the difference between current assets, excluding cash and current liabilities, excluding debt, allowing to evaluate liquidity and the capability of the firm to deal with its short-term obligations. For the purpose of computing the free cash flows to the firm the variation of this metric, throughout the time, is taken into consideration. In this case, there was considered the % variation on regards to the revenues as it is possible to draw a pattern from the same since it's components are highly dependent on revenues.

For the year of 2022, the same approach of the remaining measures was used, that is, the historical growth of the fourth trimester in the last years. From that, the projected value for the Net working capital in 2022 was of 25 million euros, leading to a variation of net working capital of 3.9 million euros.

In historical terms the only year in which net working capital was negative was in 2018 coinciding with the year of the acquisition of Bordalo Pinheiro. In addition, the first year revenues of the new segment accounting in receivables were not enough to cover the increase of the current liabilities.

The metrics that have greater impact in current assets and current liabilities are accounts receivables, inventory and accounts liabilities, short term debt, respectively. Nonetheless, the inventory level is pretty stable throughout the years, in exception of the years with boosts in revenues, in which the levels decrease. In the same manner, for example in 2020 is possible to see that the inventory levels increase as the revenues were lower than the expected due COVID.

Furthermore, the company is very well positioned in Portugal and Europe and for that reason the company holds power while dealing with their suppliers, which is positive since while looking into the company client relationship it can be said that in this case, the client holds a bit more bargaining power. From the first, Vista Alegre can manage the timeline for the accounts payable with their suppliers making sure that receives the liquidity necessary to pay its obligations. Whilst in the second relationship, the company holds less power so the clients can bargain more time to pay and as such, increase the account receivables, which consequently increases the current assets. This opposite positions explain why the net working capital is positive but doesn't hold a great value.

In order to make projections between 2023 and 2032 the average of this metric for the period between 2020-2022 with of 6% was taken into consideration. For the analysis of net working capital historical values, the period of 2017 and 2019 were outliers and were suffering from the

acquisition of Bordalo Pinheiro, more specifically, increase in short term debt and adjustment of inventory.

*Figure 14 - Net working capital historical values between 2020 up until 2022*

| | 2020 | 2021 | 2022 |
|---|---|---|---|
| *Working capital* | 11.60 | 21.6 | 25 |

### 3.1.1.7 WACC

According to the methodology described in the literature review, the method FCFF is discounted by the weighted average cost of capital (WACC).

In the following chapter, follows the methodology applied in the computation of both components of WACC, that is, cost of equity and cost of debt. Furthermore, it should be highlighted that despite recognizing that the discount rate should be different according to the regions wherever the company operates, due the lack of information it was assumed to be equal. Nonetheless, it is believed that this assumption will not bring a lot of biases to the output of the model as the majority of the operations of the company is mostly based in countries with similar economies, European countries.

**Cost of debt:**

The debt of Vista Alegre is composed by loans, bonds and leasing, in which the majority of the amount of debt comes form outstanding bonds issued in 2019 with maturity in 2024 since the company issued the bonds in order to repay its major loan to Caixa Geral de Depósitos e Millenium BCP. In order to compute the cost of debt, the yield to maturity of the outstanding bonds were taken into consideration as the company presents a simple capital structure. Nonetheless, despite having outstanding bonds, they are not frequently traded and as such, don't present an yield to maturity. In that order, the value of the yield to maturity was retrieve from Moody's Baa Corporate Bond yield, which corresponds to the value of the yields to maturity from companies with a B rating. This value amounted to 5,82%.

**Cost of equity:**

The cost of equity was computed according the CAPM model described in the literature review. In that order, the following components were taken into consideration: risk-free rate, market risk premium and beta.

For the risk free rate, the German government 10 Y bonds were taken into consideration as they present a A+ rating while compared to a BBB- from the Portuguese ones, remounting to a value

of 2,83% in March of 2023. Moreover, the Equity risk premium was retrieved from a published database from Damodaran accounting 9,13%. Lastly, the unlevered beta of the company was retrieved from Thomson Reuters accounting to 0,22 . The marginal tax rate was also retrieved from this database. From the unlevered beta, the levered one was computed by the unlevered beta * (1 + (1- Marginal tax) * D/E)

The CAPM model is defined by the following formula:

$$Ke = Rf + \beta(Rm - Rf)$$

After the appliance of the CAPM model the cost of equity estimated amounted to 8,60%

#### 3.1.1.7 Terminal Growth

After 2033 the model considers that Vista Alegre's brands will attain a stable maturity implicating that is reasonable to assume that from that point onwards the company grows at a stable rate in perpetuity. The attained value for the terminal growth of Vista Alegre was of 1,5%, which is lower than the worldwide GDP rate forecasted to 2033.

#### 3.1.1.8 Conclusion of FCFF

Considering all the previous sub sections in which the drivers of the FCFF's model are detailed, the value for the projected FCFF between the period of 2023 and 2032 can beseen, in the table below.

*Figure 15 – Disconted Cash flow between 2023 up until 2032*

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|
| *FCFF* | 4,42 | 4,64 | 4,48 | 4,46 | 7,71 | 11,18 | 12,54 | 14,76 | 15,07 | 14,17 |

Taking the cash flows above plus the terminal growth provided, a final enterprise value of 376 million euros was computed leading to an equity value of 253 million after adjusting for net debt. From that, and assuming that the outstanding shares are kept the same, the final value for the share price is equal to 1,34 euros.

### 3.2 Sensitivity Analysis

While applying the valuation of Vista Alegre several assumptions were made, this imply that depending on how accurate the assumptions turn out to be, the outcome of the model, in this case FCFF, can be very different. As such, in order to account for the possibility of these type of deviation, a sensitivity analysis was conducted.

For the sensitivity analysis the variables Effective taxe rate, WACC and terminal growth were taken into consideration, the first variable individually and the second and third jointly to

evaluate the combined effect on the share price. The choice of the variables chosen was dependent on two factors, that is, impact on the final value of the share price or/and reliability of the assumption made.

The figure below shows how WACC and Terminal growth affect the share price of the company where the horizontal line looks to the impact of WACC and the vertical line looks to the Terminal Growth. While looking individually, the value of the share price can vary from 0,68 euros to 2,23 euros when analysing the impact of the WACC and 2,34 euros to 1,05 euros while looking to the Terminal Growth. This means that in order for the share price of the company to be inferior to the current share price the WACC needs to increase until at least 8,00%. Furthermore, it is possible to acknowledge that minor changes in the WACC and Terminal Growth leads to small to medium changes in the share price of the company.

*Figure 16 - Sensitivity Analysis in WACC and Terminal Growth*

| | | WACC | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,35 € | 5,8% | 6,0% | 6,2% | 6,4% | 6,6% | 6,8% | 7,0% | 7,2% | 7,4% | 7,6% | 7,8% | 8,0% | 8,2% | 8,4% | 8,6% | 8,8% |
| | 0,6% | 1,75 € | 1,64 € | 1,54 € | 1,45 € | 1,36 € | 1,28 € | 1,20 € | 1,13 € | 1,06 € | 1,00 € | 0,94 € | 0,88 € | 0,83 € | 0,78 € | 0,73 € | 0,69 € |
| | 0,8% | 1,83 € | 1,71 € | 1,61 € | 1,51 € | 1,41 € | 1,33 € | 1,25 € | 1,17 € | 1,10 € | 1,03 € | 0,97 € | 0,91 € | 0,86 € | 0,81 € | 0,76 € | 0,71 € |
| | 1,0% | 1,91 € | 1,79 € | 1,67 € | 1,57 € | 1,47 € | 1,38 € | 1,30 € | 1,22 € | 1,14 € | 1,07 € | 1,01 € | 0,95 € | 0,89 € | 0,83 € | 0,78 € | 0,73 € |
| | 1,2% | 2,00 € | 1,87 € | 1,75 € | 1,64 € | 1,53 € | 1,44 € | 1,35 € | 1,26 € | 1,19 € | 1,11 € | 1,05 € | 0,98 € | 0,92 € | 0,87 € | 0,81 € | 0,76 € |
| | 1,4% | 2,10 € | 1,96 € | 1,83 € | 1,71 € | 1,60 € | 1,50 € | 1,40 € | 1,32 € | 1,23 € | 1,16 € | 1,09 € | 1,02 € | 0,96 € | 0,90 € | 0,84 € | 0,79 € |
| | 1,5% | 2,16 € | 2,01 € | 1,87 € | 1,75 € | 1,64 € | 1,53 € | 1,43 € | 1,34 € | 1,26 € | 1,18 € | 1,11 € | 1,04 € | 0,97 € | 0,91 € | 0,86 € | 0,80 € |
| | 1,8% | 2,33 € | 2,17 € | 2,02 € | 1,88 € | 1,75 € | 1,64 € | 1,53 € | 1,43 € | 1,34 € | 1,25 € | 1,18 € | 1,10 € | 1,03 € | 0,97 € | 0,91 € | 0,85 € |
| Long-Term Growth | 2,0% | 2,47 € | 2,29 € | 2,12 € | 1,97 € | 1,84 € | 1,71 € | 1,60 € | 1,49 € | 1,40 € | 1,31 € | 1,22 € | 1,15 € | 1,07 € | 1,01 € | 0,94 € | 0,88 € |
| | 2,2% | 2,62 € | 2,42 € | 2,24 € | 2,08 € | 1,93 € | 1,80 € | 1,68 € | 1,56 € | 1,46 € | 1,37 € | 1,28 € | 1,19 € | 1,12 € | 1,05 € | 0,98 € | 0,92 € |
| | 2,4% | 2,78 € | 2,56 € | 2,37 € | 2,19 € | 2,03 € | 1,89 € | 1,76 € | 1,64 € | 1,53 € | 1,43 € | 1,33 € | 1,25 € | 1,17 € | 1,09 € | 1,02 € | 0,95 € |
| | 2,6% | 2,97 € | 2,72 € | 2,51 € | 2,32 € | 2,15 € | 1,99 € | 1,85 € | 1,72 € | 1,60 € | 1,49 € | 1,39 € | 1,30 € | 1,22 € | 1,14 € | 1,06 € | 0,99 € |
| | 2,8% | 3,18 € | 2,91 € | 2,67 € | 2,46 € | 2,27 € | 2,10 € | 1,95 € | 1,81 € | 1,68 € | 1,57 € | 1,46 € | 1,36 € | 1,27 € | 1,19 € | 1,11 € | 1,04 € |
| | 3,0% | 3,42 € | 3,11 € | 2,85 € | 2,61 € | 2,41 € | 2,22 € | 2,06 € | 1,91 € | 1,77 € | 1,64 € | 1,53 € | 1,43 € | 1,33 € | 1,24 € | 1,16 € | 1,08 € |
| | 3,2% | 3,69 € | 3,35 € | 3,05 € | 2,79 € | 2,56 € | 2,36 € | 2,18 € | 2,01 € | 1,86 € | 1,73 € | 1,61 € | 1,50 € | 1,39 € | 1,30 € | 1,21 € | 1,13 € |
| | 3,4% | 4,02 € | 3,62 € | 3,28 € | 2,99 € | 2,74 € | 2,51 € | 2,31 € | 2,13 € | 1,97 € | 1,82 € | 1,69 € | 1,57 € | 1,46 € | 1,36 € | 1,27 € | 1,18 € |
| | 3,6% | 4,40 € | 3,94 € | 3,55 € | 3,22 € | 2,93 € | 2,68 € | 2,46 € | 2,26 € | 2,09 € | 1,93 € | 1,78 € | 1,66 € | 1,54 € | 1,43 € | 1,33 € | 1,24 € |

For the sensitivity analysis carried out at the Effective tax rate four scenarios were added with the reduction and addition of 10% of the assumed value. The results can are in the table below. The results show that despite variations of 10% the final share price doesn't present major changes in the price. Furthermore, for the fair value of the share price to be below the current share price the Effective tax rate would need to be equal to 180% of the current Effective tax rate.

*Figure 17 - Sensitivity Analysis in Effective tax rate*

| Effective tax rate | | | | |
|---|---|---|---|---|
| 80% | 90% | 100% | 110% | 120% |
| 1,45 € | 1,41 € | 1,34 € | 1,30 € | 1,23 € |

### 3.3 Relative valuation

As previously stated, the forward P/E multiples and EV/EBITDA multiples were included in the valuation of the group. The relative valuation method assesses the value of the company while comparing to similar ones in the market, providing a range of values. Consequently, it is often perceived as a complement of the discounted cash flow valuation methods, in the way, that helps to assess the reliability of the value provided by the previous model, by belonging to the range provided by the multiples.

The following subsections develop the choice of comparable companies, the first step in relative valuation, and afterwards, the computation of the share price by the multiples chosen for the relative valuation.

#### 3.3.1 Comparable firms

As discussed in the literature review, the comparable firms should be chosen according to the industry and further subsector that the company operates in (Alfrod, 1992). This choice assumes that companies that belong to the same industry and further, in the same sector, will present similar risks and opportunities. Furthermore, it should also take into consideration the historical growths of the prechosen companies.

Vista Alegre was the sixth largest ceramic producer globally by sales and third, while looking at EBITDA, in 2021, which sets a strong position of the group in the ceramics market.

For the purpose of this dissertation, the companies were chosen according to the tools & houseware industry, specifically, the ones that operate in the ceramic market, and have similar segments to Vista Alegre (Figure 18). Furthermore, the pool of companies displayed were selected based on Vista Alegre's reports and Thomson Reuters.

*Figure 18 - Comparable segments to Vista Alegre of Comparable companies based on industry*

| Companies | Tableware | Home décor | Cookware | Horeca |
|---|---|---|---|---|
| **Vista Alegre** | X | X | X | X |
| **Libbey** | X | | | X |
| **Fiskars** | X | | X | X |
| **Villeroy & Boch** | X | X | X | |
| **Portmeirion** | X | X | | |
| **Noritake** | X | | X | X |
| **Chuchill China** | X | X | | X |

| | | | | |
|---|---|---|---|---|
| **Orthex Oyj** | X | | X | |
| **Leifheit Ag** | X | X | | |

In addition, several growths were taken into consideration to assess, within the companies aforementioned, the ones that could be a better proxy to Vista Alegre's group. Concretely, it was taken into consideration the values of EBITDA growth, from the last 5 years, average of the operating margins of the last 5 years, market cap, market value and debt to total capital. The last measure is very important as Vista Alegre presents really high levels of debt, imposing risks for the company.

It is important to refer that for the purpose of this comparison the time horizon taken into considered was the period between 2017 and 2021, as the values from 2022 were still not disclosed for the majority of the companies.

The consideration of market value and market capitalization are reasoned by being measures of size. Companies with different sizes face different risks and opportunities and for that reason it is important to account for it, specially whenever the pool of companies considered aren't narrowed for more than one digit (Alfrod, 1992).

In addition, the variable of EBITDA growth and operating profit margins measures the stage in which the company is. In the same manner, companies that are in different stages face different risks and opportunities and that should account while looking for the peers. In order to consider those variables, the average of the last 5 years were taken into account since the companies were differently impacted by the pandemic, between 2019 and 2021, and so the growths were influenced by that.

All of the value retrieved were taken from Thomson Reuters Datastream. Additionally, when necessary, the values were converted to euros by the converter of Banco de Portugal at 11/03/2023.

*Figure 19 - Peer group analysis*

| Companies | % EBITDA growth | Market value | Market capitalization | Operating profit margin(%) | D/(E+D) (%) |
|---|---|---|---|---|---|
| **Vista Alegre** | **18** | **167,65** | **184415** | **4,192** | **60,52** |
| **Portmeirion** | 16 | 111,924 | 100533,22 | 6,668 | 18,18 |
| **Churchill China** | - | 219,17 | 225285,23 | 11,742 | 0,95 |
| Noritake | 26,28 | 497,27671 | 353239,68 | 3,804 | 6,69 |

| | | | | | |
|---|---|---|---|---|---|
| Villeroy & Boch | 24,44 | 321,63 | 608635 | 5,062 | 32,09 |
| **Orthex Oyj** | 16,38 | 180,25 | 196058 | 11,74 | 52,74 |
| Fiskars | 14,4 | 1851,06 | 1873846 | 8,424 | 17,79 |
| **Leifheit AG** | 17,4 | 127,93 | 350163 | 5,898 | 1,56 |

Figure 19 demonstrates the values of the companies chosen for the variables considered, in which the values similar to Vista Alegre's ones are highlighted in white. As can be perceived from looking to the table, the companies that stand out are Portmeirion, Orthex Oyj and Leifheit AG. Nonetheless, besides those companies, the valuation also take into consideration Churchill China as this is the company with more similar segments to Vista Alegre and similar market cap and market value. Furthermore, Noritake and Villeroy & Boch were not considered for the valuation as they present very high market value and cap comparing to Vista Alegre, even though they present similar operating profit margin. The same reason applies to Fiskars.

In short, the companies that integrate the peer group are 4 companies: Portmeirion, Orthex Oyj, Leifheit Ag and Churchill China. The number of companies chosen comes from the fact that companies belonging to this industry and further in the subsector of ceramic operate in several different segments and present different positions in each. For example, Vista Alegre operates in 4 segments and each one represents a different weight for the company. This fact brings difficulty while choosing a comparable company.

### 3.3.2 Multiples

As mentioned at the end of the literature review, the multiples used for the relative valuation were P/E, an equity multiple, and EV/EBITDA, an enterprise multiple. The P/E multiple allows to see if the price of the share is under or over valued, as it computes how much is an investor willing to pay for one value of earnings per share. Nonetheless, this multiple is affected by the capital structure of the company, which is an important factor to be considered in the case of Vista Alegre given its levels of debt. As such, the multiple EV/EBIDTA was added to the valuation.

The multiple of EV/EBITDA compares the enterprise value of the company to its earnings before interest and taxes and its not affected by capital structure.

Furthermore, forward multiples were used instead of historical ones as the first provide a more reliable valuation, as already explained in the literature review. The information regarding the forward multiples was retrieved from Thomson Reuters at 11/03/2023.

*Figure 20 - Peer group's forward multiples*

| Companies | P/E | EV/EBITDA |
|---|---|---|
| Portimeirion | 7,18x | 4,67x |
| Churchill China | 21,71x | 10,92x |
| Orthex Oyj | 30,11x | 11,89x |
| Liefheit AG | 68,64x | 11,71x |
| | | |
| **Average** | **31,91x** | **9,80x** |
| | | |
| **Implied stock price** | **1,53 €** | **0,89 €** |

From the P/E multiple the price of the share is expected to be 1,53€. This price is a very different result from the value provided by the EV/EBITDA multiple. From the multiple of EV/EBITDA the price of the share, at the end of the year of 2023, is expected to be 0,89 €. This difference between expected prices can be explained by the consideration of capital structure, which in the case of Vista Alegre has a great impact as it presents a debt to total capital of 60%. Nonetheless, despite EV/EBITDA being a more reliable price given what was previously explained, is important to highlight that within the peer group the only company with similar values of debt and capital structure was Orthex Oyj and consequently, this can impact the price provided by the EV/EBITDA multiple.

### 3.4 Recommendation and comparison with stock report

The results for the share price computed are summarized in the following table.

*Figure 21 - Share price summary*

| FCFF | P/E | EV/EBITDA |
|---|---|---|
| 1,34 € | 1,53 € | 0,98 € |

Whilst looking to the report provided by Marketscreener the target share price is 1,41 euros, which is a higher price to the one attained in this thesis. This difference can be explained by several factors, nonetheless, one of the most important differences between the two reports is that the Marketscreenerreport uses as base year 2021, that is, the whole year of 2022 is a projection, whilst in the case of this dissertation only the forth trimester of 2022 was projected. Furthermore, the report only makes a three-year projection compared to the ten-year projection of this thesis.

*Figure 22 - Comparison between Marketcreeener report and Dissertation*

| | Marketscreener | | | Dissertation | | |
|---|---|---|---|---|---|---|
| | **2022** | **2023** | **2024** | **2022** | **2023** | **2024** |
| *Revenues* | 141 | 144 | 150 | 142 | 145 | 153 |
| *EBITDA* | 22,5 | 27 | 30 | 19 | 17 | 18 |
| *EBIT* | 7,5 | 15 | 18,5 | 5,7 | 2,6 | 3,4 |
| *FCFF* | 19 | 18 | 18 | 4 | 5 | 4 |

As can be seen from the table above the major differences rely on the FCFF values, nonetheless, there isn't any detailed information about its projection. Furthermore, there isn't any information on the value of the terminal growth considered neither the WACC.

Concerning the relative valuation, the report takes into consideration the forecasted multiples of P/E ratio, EV/EBITDA, Capitalization/Revenue and EV/revenue. In the table below, are displayed the comparison between the forecasted multiples considered in both report and dissertation.

*Figure 23 - Comparison of multiples between Market Watch report and Dissertation*

| | **Marketscreener** | **Dissertation** |
|---|---|---|
| P/E | 17,9x | 31,91x |
| EV/EBITDA | 7,65x | 9,80x |

The P/E ratio is the one that presents more differences meaning that the pool taken into consideration for the comparable companies might be different. Nonetheless, it is impossible to know with certainty as the report doesn't disclose the peers considered.

In short, the recommendations provided from the report and this dissertation are the same and the targeted price presents a difference of less than 0,10 cents. However, despite applying the same model it should be acknowledged that there are differences on the approach and assumptions of the model.

### 3.5 Conclusion

As stated in the introduction of this thesis, the objective of the same is to provide a recommendation while answering to the fair share price of Vista Alegre. In order to answer that, two model were used, FCFF and the multiples P/E and EV/EBITDA. Resulting those, three different fair share prices were attained, all above the current market price.

The most reliable model between the three is the FCFF as it looks to the intrinsic value for the company, in addition to the fact, that there was an increased difficulty in finding comparable

companies to Vista Alegre which is the most important factor in order to attain a reliable price from the multiples. Consequently, the fair value of the share price of Vista Alegre is equal to 1,30 euros, which is the result provided by the DCF model.

Nevertheless, even being the most reliable model, the DCF is subjected to assumptions and as such, a sensitivity analysis was conducted, in the variables WACC, Terminal Growth and Effective tax rate. From the analysis, the conclusion taken was that WACC and Terminal Growth have indeed a small to medium impact in the share price whilst the Effective tax rate has a reduced one. Furthermore, the results show that, in order for the recommendation of Vista Alegre to change the value of Terminal Growth needed to be highly underestimated and, at the same time, the WACC needed to be at least 8,0% which is an unlikely event to happen.

Given the outcome and assuming that markets are efficient, meaning, the share price of the company will converge to its fair value the recommendation provided in this dissertation is to BUY.

Lastly, it should be acknowledged that Vista Alegre has been suffering some impactful events, either internal or external, that increased the difficulty of providing a fair share price for the company. In short, the most impactful events were: the acquisition of the company in 2008 by Visabeira that impacted the financial values in the first years, the acquisition of Bordalo Pinheiro in 2018, followed by a Pandemic in 2020. Most recently, there was also the Russian and Ukrainian war in 2022 and the high inflation felt worldwide result from the last event combined by the “end” of the pandemic.Moreover, there aren’t a lot of information available concerning the company.

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*The Budget and Economic Outlook: 2023 to 2033 by the Numbers*.

**Appendices:**

Appendix 1- Historic Income Statement

Source: Thomson Reuters

| | 2021 | 2020 | 2019 | 2018 | 2017 |
|---|---|---|---|---|---|
| Earnings Quality Score | 40 | 19 | 18 | 46 | 32 |
| Period End Date | 31-Dec-2021 | 31-Dec-2020 | 31-Dec-2019 | 31-Dec-2018 | 31-Dec-2017 |
| Revenue | 117,0 | 110,4 | 120,1 | 99,0 | 85,0 |
| Net Sales | 117,0 | 110,4 | 120,1 | 99,0 | 85,0 |
| Other Revenue, Total | -- | -- | -- | -- | -- |
| Total Revenue | 117,0 | 110,4 | 120,1 | 99,0 | 85,0 |
| Cost of Revenue, Total | 36,5 | 39,1 | 33,6 | 28,7 | 25,4 |
| Cost of Revenue | 36,5 | 39,1 | 33,6 | 28,7 | 25,4 |
| Gross Profit | 80,5 | 71,3 | 86,5 | 70,4 | 59,6 |
| | | | | | |
| Selling/General/Admin. Expenses, Total | 64,7 | 60,7 | 63,2 | 55,3 | 46,2 |
| Selling/General/Administrative Expense | 18,1 | 18,1 | 18,8 | 19,7 | 15,7 |
| Labor & Related Expense | 44,9 | 40,7 | 42,4 | 33,8 | 29,1 |
| Advertising Expense | 1,8 | 2,0 | 2,0 | 1,8 | 1,4 |
| Research & Development | -- | -- | -- | -- | -- |
| Depreciation/Amortization | 13,5 | 13,2 | 11,0 | 6,5 | 6,4 |
| Depreciation | 13,5 | 13,2 | 11,0 | 6,5 | 6,4 |
| Interest Expense, Net - Operating | -- | -- | -- | -- | -- |
| Interest/Investment Income - Operating | (0,2) | (0,3) | (0,1) | (0,1) | 0,7 |
| Investment Income - Operating | (0,2) | (0,3) | (0,1) | (0,1) | 0,7 |
| Interest Expense(Income) - Net Operating | -- | -- | -- | -- | -- |
| Interest Exp.(Inc.),Net-Operating, Total | (0,2) | (0,3) | (0,1) | (0,1) | 0,7 |
| Unusual Expense (Income) | (0,2) | 0,3 | (0,1) | (0,1) | 0,2 |
| Impairment-Assets Held for Use | (0,1) | (0,2) | 0,6 | -- | -- |
| Impairment-Assets Held for Sale | -- | -- | -- | 0,0 | 0,1 |
| Loss(Gain) on Sale of Assets - Operating | -- | 0,0 | (0,4) | (0,1) | 0,0 |
| Other Unusual Expense (Income) | 0,0 | 0,5 | (0,3) | 0,0 | 0,2 |
| Other Operating Expenses, Total | (6,7) | (5,1) | (1,8) | (2,4) | (1,7) |
| Other Operating Expense | 1,6 | 1,0 | 1,1 | 1,4 | 1,2 |
| Other, Net | (8,3) | (6,1) | (2,9) | (3,8) | (2,8) |
| Total Operating Expense | 107,6 | 107,9 | 105,8 | 87,7 | 77,3 |
| Operating Income | 9,3 | 2,5 | 14,3 | 11,3 | 7,7 |
| Interest Expense, Net Non-Operating | (3,9) | (3,3) | (3,9) | (2,0) | (2,7) |
| Interest Expense - Non-Operating | (3,9) | (3,3) | (3,9) | (2,0) | (2,7) |
| Interest/Invest Income - Non-Operating | 0,2 | 0,1 | 0,0 | 0,0 | 0,0 |
| Interest Income - Non-Operating | 0,2 | 0,1 | 0,0 | 0,0 | 0,0 |
| Investment Income - Non-Operating | 0,0 | -- | -- | 0,0 | -- |
| Interest Income(Exp), Net Non-Operating | -- | -- | -- | -- | -- |
| Interest Inc.(Exp.),Net-Non-Op., Total | (3,7) | (3,1) | (3,8) | (2,0) | (2,7) |
| Gain (Loss) on Sale of Assets | -- | -- | -- | -- | -- |
| Other, Net | (2,1) | (1,6) | (1,7) | (0,6) | (0,4) |
| Other Non-Operating Income (Expense) | (2,1) | (1,6) | (1,7) | (0,6) | (0,4) |
| Net Income Before Taxes | 3,6 | (2,2) | 8,8 | 8,8 | 4,6 |
| Provision for Income Taxes | 2,0 | 0,3 | 1,3 | 1,6 | 0,4 |
| Net Income After Taxes | 1,6 | (2,5) | 7,5 | 7,2 | 4,2 |
| Minority Interest | 0,0 | 0,0 | (0,2) | 0,1 | 0,0 |
| Equity In Affiliates | -- | -- | -- | -- | -- |
| U.S. GAAP Adjustment | -- | -- | -- | -- | -- |
| Net Income Before Extra. Items | 1,6 | (2,5) | 7,2 | 7,3 | 4,3 |

**Appendix 2:** Historic Balance Sheet

Source: Thomson Reuters

| | 2021 | 2020 | 2019 | 2018 | 2017 |
|---|---|---|---|---|---|
| Earnings Quality Score | 40 | 19 | 18 | 46 | 32 |
| Period End Date | 31-Dec-2021 | 31-Dec-2020 | 31-Dec-2019 | 31-Dec-2018 | 31-Dec-2017 |
| Assets (€ Millions) | | | | | |
| Cash and Short Term Investments | 24,1 | 17,5 | 14,5 | 11,1 | 4,8 |
| Cash | -- | 17,5 | 14,5 | 11,1 | 4,8 |
| Cash & Equivalents | 24,1 | -- | 0,0 | -- | -- |
| Accounts Receivable - Trade, Net | 16,6 | 13,2 | 21,7 | 21,7 | 17,4 |
| Accounts Receivable - Trade, Gross | 19,7 | 16,3 | 24,9 | 25,2 | 19,9 |
| Provision for Doubtful Accounts | (3,1) | (3,1) | (3,2) | (3,5) | (2,5) |
| Total Receivables, Net | 16,6 | 14,6 | 23,9 | 24,3 | 18,0 |
| Receivables - Other | 0,0 | 1,4 | 2,2 | 2,6 | 0,6 |
| Total Inventory | 40,1 | 43,0 | 41,8 | 36,6 | 33,5 |
| Inventories - Finished Goods | 28,5 | 35,8 | 31,0 | 30,1 | 30,5 |
| Inventories - Work In Progress | 1,1 | 2,4 | 5,4 | 2,6 | 0,8 |
| Inventories - Raw Materials | 4,8 | 4,5 | 4,4 | 3,7 | 2,7 |
| Inventories - Other | 5,7 | 0,4 | 0,8 | 0,1 | (0,4) |
| Prepaid Expenses | -- | -- | -- | -- | 1,5 |
| Other Current Assets, Total | -- | 0,0 | -- | 0,0 | -- |
| Other Current Assets | -- | 0,0 | -- | 0,0 | -- |
| Total Current Assets | 80,7 | 75,1 | 80,1 | 72,1 | 57,9 |
| | | | | | |
| Property/Plant/Equipment, Total - Gross | 21,0 | 18,2 | 17,3 | -- | -- |
| Other Property/Plant/Equipment - Gross | 21,0 | 18,2 | 17,3 | -- | -- |
| Property/Plant/Equipment, Total - Net | 138,3 | 141,6 | 150,2 | 127,3 | 89,7 |
| Accumulated Depreciation, Total | (5,6) | (3,5) | (2,5) | -- | -- |
| Goodwill, Net | 4,7 | 4,7 | 4,7 | 4,7 | 4,7 |
| Goodwill - Gross | 6,3 | 6,3 | 6,3 | -- | -- |
| Accumulated Goodwill Amortization | (1,6) | (1,6) | (1,6) | -- | -- |
| Intangibles, Net | 2,6 | 1,6 | 1,4 | 1,6 | 1,4 |
| Long Term Investments | 1,6 | 1,6 | 1,7 | 1,6 | 19,2 |
| LT Investments - Other | 1,6 | 1,6 | 1,7 | 1,6 | 19,2 |
| Note Receivable - Long Term | -- | -- | -- | -- | -- |
| Other Long Term Assets, Total | 4,3 | 4,9 | 5,9 | 5,5 | 4,9 |
| Defered Income Tax - Long Term Asset | 4,3 | 4,9 | 5,9 | 5,5 | 4,9 |
| Other Long Term Assets | 0,0 | 0,0 | 0,0 | 0,0 | -- |
| Total Assets | 232,2 | 229,5 | 244,0 | 212,9 | 177,8 |

| Liabilities (€ Millions) | | | | | |
|---|---|---|---|---|---|
| Accounts Payable | 37,4 | 38,9 | 45,9 | 48,7 | 29,3 |
| Payable/Accrued | -- | -- | -- | -- | -- |
| Accrued Expenses | 1,3 | 1,1 | 1,0 | 2,2 | 1,4 |
| Notes Payable/Short Term Debt | 8,1 | 13,6 | 20,5 | 0,0 | 0,0 |
| Current Port. of LT Debt/Capital Leases | 12,0 | 9,4 | 11,3 | 39,0 | 24,2 |
| Other Current liabilities, Total | 0,3 | 0,5 | 0,9 | 0,5 | 0,2 |
| Income Taxes Payable | 0,3 | 0,2 | 0,6 | 0,2 | -- |
| Other Current Liabilities | 0,0 | 0,3 | 0,3 | 0,3 | 0,2 |
| Total Current Liabilities | 59,1 | 63,5 | 79,6 | 90,4 | 55,2 |
| | | | | | |
| Total Long Term Debt | 84,9 | 82,7 | 74,1 | 55,8 | 22,2 |
| Long Term Debt | 79,0 | 77,4 | 68,2 | 55,5 | 22,1 |
| Capital Lease Obligations | 5,9 | 5,3 | 5,9 | 0,3 | 0,1 |
| Total Debt | 105,1 | 105,8 | 105,9 | 94,7 | 46,4 |
| Deferred Income Tax | 8,8 | 8,8 | 9,3 | 9,2 | 12,2 |
| Deferred Income Tax - LT Liability | 8,8 | 8,8 | 9,3 | 9,2 | 12,2 |
| Minority Interest | 1,1 | 1,1 | 1,0 | 0,8 | 0,3 |
| Other Liabilities, Total | 10,9 | 8,0 | 8,2 | 7,1 | 5,6 |
| Reserves | 0,2 | 0,2 | 0,2 | 0,2 | 0,4 |
| Pension Benefits - Underfunded | 1,1 | 1,1 | 1,2 | 1,4 | 1,5 |
| Other Long Term Liabilities | 9,6 | 6,7 | 6,8 | 5,5 | 3,8 |
| Total Liabilities | 164,8 | 164,2 | 172,2 | 163,3 | 95,5 |
| | | | | | |
| Shareholders Equity (€ Millions) | | | | | |
| Redeemable Preferred Stock, Total | -- | -- | -- | -- | -- |
| Preferred Stock - Non Redeemable, Net | -- | -- | -- | -- | -- |
| Common Stock, Total | 134,1 | 134,1 | 134,1 | 121,9 | 121,9 |
| Common Stock | 134,1 | 134,1 | 134,1 | 121,9 | 121,9 |
| Additional Paid-In Capital | 25,1 | 24,3 | 24,3 | 22,1 | 22,1 |
| Retained Earnings (Accumulated Deficit) | (130,0) | (131,3) | (124,8) | (132,7) | (99,8) |
| Treasury Stock - Common | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| ESOP Debt Guarantee | -- | -- | -- | -- | -- |
| Unrealized Gain (Loss) | -- | -- | -- | -- | -- |
| Other Equity, Total | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 |
| Other Equity | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 |
| Total Equity | 67,4 | 65,3 | 71,8 | 49,5 | 82,3 |
| | | | | | |
| Total Liabilities & Shareholders' Equity | 232,2 | 229,5 | 244,0 | 212,9 | 177,8 |

## **Appendix 3**: Forecasted FCFF

| Base | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E | 2031E | 2032E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenues | 142 € | 145 € | 152 € | 161 € | 171 € | 186 € | 201 € | 215 € | 228 € | 236 € | 242 € |
| *Growth* | *21,00%* | *2,32%* | *5,18%* | *5,66%* | *6,48%* | *8,39%* | *8,45%* | *6,82%* | *6,02%* | *3,57%* | *2,61%* |
| ***Expenses*** | | | | | | | | | | | |
| ***Operating expenses*** | *122,07* | ***128,17*** | ***134,58*** | ***141,31*** | ***148,38*** | ***155,80*** | ***163,59*** | ***171,76*** | ***176,92*** | ***182,23*** | ***187,69*** |
| ***Growth*** | | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 3% | 3% | 3% |
| EBITDA | 19 € | 17 € | 18 € | 20 € | 23 € | 30 € | 38 € | 43 € | 51 € | 54 € | 55 € |
| Growth | | -17% | 6% | 10% | 15% | 23% | 21% | 13% | 15% | 5% | 1% |
| ***D&A*** | 13,50 € | 13,77 € | 14,05 € | 14,19 € | 14,33 € | 14,61 € | 15,34 € | 16,11 € | 16,43 € | 16,76 € | 17,10 € |
| *growth* | | *2,00%* | *2,00%* | *1,00%* | *1,00%* | *2,00%* | *5,00%* | *5,00%* | *2,00%* | *2,00%* | *2,00%* |
| ***Effective Tax Rate*** | *21,00%* | *21,00%* | *21,00%* | *21,00%* | *21,00%* | *21,00%* | *21,00%* | *21,00%* | *21,00%* | *21,00%* | *21,00%* |
| NOPAT | 5 € | 2 € | 3 € | 4 € | 7 € | 12 € | 18 € | 22 € | 28 € | 29 € | 30 € |
| ***D&A*** | ***14 €*** | ***14 €*** | ***14 €*** | ***14 €*** | ***14 €*** | ***15 €*** | ***15 €*** | ***16 €*** | ***16 €*** | ***17 €*** | ***17 €*** |
| ***Net CAPEX*** | ***6 €*** | ***11 €*** | ***11 €*** | ***13 €*** | ***15 €*** | ***15 €*** | ***15 €*** | ***16 €*** | ***17 €*** | ***17 €*** | ***18 €*** |
| ***Δ NWC*** | 0,41 | 0,27 | 0,53 | 0,78 | 0,84 | 1,24 | 1,37 | 0,91 | 0,97 | 0,55 | 0,44 |
| FCFF | 12 € | 5,0 € | 5,3 € | 5,5 € | 5,8 € | 10,9 € | 16,9 € | 20,3 € | 25,7 € | 28,1 € | 28,3 € |

## **Apendix 4**: Inputs for the computation of the Share Price

| | |
|---|---|
| **Terminal Value** | **252 €** |
| *Long-term Growth* | *1,50%* |
| **Enterprise Value** | **346 €** |
| *Net debt* | *120 €* |
| **Equity Value** | **226 €** |
| *Outstanding Shares* | *169* |
| **Implied Share Price** | **1,34 €** |

## **Appendix 5:** Equity Risk Premium

Source: Damodaran Database

| *Adj. Default Spread* | *Equity Risk Premium* | *Country Risk Premium* | *Corporate Tax Rate* | Moody's rating | |
|---|---|---|---|---|---|
| Portugal | 2.33% | 9.23% | 3.29% | 21.00% | Baa2 |

## **Appendix 6:** Forecasted Income Statement

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|
| Revenue | 144,8 | 152,3 | 161,0 | 171,4 | 185,8 | 201,5 | 215,2 | 228,2 | 236,3 | 242,5 |
| Net Sales | 144,8 | 152,3 | 161,0 | 171,4 | 185,8 | 201,5 | 215,2 | 228,2 | 236,3 | 242,5 |
| Other Revenue, Total | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total Revenue | 144,8 | 152,3 | 161,0 | 171,4 | 185,8 | 201,5 | 215,2 | 228,2 | 236,3 | 242,5 |
| Cost of Revenue, Total | 43,5 | 45,7 | 48,3 | 51,4 | 55,7 | 50,4 | 53,8 | 45,6 | 47,3 | 48,5 |
| Cost of Revenue | 43,5 | 45,7 | 48,3 | 51,4 | 55,7 | 50,4 | 53,8 | 45,6 | 47,3 | 48,5 |
| Gross Profit | 101,4 | 106,6 | 112,7 | 120,0 | 130,0 | 151,1 | 161,4 | 182,5 | 189,0 | 194,0 |
| | | | | | | | | | | |
| Selling/General/Admin. Expenses, Total | 86,9 | 91,2 | 95,5 | 99,6 | 102,8 | 116,2 | 121,2 | 134,7 | 138,5 | 142,8 |
| Research & Development | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Depreciation/Amortization | 13,8 | 14,0 | 14,2 | 14,3 | 14,6 | 15,3 | 16,1 | 16,4 | 16,8 | 17,1 |
| Depreciation | 13,8 | 14,0 | 14,2 | 14,3 | 14,6 | 15,3 | 16,1 | 16,4 | 16,8 | 17,1 |
| Other Operating Expenses, Total | (2,2) | (2,3) | (2,4) | (2,6) | (2,8) | (3,0) | (3,2) | (3,4) | (3,5) | (3,6) |
| Total Operating Expense | 141,9 | 148,6 | 155,5 | 162,7 | 170,4 | 178,9 | 187,9 | 193,4 | 199,0 | 204,8 |
| Operating Income | 2,9 | 3,7 | 5,5 | 8,7 | 15,4 | 22,5 | 27,3 | 34,8 | 37,3 | 37,7 |
| Interest Expense, Net Non-Operating | (2,2) | (2,3) | (2,4) | (2,6) | (2,8) | (3,0) | (3,2) | (3,4) | (3,5) | (3,6) |
| Interest Expense - Non-Operating | (2,2) | (2,3) | (2,4) | (2,6) | (2,8) | (3,0) | (3,2) | (3,4) | (3,5) | (3,6) |
| Interest/Invest Income - Non-Operating | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| Interest Income - Non-Operating | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| Investment Income - Non-Operating | -- | 0,0 | -- | -- | 0,0 | -- | -- | 0,0 | -- | -- |
| Interest Income(Exp), Net Non-Operating | | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Interest Inc.(Exp.),Net-Non-Op., Total | (2,2) | (2,3) | (2,4) | (2,6) | (2,8) | (3,0) | (3,2) | (3,4) | (3,5) | (3,6) |
| Gain (Loss) on Sale of Assets | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other, Net | (0,7) | (0,8) | (1,6) | (1,7) | (1,9) | (2,0) | (2,2) | (2,3) | (2,4) | (2,4) |
| Other Non-Operating Income (Expense) | (0,7) | (0,8) | (1,6) | (1,7) | (1,9) | (2,0) | (2,2) | (2,3) | (2,4) | (2,4) |
| Net Income Before Taxes | 0,1 | 0,7 | 1,4 | 4,4 | 10,7 | 17,5 | 22,0 | 29,1 | 31,4 | 31,6 |
| Provision for Income Taxes | 0,0 | 0,1 | 0,3 | 0,9 | 2,3 | 3,7 | 4,6 | 6,1 | 6,6 | 6,6 |
| Net Income After Taxes | 0,1 | 0,5 | 1,1 | 3,5 | 8,5 | 13,8 | 17,3 | 23,0 | 24,8 | 25,0 |

## **Appendix 7:** Forecasted Balance Sheet

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets (€ Millions) | | | | | | | | | | |
| Cash and Short Term Investments | 13,0 | 15,2 | 16,1 | 8,6 | 9,3 | 10,1 | 10,8 | 11,4 | 23,6 | 24,2 |
| Cash | 13,0 | 15,2 | 16,1 | 8,6 | 9,3 | 10,1 | 10,8 | 11,4 | 23,6 | 24,2 |
| Cash & Equivalents | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total Receivables, Net | 21,7 | 22,9 | 24,1 | 24,0 | 26,0 | 28,2 | 30,1 | 34,2 | 35,4 | 38,8 |
| Total Inventory | 43,5 | 45,7 | 48,3 | 51,4 | 55,7 | 60,4 | 64,6 | 75,3 | 78,0 | 80,0 |
| Prepaid Expenses | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other Current Assets, Total | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total Current Assets | 78,2 | 83,8 | 88,5 | 84,0 | 91,0 | 98,7 | 105,5 | 120,9 | 137,1 | 143,1 |
| | | | | | | | | | | |
| Property/Plant/Equipment, Total - Net | 130,8 | 128,1 | 126,9 | 127,5 | 128,1 | 128,8 | 129,4 | 130,1 | 130,7 | 131,4 |
| Goodwill, Net | 4,7 | 4,7 | 4,7 | 4,7 | 4,7 | 4,7 | 4,7 | 4,7 | 4,7 | 4,7 |
| Intangibles, Net | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 |
| Long Term Investments | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 |
| Note Receivable - Long Term | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other Long Term Assets, Total | 8,3 | 8,7 | 9,2 | 9,4 | 9,5 | 11,1 | 11,8 | 12,5 | 13,5 | 13,8 |
| Defered Income Tax - Long Term Asset | 8,3 | 8,7 | 9,2 | 9,4 | 9,5 | 11,1 | 11,8 | 12,5 | 13,5 | 13,8 |
| Other Long Term Assets | 0,0 | 0,0 | 0,0 | 0,0 | -- | -- | -- | -- | -- | -- |
| Total Assets | 224,8 | 228,1 | 232,1 | 228,4 | 236,2 | 246,1 | 254,3 | 271,1 | 288,8 | 295,8 |
| | | | | | | | | | | |
| Liabilities (€ Millions) | | | | | | | | | | |
| Accounts Payable | 57,9 | 60,9 | 64,4 | 68,6 | 76,2 | 82,6 | 88,2 | 91,3 | 89,8 | 92,1 |
| Payable/Accrued | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Accrued Expenses | 2,8 | 2,9 | 3,1 | 3,3 | 3,5 | 3,8 | 4,1 | 4,3 | 4,5 | 4,6 |
| Notes Payable/Short Term Debt | 8,4 | 9,4 | 10,0 | 10,6 | 12,5 | -- | -- | -- | -- | -- |
| Current Port. of LT Debt/Capital Leases | 1,7 | 1,6 | 1,6 | 2,7 | 3,4 | 2,3 | 0,9 | 0,8 | 0,7 | 0,4 |
| Other Current liabilities, Total | 0,6 | 0,6 | 0,6 | 0,7 | 0,7 | 1,2 | 0,9 | 0,9 | 0,9 | 1,0 |
| Total Current Liabilities | 71,3 | 75,5 | 79,7 | 85,8 | 83,8 | 89,9 | 94,0 | 97,3 | 95,9 | 98,1 |
| | | | | | | | | | | |
| Total Long Term Debt | 84,1 | 82,3 | 80,7 | 67,8 | 65,5 | 57,3 | 43,0 | 40,0 | 37,0 | 20,0 |
| Long Term Debt | 78,2 | 76,4 | 74,8 | 61,9 | 64,5 | 56,3 | 42,0 | 39,0 | 36,0 | 19,7 |
| Capital Lease Obligations | 5,9 | 5,9 | 5,9 | 5,9 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 0,3 |
| Total Debt | 94,2 | 93,4 | 92,3 | 81,1 | 68,9 | 59,6 | 43,9 | 40,8 | 37,7 | 20,4 |
| Deferred Income Tax | 15,1 | 14,9 | 14,8 | 13,0 | 12,8 | 9,5 | 7,8 | 7,8 | 7,0 | 6,0 |
| Deferred Income Tax - LT Liability | 15,1 | 14,9 | 14,8 | 13,0 | 12,8 | 9,5 | 7,8 | 7,8 | 7,0 | 7,1 |
| Minority Interest | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 |
| Other Liabilities, Total | 9,6 | 10,3 | 10,7 | 12,1 | 15,8 | 17,4 | 20,1 | 13,6 | 10,5 | 10,4 |
| Total Liabilities | 182,3 | 185,3 | 188,0 | 180,9 | 180,1 | 176,4 | 167,1 | 160,9 | 152,6 | 136,7 |
| | | | | | | | | | | |
| Shareholders Equity (€ Millions) | | | | | | | | | | |
| Redeemable Preferred Stock, Total | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Preferred Stock - Non Redeemable, Net | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Common Stock, Total | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 |
| Common Stock | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 | 134,1 |
| Retained Earnings (Accumulated Deficit) | (129,9) | (129,4) | (128,3) | (124,8) | (116,3) | (102,5) | (85,2) | (62,2) | (37,4) | (12,4) |
| Treasury Stock - Common | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| ESOP Debt Guarantee | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Unrealized Gain (Loss) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Other Equity, Total | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 |
| Other Equity | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 | 38,2 |
| Total Equity | 42,5 | 42,9 | 44,0 | 47,5 | 56,0 | 69,8 | 87,1 | 110,1 | 136,1 | 159,1 |
| | | | | | | | | | | |
| Total Liabilities & Shareholders' Equity | 224,8 | 228,1 | 232,1 | 228,4 | 236,2 | 246,1 | 254,3 | 271,1 | 288,8 | 295,8 |

## **Appendix 8:** Inflation in the European Union

Source: eurostat