

**Universidade do Minho**  
Escola de Economia e Gestão

Francisca Eduarda Gonçalves Ferreira

**Equity Research Report:  
Corticeira Amorim SGPS, S.A.**

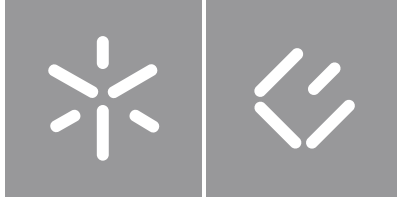
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Francisca E. G. Ferreira

UMinho | 2023

may 2023





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Escola de Economia e Gestão

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**Equity Research Report:  
Corticeira Amorim SGPS, S.A.**

Master Project  
Master in Management  
Specialisation in General Management

Work carried out under the supervision of  
**Professora Doutora Sónia Maria da Silva Faria  
Nogueira da Silva**

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## **ACKNOWLEDGMENTS**

I wish to express my most sincere thank you to my supervisor, Professor Sónia Silva, for agreeing to work with me, for all the guidance, for being understanding and for the constant availability to help me.

To my parents, thank you for always supporting my decisions and for being there for me. I would not be able to accomplish the things I did in my life if it wasn't for you. Thank you for always making me feel like I can do anything and for never pushing me to be anything I don't want to.

To my brother, thank you for your patience. I'm aware I'm not always easy to deal with.

To the rest of my family, I'm grateful for all the happy moments we share together.

To the friends this Master brought me, Daniela and Carina, thank you for putting up with me during these months, for all the conversations, the advice, all the classes we shared together, the study sessions and the night outs. This journey wouldn't have been the same if I hadn't shared it with you. Most of all, thank you for always listening to me in my moments of doubt and for always believing in me.

I would like to express a special thank you to my friends since ever:

To Diana, for the never-ending support. Even in different countries, I always feel like I can come to you.

To Carina, for believing in me in a way I feel no one else really does and for always being proud of every little thing I conquer.

To Sofia, for the endless coffees and for understanding me like no one else.

To Kika, for always being in my life. I almost can't remember a time when you weren't my friend.

To Rute, for always being there for me. There are moments in my life where I don't feel alone because you are in it.

Finally, to Renata, because our friendship never changes, even if we don't always keep in touch.

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## **SUMÁRIO EXECUTIVO**

O presente projeto consiste num relatório de avaliação da empresa portuguesa Corticeira Amorim SGPS, S.A., desenvolvido utilizando informação publicamente disponível. O principal objetivo do relatório é chegar a um preço-alvo para as ações da empresa para o final de 2023 e fornecer uma recomendação de investimento.

Fundada originalmente em 1870 como uma fábrica de produção de rolhas de cortiça, a Corticeira Amorim é, atualmente, o maior fabricante de cortiça do mundo, liderando o sector e contribuindo para a inovação da indústria da cortiça e para economia de uma forma incomparável. As rolhas de cortiça continuam a ser o seu principal negócio, mas a empresa opera em quatro outros segmentos: Matérias-Primas, Revestimentos, Aglomerados Compósitos e Isolamentos. Com um capital social de 133 milhões de euros, a Corticeira Amorim está cotada na bolsa de valores de Lisboa desde 1988 e é uma das empresas integradas no PSI20.

O principal método utilizado para realizar a avaliação foi um Modelo de Fluxos de Caixa Atualizados, começando por calcular os fluxos de caixa libertos para a empresa até 2027 e descontando-os ao custo de capital, chegando um valor intrínseco da ação de 10,94€ para o final de 2023, o que equivale a uma valorização de 25% em relação ao preço de 8,72€ ao qual estava a ser transacionada a 30 de dezembro de 2022.

Considerando a valorização de 25% no valor da ação e a liderança da Corticeira Amorim no sector, este relatório representa uma recomendação para comprar as ações da empresa, e o investimento é avaliado como sendo de risco médio.

Palavras-chave: Avaliação de empresas; Equity Research; Fluxos de Caixa Atualizados; Indústria da Cortiça; Fluxos de Caixa Libertos.



## **EXECUTIVE SUMMARY**

This project consists of an Equity Research Report of the Portuguese company Corticeira Amorim SGPS, S.A., developed using only publicly available information. The main goal of the report is to perform a valuation of the company to arrive at a price target for its shares for the end of 2023 and provide outsiders with an investment recommendation.

Founded in 1870 as a cork stopper factory, which is still its primary business, Corticeira Amorim is now the biggest cork manufacturer in the world, leading the cork sector, and contributing to the innovation of the cork industry and the economy in an incomparable way. In addition to cork stoppers, the company works in four other segments: Raw-Materials, Floor and Wall Coverings, Composite Cork, and Insulation Cork. With a share capital of 133 million euros, Corticeira Amorim has been listed in Euronext Lisbon since 1988 and is part of PSI20.

The main method used to carry out the valuation is a Discounted Cash Flows Model, by calculating the free cash flows to the firm (FCFF) until 2027 and discounting them at the weighted average cost of capital (WACC), reaching a price target of €10.94 for the 2023-year end, equivalent to a 25% upside from the €8.72 share price of December 30<sup>th</sup>, 2022.

Considering the 25% upside and Corticeira Amorim's leadership in the industry, this report supports a buy recommendation, and the investment is assessed as medium risk.

Keywords: Cork Industry; Discounted Cash Flows; Equity Research; Free Cash Flow to Firm; Valuation.

## **INDEX**

DIREITOS DE AUTOR E CONDIÇÕES DE UTILIZAÇÃO DO TRABALHO POR TERCEIROS .....	II
ACKNOWLEDGMENTS .....	III
STATEMENT OF INTEGRITY .....	IV
DISCLOSURE AND DISCLAIMER .....	V
SUMÁRIO EXECUTIVO .....	VI
EXECUTIVE SUMMARY .....	VII
LIST OF ABBREVIATIONS AND ACRONYMS.....	X
LIST OF FIGURES .....	XII
LIST OF TABLES.....	XIV
Research Snapshot.....	1
Business Description .....	2
Management and Corporate Governance .....	3
Industry Overview and Competitive Positioning.....	4
Investment Summary.....	11
Valuation .....	11
Investment Risks .....	14
Sensitivity Analysis.....	16
Appendix 1: Statement of Financial Position .....	17
Appendix 2: Income Statement .....	17
Appendix 3: Cash-Flow Statement.....	18
Appendix 4: Key Financial Ratios.....	18
Appendix 5: Statement of Financial Position Assumptions.....	19
Appendix 6: Income Statement Assumptions.....	20
Appendix 7: BUs Description.....	21
Appendix 8: Sales Forecast.....	22

Appendix 9: Management and Corporate Governance .....	23
Appendix 10: ISO 45001 and SA 8000 Certifications Overview .....	24
Appendix 11: CAPEX and D&A .....	25
Appendix 12: Payout Policy .....	26
Appendix 13: WACC Assumptions .....	27
Appendix 14: WACC .....	28
Appendix 15: Terminal Growth Rate .....	29
Appendix 16: FCFF Valuation .....	29
Appendix 17: Relative Valuation .....	30
REFERENCES .....	31

## **LIST OF ABBREVIATIONS AND ACRONYMS**

APCOR – Associação Portuguesa da Cortiça

BoD – Board of Directors

BU – Business Unit

BUs – Business Units

CAGR – Compounded Annual Growth Rate

CAPEX – Capital Expenditures

CAPM – Capital Asset Pricing Model

g – Growth Rate

CEO – Chief Executive Officer

COGS – Cost of Goods Sold

CORA – Corticeira Amorim

D&A – Depreciation and Amortization

D/E – Debt-to-Equity

DCF – Discounted Cash Flow

DPS – Dividend per Share

EBIT – Earnings Before Interest and Taxes

EBITDA – Earnings Before Interest, Taxes, Depreciation, and Amortization

EPS – Earnings per Share

ERP – Equity Risk Premium

ESG – Environmental, Social, and Governance

EU – European Union

EV/EBITDA – Enterprise Value-to-EBITDA

EV/Sales – Enterprise Value-to-Sales

F – Forecast

F&W – Floor and Wall

FCFF – Free Cash Flow to Firm

GDP – Gross Domestic Product

IMF – International Monetary Fund

Kd – Cost of Debt

Ke – Cost of Equity

M&A – Mergers and Acquisitions

Market Cap – Market Capitalization  
MRP – Market Risk Premium  
NWC – Net Working Capital  
OH&S – Occupational Health and Safety  
OIV – International Organisation of Vine and Wine  
P/E – Price-to-Earnings  
PV – Present Value  
RFR – Risk-Free Rate  
ROC – Return on Capital  
ROE – Return on Equity  
t – Tax Rate  
TV – Terminal Value  
UK – United Kingdom  
USA – United States of America  
WACC – Weighted Average Cost of Capital  
WEO – World Economic Outlook  
YE – Year End  
YoY – Year-over-Year

## LIST OF FIGURES

Figure 1 - Share Price .....	1
Figure 2 - Risk Assessment .....	1
Figure 3 - Price Targets 2023YE.....	1
Figure 4 - Market Share in the Cork Stoppers Market* .....	2
Figure 5 - Sales by BU 2021YE .....	2
Figure 6 – CORA’s Sales 2017YE-2027YE, in million EUR .....	3
Figure 7 - Sales by Region 2021YE .....	3
Figure 8 - Sales vs EBITDA 2017YE-2027YE, in Million EUR .....	3
Figure 9 - Shareholder's Structure .....	4
Figure 10 - Area of Montado Worldwide.....	4
Figure 11 - Share of Finished Cork Products by Type.....	5
Figure 12 - Portugal Main Export Markets.....	5
Figure 13 - Exports YoY Growth by Market 2021YE.....	5
Figure 14 - Portugal Main Import Markets .....	6
Figure 15 - Real GDP Growth Estimates by Area, annual percentage change.....	6
Figure 16 - Average Annual TCA Detection .....	6
Figure 17 - Case Sales by Closure Type in the USA, 2010 vs 2022.....	7
Figure 18 - Expected Growth in Wine Consumption 2022YE-2030YE, in billion US Dollars.....	7
Figure 19 – Share of Wine Consumption by Country 2021YE .....	7
Figure 20 - Wine Consumption by Country 2021YE, in mhl.....	8
Figure 21 - World Wine Production vs Consumption 2000-2021, in mhl.....	8
Figure 22 - Top Wine Producers in 2021 .....	8
Figure 23 - OENEO's Segment Share .....	9
Figure 24 - CORA vs OENEO Cork Stoppers Sales, in Million EUR .....	9
Figure 25 - CORA vs OENEO EBITDA Margin .....	9
Figure 26 - CORA vs OENEO EPS.....	9
Figure 27 - Porter's Five Forces.....	10
Figure 28 - EPS vs EPS Growth .....	11
Figure 29 - EBITDA Margin vs EBIT Margin.....	11
Figure 30 - Dividend Policy 2019YE-2027YE: EPS, DPS and Payout Ratio (%).....	11
Figure 31 - Sales by Segment 2019YE-2027YE, in Million EUR .....	12

Figure 32 - Sales vs Cost of Goods Sold (COGS) 2019YE-2027YE, in Million EUR..... 12

Figure 33 - Sales vs CAPEX 2019YE-2027YE, in Million EUR ..... 12

Figure 34 - Net Profit, EBIT, EBITDA, and Gross Profit Margins 2019YE-2027YE..... 13

Figure 35 - Liquidity Ratios 2019YE-2027YE ..... 14

Figure 36 - EBITDA, Debt and Debt-to-EBITDA 2019YE-2027YE..... 14

Figure 37 - Net Profit Margin and ROE 2019YE-2027YE ..... 14

Figure 38 - Risk Matrix..... 15

**LIST OF TABLES**

Table 1 - Market Profile..... 1

Table 2 - CORA's Recent M&A Activity ..... 2

Table 3 - Members of the BoD ..... 4

Table 4 - Relative Valuation ..... 13

Table 5 - WACC Assumptions..... 13

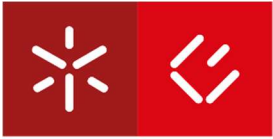
Table 6 - Enterprise Value ..... 13

Table 7 - Price Target 2023YE ..... 13

Table 8 – Price Target Sensitivity Analysis to the Perpetual Growth Rate and WACC ..... 16

Table 9 – Upside Sensitivity Analysis to the Perpetual Growth Rate and WACC..... 16





## Corticeira Amorim, SGPS, S.A.: Resilient, Sustainable and Unmatched

**Date:** 30/12/2022      **Close Price:** €8.72      **Price Target:** €10.94 2023YE (25% Upside)  
**Ticker:** CORA.LS (Refinitiv Eikon)      **Recommendation:** BUY      **Primary Exchange:** Euronext Lisbon (PSI)  
**Industry:** Forest and Wood Products      Medium Risk

### Research Snapshot

My recommendation for Corticeira Amorim (CORA) stands at buy, with a 2023YE price target of €10.94/share, using the Discounted Cash Flow (DCF) method, implying a 25% upside potential from the closing price of €8.72/share, on December 30th, 2022, with medium risk. CORA is the world's largest cork manufacturer and leads the cork stoppers sector, with an impressive market share of almost 45%, more than double the second biggest player in the sector, OENEO.

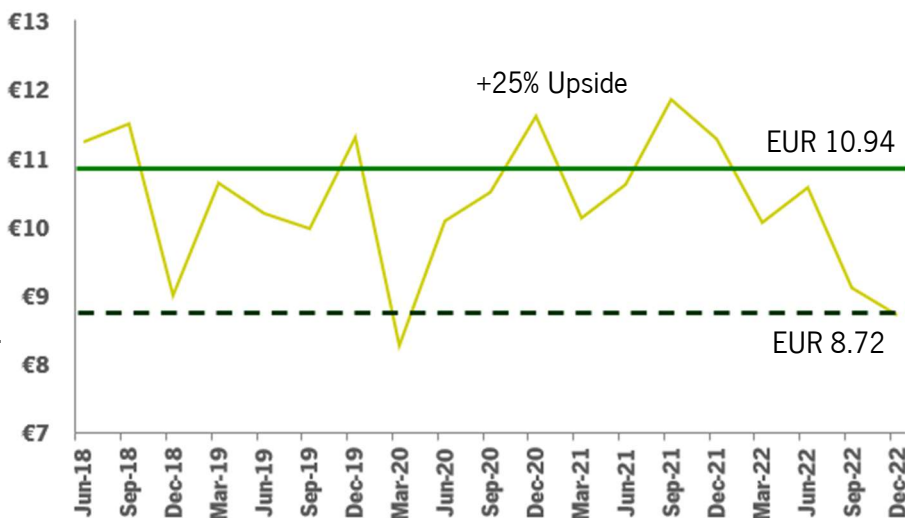


Figure 1 - Share Price

Source: Refinitiv Eikon

CORA is expected to experience exponential growth in sales, and strong earnings between 2022YE-2027YE, even considering the current situation the world is going through, with the Russia-Ukraine War causing a cost-of-living crisis, and the cost of supplies to go up. It is believed the company will keep proving its resilience and strength throughout the forecasted period, supported by an expected growth in wine consumption, and consumers' preference for cork closures.

Market Profile	
Close Price (December 30th)	€ 8.72
Shares Outstanding	133M
Market Cap	1.35B
52 Week Low	€ 8.50
52 Week High	€ 10.72
Average Daily Volume	65 520
Free Float	28.60%

Table 1 - Market Profile

Source: Refinitiv Eikon & Yahoo Finance

Low	Medium	High

Figure 2 - Risk Assessment

Source: Author's Estimate

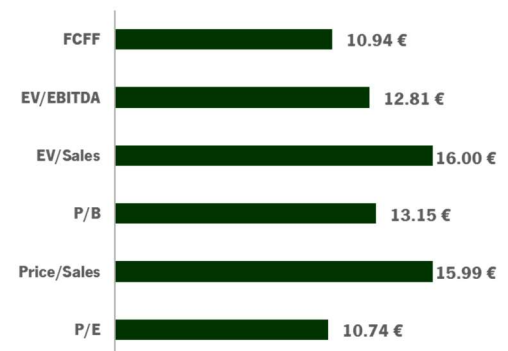


Figure 3 - Price Targets 2023YE

Source: Author's Estimates

## Business Description

Founded in 1870 as a family business, Corticeira Amorim SGPS, S.A. (CORA) is a Portuguese cork manufacturer. Headquartered in Santa Maria da Feira, Portugal, CORA began its activity as a cork stopper factory and has since diversified its portfolio to include the Raw-Materials (RM), Floor and Wall (F&W) Coverings, Composite Cork, and Insulation Cork business units (BUs) (a detailed description of each BU can be found on appendix 7). CORA issued its first shares in 1988, launching an initial public offering on the Lisbon Stock Exchange.

### The World Leader in The Cork Stoppers Market

CORA offers a portfolio of customized natural and technical cork stoppers under the business segments Amorim Cork (still wine), Amorim Champcork (champagne and sparkling wine), and Amorim Top Series (spirits), for a total of 20 thousand active clients in about 90 countries.

Making up 70% of total revenues, stoppers are CORA's primary business and main profitability driver. With 12 manufacturing units, 35 selling companies, the largest distribution network worldwide, and 5.8 billion stoppers sold annually, CORA is the world's biggest producer and distributor, owning a share of approximately 45% of the worldwide cork stoppers market (Figure 4), estimated to be on average 13 billion stoppers produced and sold per year, including champagne and agglomerated stoppers. The European Union (EU) and the United States of America (USA) are CORA's biggest markets (Figure 7).

### Vertically Integration and M&A activity

CORA has a vertically integrated business model, purchasing and producing raw materials, and transforming them into usable cork and finished goods, achieved through a network of fully owned subsidiaries and joint ventures. During its activity, CORA has actively acquired other businesses (Table 2) and now has operations in 27 countries and a distribution network of 51 companies.

The most recent acquisitions happened in 2022, with CORA getting complete ownership of Cold River's Homestead, which owns a set of agroforestry assets, and Bourassé, a French cork manufacturer, by acquiring the remaining 50% and 10% stakes, respectively, and therefore completing acquisitions started in previous years. Additionally, CORA acquired 50% of the share capital of the Italian SACI S.r.l. (SACI Group), which primary activity involves the production and commercialization of *muselets* (the wire cages that cover champagne stoppers).

### Sales Exceeding Pre-Pandemic Levels

CORA total revenues in 2021YE were €837.82M, an increase of 13.2% compared with 2020YE (€740.11M), where sales were slightly affected by COVID-19, and an increase of 7.3% comparing with 2019 (€781.06M). The Cork Stoppers business unit (BU) represented 69.5% of the group's total annual revenues, followed by the F&W Coverings BU with a share of 14.1%, the Composite Cork BU with 13.6%, the Insulation Cork BU with 1.5%, and the Raw-Materials BU with 1.2% (Figure 5).

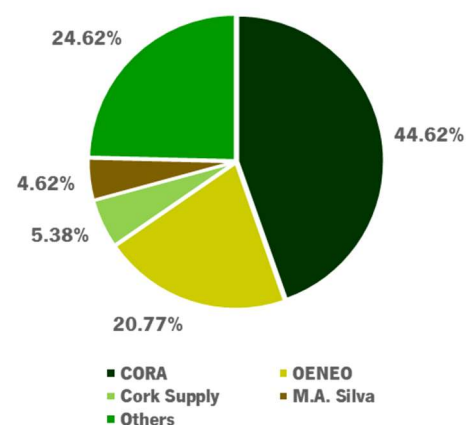


Figure 4 - Market Share in the Cork Stoppers Market\*

Source: CORA, OENEO, Felismino (2017), APCOR, Cork Quality Council  
\*Approximation to reality, calculated by the author based on all the information collected

Year	Company	%
2017	S.A.S. Sodiliège	100%
2018	Elfverson & Co AB	70%
2019	Vinolok, a.s.	50%
2020	Elfverson & Co AB	30%
2021	Cold River's Homestead, SA	50%
2020	Bourassé	10%
2021	Bourassé	10%
2022	SACI S.r.l.	50%
2022	Cold River's Homestead, SA	50%
2022	Bourassé	10%

Table 2 - CORA's Recent M&A Activity

Source: CORA's 2021 Annual Report & Website

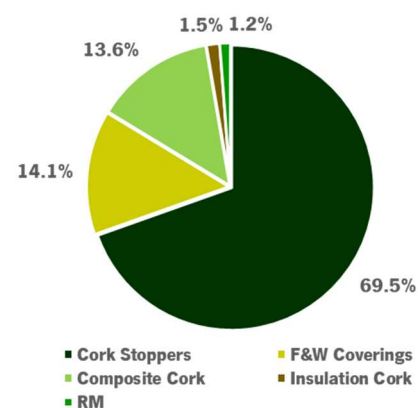


Figure 5 - Sales by BU 2021YE

Source: CORA's 2021 Annual Report

# Management and Corporate Governance

## Shareholders and Governance Model

CORA has a capital of 133 million euros, represented by 133 million common shares trading on Euronext Lisbon. The company is 71.4% owned by the Amorim family and its free float currently stands at 28.6% (Figure 9).

In 2021, CORA adopted the Anglo-Saxon model of corporate governance. Prior to 2021, the company followed the Reinforced Latin Governance model, based on a clear separation between management and supervisory bodies, but the Board of Directors (BoD) considered appropriate to adopt the Anglo-Saxon model, considering it more modern, participative, and suited for the current shareholder structure, which is more international, and for the overall development of the company.

According to CORA's 2021 Corporate Governance Report, the new model promotes: more transparency, professionalism, and competence; higher diversity in the governing bodies; reasoned and agile decision and control processes; shareholder participation; increase of innovation for sustainable development; and independent visions to analyze the business from new perspectives, thereby adding value.

CORA has also set up a Risk Committee, an ESG (Environmental, Social & Governance) Committee and an Appointments, Evaluation and Remuneration Committee.

## Governing Bodies

According to CORA's Articles of Association, governing bodies are elected for 3 calendar years and include the General Meeting, the Board of Directors, including an Audit Committee, and the Statutory Auditor. The current cycle began in May 2021 and will end in 2024.

## Board of Directors

The BoD must be composed of a Chairperson, a vice-Chairperson and one to nine other members. In the current term, the BoD has 10 members, the Chairman, since 2001, António Rios de Amorim, the vice-Chairman, Nuno Filipe Vilela Barroca de Oliveira, and eight other members (2 executive and 6 non-executive, from which 4 are independent) (Table 3). The 4 executive members of the BoD form an Executive Committee, in charge of the business management.

## Audit Committee

The Audit Committee must be composed of 3 to 4 members of the BoD, with most of them being independent; non-independent members cannot be simultaneously part of the Executive Committee. The Audit Committee is responsible for supervising the management and monitoring the independence of the Statutory Auditor. For the 2021-2024 term of office, the committee is fully composed of independent members.

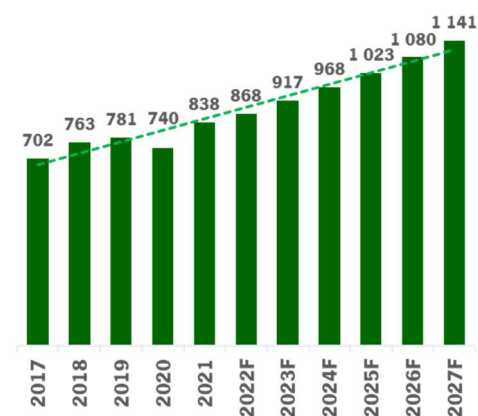


Figure 6 – CORA's Sales 2017YE-2027YE, in million EUR

Source: Refinitiv Eikon (2017-2021) & Author's Estimates (2022-2027)

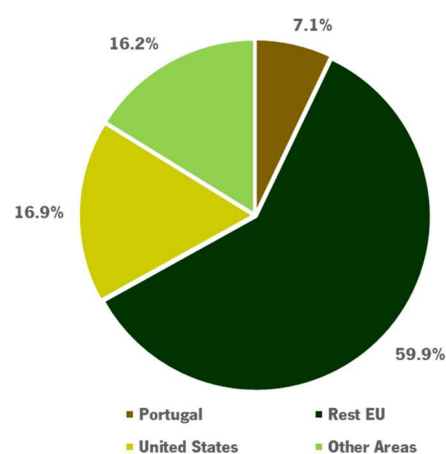


Figure 7 - Sales by Region 2021YE

Source: CORA's 2021 Annual Report

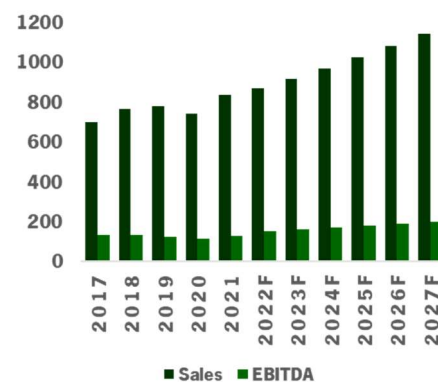


Figure 8 - Sales vs EBITDA 2017YE-2027YE, in Million EUR

Source: Refinitiv Eikon (2017-2021) & Author's Estimates (2022-2027)

## Statutory Auditor

The Statutory Auditor must consist of one member (and one alternate), who may be a statutory auditor or statutory auditor firm. For the current term, the auditor is a representant of Ernst & Young Audit & Associados – SROC, S.A.

## Remuneration Policy

The members of the General Meeting are exclusively paid fixed, while the members of the BoD are paid a fixed remuneration plus a variable component based on performance, that should not exceed 65% of the fixed annual remuneration (Appendix 9). The remuneration of the Statutory Auditor is in the form of a provision of services, established annually.

## Corporate Social Responsibility

CORA works to have a sustainable activity and currently meets 12 of the 17 United Nations' Sustainable Development Goals (SDGs). The firm's main concerns are the sustainable exploitation of cork oak forests, the reduction of CO<sub>2</sub> emissions, and the application of circular economy principles by running recycling programs that make it possible to reuse raw materials, prolonging cork's life cycle, with a waste recovery rate higher than 90%. In addition, the company runs environmental education programs and aims to plant 17 million cork oak trees over the next ten years and 63% of its energy is from renewable sources.

Additionally, the company promotes a safe environment for its employees, with practices that promote non-discrimination and equality, and 67% of employees are covered by ISO 45001 or SA 8000 certifications (Appendix 10). CORA invests part of its economic value in the countries where it operates, identifying the needs of local communities. Priority is given to programs related to social balance, innovation and entrepreneurship, and culture and knowledge. A 2020 Ernest & Young study calculated the impacts of CORA's activity in Portugal, including environmental impacts, concluding that the total net value contributions to society are more than one billion euros per year.

## Industry Overview and Competitive Positioning

### The Portuguese Supremacy in the Cork Industry

Cork is made from bark, a plant tissue from the cork oak tree, the only plant species capable of producing cork in a sustainable manner. Cork oak forests (*Montados*) are ecosystems that only exist in the Mediterranean basin, and Portugal concentrates the largest area of forests, about 34% of the world's total, corresponding to 736 thousand hectares, which gives a competitive advantage to Portuguese companies (Figure 10). More than 200 thousand tons of cork are produced worldwide each year and Portugal is the world's biggest producer, with more than 100 thousand tons produced per year (49.6% of the worldwide production), followed by Spain with an average of 62 tons (30.5%). Besides being the largest producer, Portugal is the third highest importer of cork, with a share of 11%, using it for processing into finished products and the world's biggest exporter of processed cork products, with a market share of 65%.

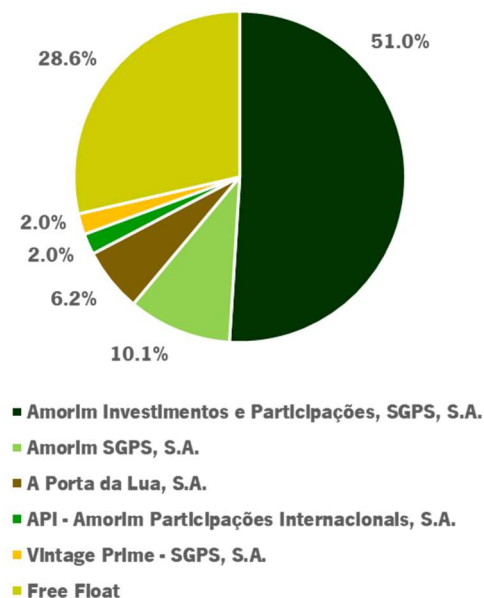


Figure 9 - Shareholder's Structure

Source: CORA's Website – Investors

Director	Independent?
<b>Executive:</b>	
António Rios Amorim (Chairman)	No
Nuno de Oliveira (Vice-Chairman)	No
Fernando J.A.S. Almeida	No
Cristina Rios de Amorim Baptista	No
<b>Non executive:</b>	
Luisa A. Ramos Amorim	No
Juan Ginesta Viñas	No
José Pereira Alves	Yes
Marta P. C. P. Ribeiro	Yes
Maria Cristina Galhardo Vilão	Yes
António Lopes Seabra	Yes

Table 3 - Members of the BoD

Source: CORA's 2021 Corporate Governance Report

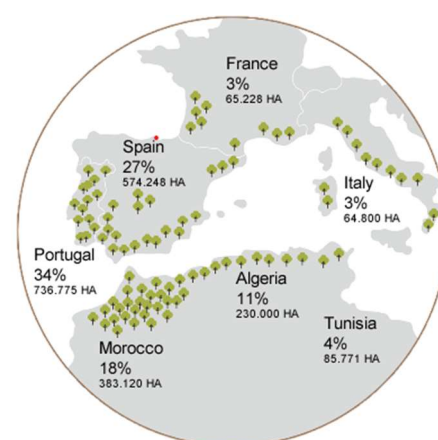


Figure 10 - Area of Montado Worldwide

Source: APCOR Website - Forest

Portugal exports a significant part of its finished products. Cork stoppers are the most common product made from cork, making up 73% of all finished cork products sold from Portugal, with 40% being natural stoppers and 33% being technical stoppers, followed by constructions materials, with a share of 25% (Figure 11). Natural cork stoppers are made by punching through a single piece of cork, whereas technical stoppers are, in general, an agglomerate of cork granules, that may get cork discs attached. The main markets for cork in 2021 were France, the world's largest wine exporter, and the USA, the largest wine consumer, each representing about 18% of total exports, followed by Spain (15%), Italy (10%), and Germany (8%) (Figure 12).

### The Russia-Ukraine War and Forward Economic Outlook

The world is currently in a high uncertainty environment due to the Russia-Ukraine War. According to the International Monetary Fund (IMF) World Economic Outlook (WEO) of October 2022, inflation is higher than it has ever been in several years and forecasted to rise from 4.7% in 2021 to 8.8% in 2022, but to decline to 6.5% in 2023 and to 4.1% by 2024, still above pre-pandemic levels of about 3.5% (2017-2019). Global economic activity is slowing down, with real GDP projected to grow by 3.2% in 2022 and 2.7% in 2023, after a registered growth of 6% in 2021.

In the WEO update of January 2023, GDP for 2023 was projected to be 0.2% higher than in October, with the forecast going from 2.7% to 2.9%, a slight recovery, but still a low figure, below the historical average of 3.8% (2000-2019). The forecast for inflation worsened, with inflation expected to fall from 8.8% in 2022 to 6.6% in 2023 (+0.1%) and 4.3% in 2024 (+0.2%). However, the IMF affirms that although the balance of risks remains inclined to the downside, adverse risks have moderated since October, and a stronger boost in numerous economies or a faster fall in inflation are plausible, but health outcomes in China, that is still dealing with COVID-19 outbreaks, and an escalate of the Russia-Ukraine War could hold back the recovery. The Russia-Ukraine conflict has led to a severe crisis in Europe, with energy and food prices increasing, which increased the cost of living and the cost of supplies for businesses, affecting the overall economic activity and slowing down growth (Figure 15).

### Portuguese cork exports hit historic highs

Despite the challenging situation the world is facing, the Portuguese cork industry proved to be resilient and adaptable. In 2021, Portuguese cork exports reached an all-time high of 1.134 billion euros, an increase of 12% compared to 2020, where exports decreased 4.7% affected by COVID-19, but remained above 1 billion euros, and 7% compared to 2019. In 2022, even faced with growing supplies prices, by the second and third quarters, exports were already exceeding the 2021 records, being 12.5% and 4.5% higher than last year's corresponding quarters, and 21.7% and 11.4% higher than pre-pandemic levels of 2019. Therefore, 2022 closed with another record, with cork exports reaching 1.212 billion euros, 7% above the previous year. The Russian market had some weight in Portuguese cork exports but, following the war, exports to the country ceased in 2022 and the sector managed to absorb the loss, estimated to be around 16 million euros.

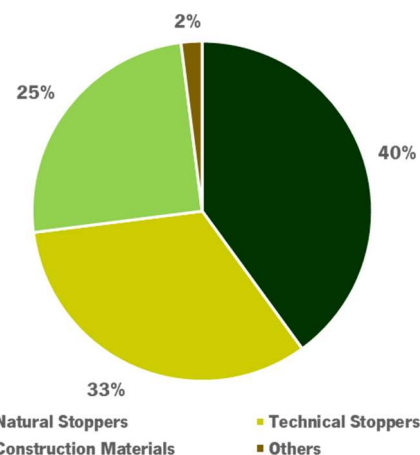


Figure 11 - Share of Finished Cork Products by Type

Source: APCOR Boletim Estatístico Anual 2021

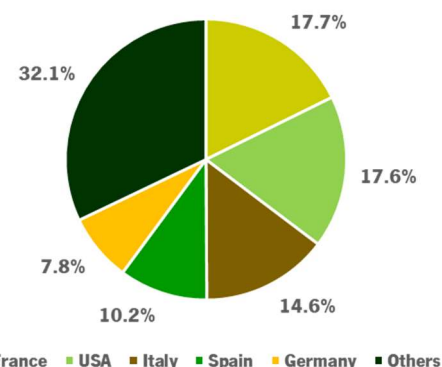


Figure 12 - Portugal Main Export Markets

Source: APCOR Boletim Estatístico Anual 2021

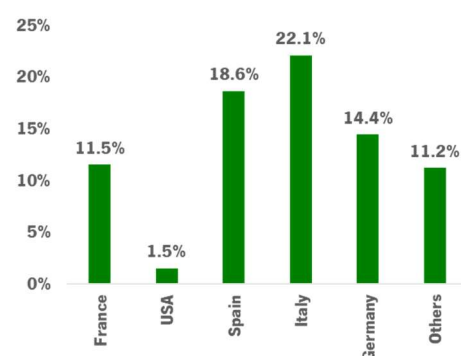


Figure 13 - Exports YoY Growth by Market 2021YE

Source: APCOR Boletim Estatístico Anual 2021

## Closures industry

Wine bottles can be sealed with cork stoppers, natural and technical, screwcaps, plastic or synthetical stoppers and glass stoppers. Cork stoppers are, on average, more expensive but have always been the preferred type of closure by wine producers, accounting for about 70% of all wine closures worldwide. In addition to their more sustainable nature, cork stoppers prevent premature oxidation, transfer of strange aromas and flavors, and are ideal for sealing liquid and gas, unlike artificial stoppers.

A few years ago, around 2001, TCA (2,4,6-Tricloroanisol) posed a serious threat to the cork industry and drove up the search for alternatives for cork stoppers. TCA is a chemical compound that can be found in nature and can be absorbed by cork and negatively influence the taste of wine. Nowadays, cork manufacturers have developed technologies to eliminate TCA and it is not a problem likely to drive down demand for cork stoppers anymore since TCA levels are now 99% lower than in 2001 (Figure 16).

Sales of technical stoppers have been growing at a faster pace than natural stoppers (+14.5% vs. +7.6% compared to 2020), but natural stoppers are still the most sold, corresponding to 54% of exports, while technical have a share of 46%. Technical stoppers are, generally, made from residual cork granulates from the production of natural stoppers, they are cost-effective and ensure sealing for shorter periods of time, and therefore are used for lower-priced wines, whereas natural stoppers are the preferred closure for premium wines since they assure a correct maturation process. However, some champagne and spirits stoppers also belong to the technical stoppers' family.

### Cork Stoppers Are the Closure of Choice for Most Worldwide Consumers

Studies show that wine drinkers are willing to buy more and pay more for wines sealed with cork stoppers.

A study commissioned by the Portuguese Cork Association (APCOR) and carried out by CTR Market Research in China in 2014 showed that natural cork stoppers are generally perceived as being associated with good wine quality, with 85% of respondents believing that wines using cork stoppers are of high quality. The percentages of such opinions on screwcaps, glass stoppers and synthetic stoppers were 36%, 11% and 8%, respectively. Another study, conducted in 2017 by U.S. wine market research company, Wine Opinions, also showed cork being seen as indicator of wine quality, with 97% of respondents stating they found cork to be an indicator of overall quality.

More recently, a study conducted on behalf of APCOR and 100% Cork revealed that 91% of the world's top wines selected by Wine Spectator in 2021 were sealed with cork closures, the highest percentage recorded since tracking began.

The Cork Quality Council periodically studies wine sales by closure type, and using data reported by A.C. Nielsen about wine sales during a 4-week period ending on January 1, 2022, revealed that the top 100 USA brands of domestic table wine using cork closures have enjoyed more robust sales growth than brands finished

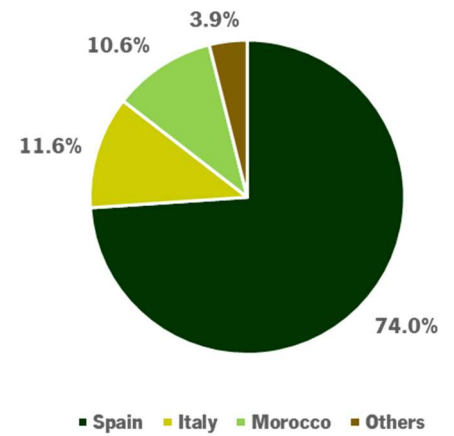


Figure 14 - Portugal Main Import Markets

Source: APCOR Boletim Estatístico Anual 2021

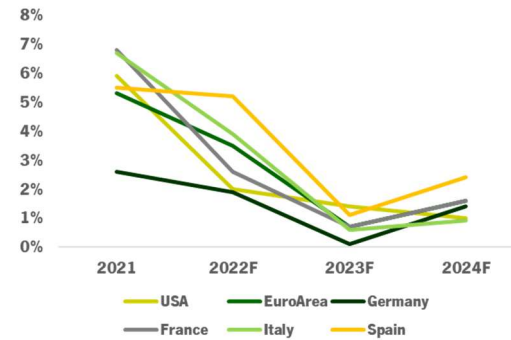


Figure 15 - Real GDP Growth Estimates by Area, annual percentage change

Source: IMF WEO October 2022

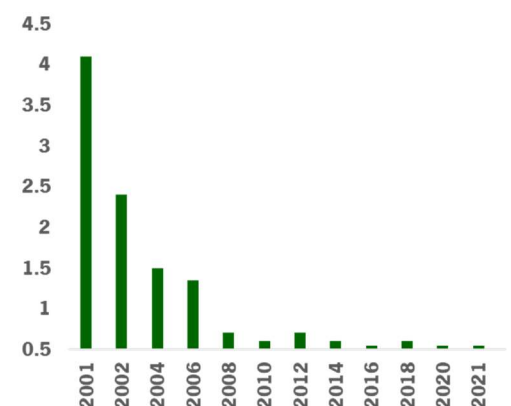


Figure 16 - Average Annual TCA Detection

Source: Cork Quality Council - Cork Finished Brands Continue Sales Success

with alternatives closures, comparing with the same period in 2010 (Figure 17).

Wine consumers in other key markets such as Spain, Italy and France also prefer natural cork stoppers and associate cork closures with top quality wines (Spain – 95%, Italy – 86%, France – 83%).

## Demand Drivers

### Wine Industry

The wine industry takes up almost 70% of all cork produced, being the main demand driver for the industry.

World wine consumption in 2021 was around 236mhl (million hectoliters), a +0.7%YoY growth. This increase stopped a negative trend started in 2018 with the decline of wine consumption in China, one of the world’s biggest consumers at the time. The USA remained the largest wine consumer in the world, with a 14% share, followed by France, with 11%, and an increase in consumption of +8.6%YoY and +2% compared to the pre-pandemic level of 2019. Italy was the third largest market, with 10% of the world’s total, and registering the highest wine consumption recorded in the country since 2008. Germany recorded a share of 8%, maintaining its position of the fourth largest consumer worldwide, followed by the United Kingdom (UK) with a 6% share. Spain was the sixth biggest consumer in the world, with 4% of the world’s total, and a +9.9%YoY growth (Figure 19). The EU accounted for 48% of the world’s consumption (+3%YoY).

Historically, wine consumption has always been majorly linked to these 6 countries. In the last years, China has entered the top 5 wine consuming countries, passing the UK, but its consumption kept declining in 2021, like it has been since 2018, after a boom in the country’s consumption that peaked in 2017.

In 2021, world wine exports (the sum of the exports of all countries) registered records both in volume (111.6mhl, +4%YoY) and value (34.3 billion euros, +16%YoY), recovering after a year of major trade disruptions due to the pandemic.

While wine consumption has been historically stable, with positive and negative variations rarely crossing 2%, production has always been unstable due to weather conditions (Figure 21). France, Spain, and Italy are the biggest producers worldwide, accounting for almost 50% of production. In 2021, production in the EU declined (-8%YoY), mainly thanks to reductions in wine production in France, due to spring frost episodes, and in Spain, with Italy being the only top producer that recorded an increase (+2%YoY). Germany and Hungary have also registered downfalls in production. Nevertheless, world production only decreased by 1% compared to 2020 since all the other main wine-producing countries in the EU have recorded positive variations, which balanced the decrease registered in the main areas. The International Organisation of Vine and Wine (OIV) expects 2022 to close with a production level similar to 2021, based on preliminary data collected.

The global wine market, estimated at US\$379.2 billion in 2022, is projected to reach US\$528.3 billion by 2030, growing at a CAGR of 4.2%, with the sparkling wine segment growing more than still wine (4.6% CAGR vs 4.1% CAGR).

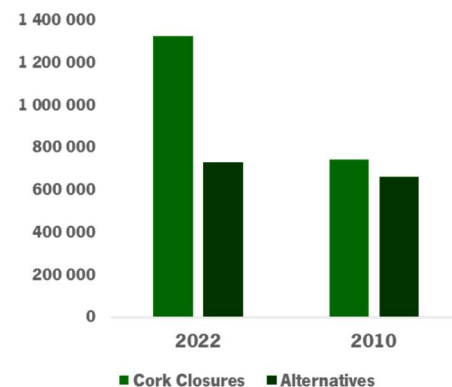


Figure 17 - Case Sales by Closure Type in the USA, 2010 vs 2022

Source: Source: Cork Quality Council - Cork Finished Brands Continue Sales Success

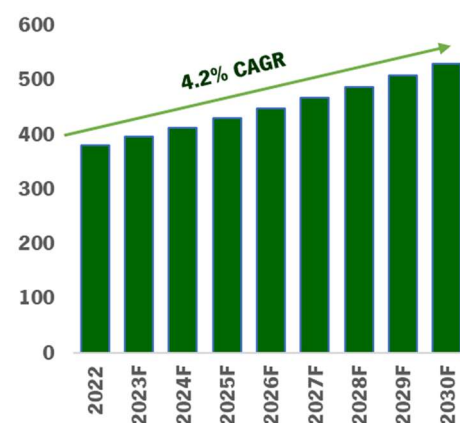


Figure 18 - Expected Growth in Wine Consumption 2022YE-2030YE, in billion US Dollars

Source: PR Newswire

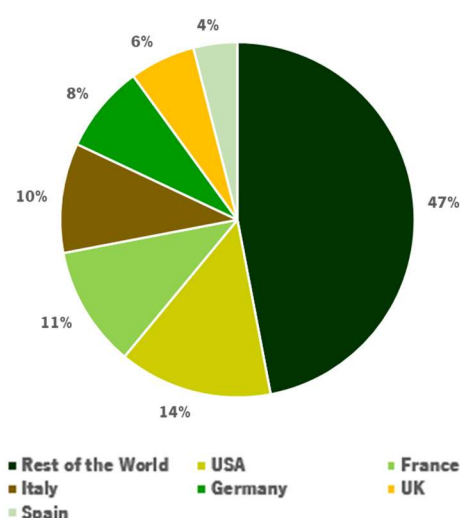


Figure 19 – Share of Wine Consumption by Country 2021YE

Source: OIV State of the World Vine and Wine Sector 2021

Sparkling wine is becoming a basic, day-to-day item and it is expected that its consumption will continue to grow in some key markets. Wine Intelligence states that while still wine volumes are expected to remain stable in the Italian market, there has been a growth in the popularity of sparkling wines, that is expected to continue, and similar findings were registered in countries like Norway, the Netherlands, and the UK. In fact, CORA's sparkling wine segment grew 19% in value in 2021, while the still wine segment rose 5.6%. The growth of premium sparkling wine also outpaced premium wine (+8% vs +1%, in the first half of 2022, compared to 2021). Champagne and prosecco are growing across markets like the USA, France, Japan, and Italy and, less accentuated, in markets like India, Mexico, and Spain, according to the International Wine and Spirit Research (ISWR).

### Spirits Industry

The spirits industry is expected to be one of the main demand drivers for CORA's stoppers. The industry suffered a decrease in demand with the pandemic, with bars and restaurants closing, but has since recovered and has been experiencing strong growth, especially in premium segments. The first half of 2022 saw a +6% increase in the volume of premium plus spirits compared to 2021 first half, and +13% compared to 2019, according to the ISWR. Amorim Top Series is currently CORA's strongest growth segment (+31.8%YoY, in value), with their stoppers being an increasingly popular choice for premium spirits, since they combine quality, design, and sustainability. CORA believes the spirits sector will grow at 8% CAGR until 2025, with a strong increase in Asia Pacific and North America, which represented 58% and 22% of the global market in 2020, supported by the premiumization trend, that boosts demand for cork stoppers, sustainability, packaging design, and e-commerce, which is an increasingly popular sales channel for beverages. Millennial consumers, responsible on average for 30% of spirits sales, are also a key driver since they are keener on sustainability and design. Consumers nowadays want information on the sustainability performance of products, especially via e-commerce platforms and Amorim Top Series stoppers have a negative carbon balance and the company issues carbon certificates for spirits producers to use.

### Construction industry

The construction sector is the second largest market for cork, taking up 25% of all the cork produced. Thanks to its chemical composition, cork has several unique features like being light, impermeable to liquids and gases, very resistant to impact, fires and high temperatures, hypoallergenic, and an incomparable thermal and acoustic insulator. The construction sector is forecasted to grow by US\$1123.8 billion during 2022-2027, at 5.3% CAGR,

### Sustainability

Cork is a biodegradable and recyclable plant tissue, harvested without needing to cut the oak trees, which makes it one of the most sustainable materials available and a powerful ally against climate change. The sustainable nature of cork allied with the growing concerns about the environment witnessed nowadays, which leads businesses and consumers to search for more sustainable alternatives to commonly used materials, is likely to cause a growing demand for cork in several

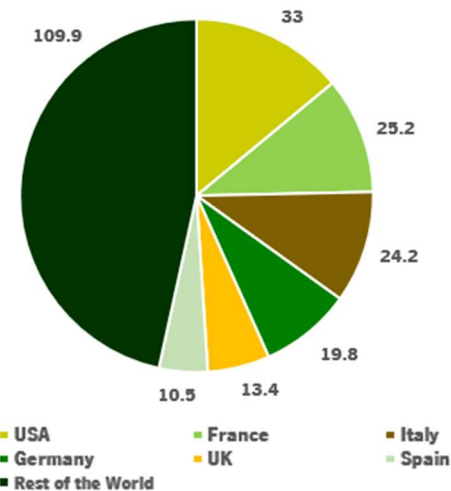


Figure 20 - Wine Consumption by Country 2021YE, in mhl

Source: OIV State of the World Vine and Wine Sector 2021

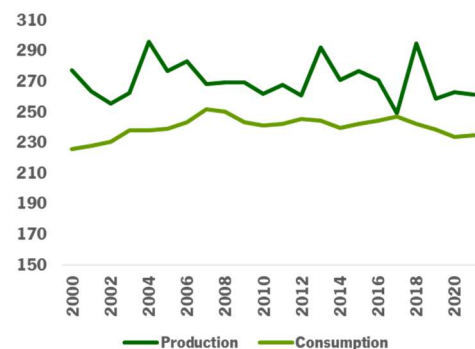


Figure 21 - World Wine Production vs Consumption 2000-2021, in mhl

Source: OIV Database

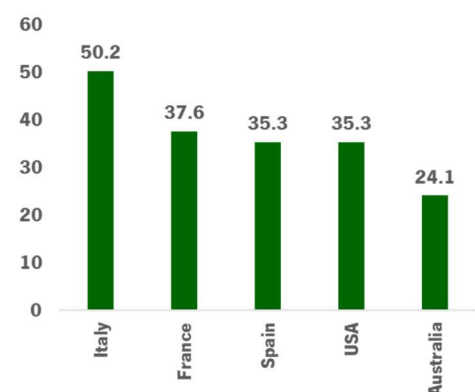


Figure 22 - Top Wine Producers in 2021

Source: OIV State of the World Vine and Wine Sector 2021



industries. For instance, cork is now being used in electric cars to protect batteries from heat and vibration, and in space rockets, like Nasa's new Artemis spacecraft, which has Portuguese cork in its nose cone. Besides, sustainability concerns are also a big contribution to the expected growth in the wine and construction industries, especially in construction, since sustainable construction, which focuses on the use of recyclable and renewable materials, while minimizing energy consumption and waste production, is becoming more popular.

## Peers

CORA fits into the Forest and Wood Products industry and organizes its activity into five BUs, but the Composite Cork BU was created to reinvent end-of-life materials and currently operates for a total of 29 business segments such as aerospace, automotive, construction, energy, mobility, footwear, sports surfaces, and interior design, with the company not disclosing to what specific segments it sells more. Therefore, to select CORA's peers, it was considered that the companies should be publicly traded European companies with worldwide operations, within the Forest and Wood Products industry, operating in the production of stoppers, since they are CORA's main profitability driver (69.5% of 2021YE revenues) and, optionally, in the production of applications for the construction sector (15.6% of 2021YE revenues, through the F&W Coverings and Insulation Cork BUs).

The only company that fits the criteria is the French firm OENEO S.A., the only other publicly traded manufacturer of cork stoppers, which owns a share of 21% of the worldwide market (vs CORA's 45% share). OENEO operates in two segments: Closures and Barrels and, like CORA, closures represent about 70% of the company's revenues.

## Porter's 5 Forces

### Competitive Rivalry (Low)

Competitive rivalry can be considered high when there are various competitors offering similar products. Cork has several uses but as stated before, about 70% is used to manufacture cork stoppers. Although there are a lot of small companies operating in the stoppers industry, CORA and OENEO are the two main players with a market share of 65%, followed by the Portuguese company Cork Supply. Cork Supply is not publicly traded, therefore there is not as much information available about its operations and the company does not disclose how many stoppers it produces per year, but considering the most recently available information, released by the Portuguese Cork Association (APCOR), Cork Supply has an annual capacity of 700M stoppers per year that, fulfilled, results in a market share of 5.38%. Therefore, rivalry is low, and the presence of smaller companies doesn't affect the market power of the big players, since they do not have the resources and R&D investment to offer more sophisticated and customized stoppers.

### Supplier Power (Low)

Due to the environmental conditions, *Montados* only grow in the Mediterranean basin, which could mean that a limited number of suppliers had a competitive advantage and a lot of bargain power. However, in the cork preparation industry, almost 90% of the companies are micro and small businesses, and it is believed

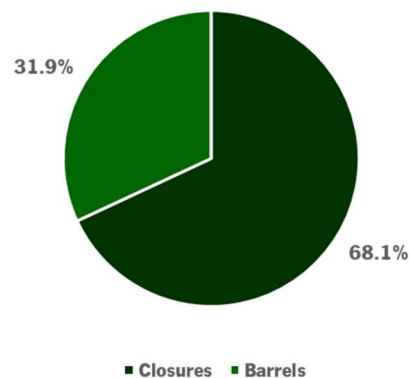


Figure 23 - OENEO's Segment Share

Source: Refinitiv Eikon



Figure 24 - CORA vs OENEO Cork Stoppers Sales, in Million EUR

Source: Refinitiv Eikon

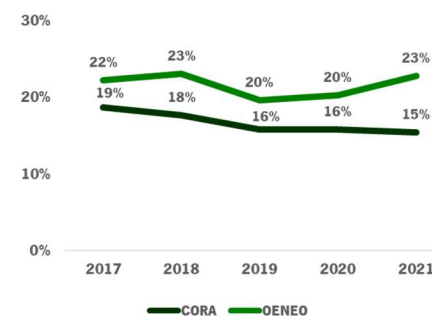


Figure 25 - CORA vs OENEO EBITDA Margin

Source: Refinitiv Eikon



Figure 26 - CORA vs OENEO EPS

Source: Refinitiv Eikon

that none of these smaller businesses have significant individual power since big players have a lot of control over the industry, offsetting the fact that cork production is geographically limited. For instance, CORA has the Raw-Materials BU, responsible for sourcing, purchasing, and preparing cork, supplying the remaining BUs. Active since 2002, the BU has strong long-lasting relations with forestry producers and has preparation units in all parts of the world where cork oaks grow (in Portugal, Spain, Morocco, Algeria, and Tunisia).

#### Buyer Power (Moderate)

Customers may have the power to control prices, depending on how easy and cheap it is to switch to competitors. Cork is a commodity, and its price is market-based, which makes it unlikely that some manufacturers can perform prices way below average for finished cork products. Besides, the industry is dominated by a few big players, as stated before. Therefore, the power buyers may have to limit cork prices comes more from their option to switch to cheaper alternatives, than switching cork manufacturers. In the wine industry, the cost of switching to cheaper alternatives may be too high for producers, since cork preserves the wine better and consumers prefer cork, but it is possible that happens, especially for lower-priced wines. As for construction, although cork is an incomparable material, it may be even easier to replace than in the wine industry. So, buyers do exert some power over cork producers.

#### Threat of New Entrants (Low)

It would be extremely difficult for new players to get into the industry, at least ones that can pose a threat to existing companies. Cork production is geographically limited and can vary depending on weather conditions and natural disasters, established companies already have long-lasting relationships with suppliers and, presumably, priority over cork produced. With three main companies controlling the industry, a new business would need high investments to enter and would face difficulties managing a supply chain and establishing itself. There might be a higher threat for smaller companies, but it is still unlikely. In fact, the opposite has been observed in Portugal, small cork businesses have been reducing, according to APCOR.

#### Threat of Substitution (Moderate)

A study published by the International Journal of Hospitality Management in 2018 examined the effects of closure type on perceptions of intrinsic attributes of wine like appearance, taste, and overall quality. The findings confirmed that cork stoppers have a positive halo effect when compared with screw caps and synthetic stoppers, but not with glass closures, suggesting that glass could replace cork without significant negative effects. However, considering the information retrieved about the industry, there does not seem to be a lot of acceptance towards glass stoppers yet and being a recent and uncommon product makes them expensive and therefore not an immediate substitute. Nevertheless, cork stoppers are, on average, more expensive, which can be a moderate threat to the industry.

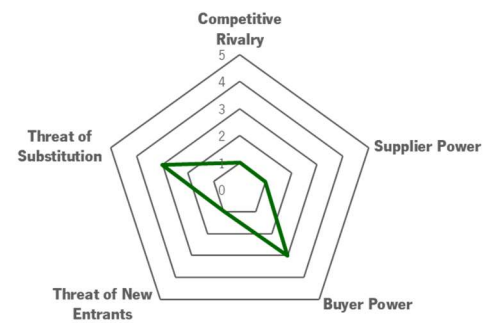


Figure 27 - Porter's Five Forces

Source: Author's Estimates

## Investment Summary

With a price target of €10.94 for 2023YE using DCF valuation methodology, my investment recommendation is to buy CORA's shares. This price target represents a 25% upside from the €8.72 2022YE price. This upside is supported by CORA's prime position in the cork industry, which is expected to be maintained, the growth expectations in the wine industry and the construction industry and the company's capacity to generate value, maintaining a strong dividend payout policy (Appendix 12). After analyzing the current market, CORA's operations, the cork industry and its prospects, the investment is considered medium risk.

Corticeira Amorim, SGPS, S.A. is one of the biggest companies trading in the Portuguese stock market, with worldwide operations, and an undeniable leadership position in the industry where it operates. The company divides its operations into five business units: Cork Stoppers, Raw-Materials (RM), Floor and Wall (F&W) Coverings, Composite Cork, and Insulation Cork, with the main profitability driver being the cork stoppers. However, the other BUs also contribute positively to sales, and allow the company to be more sustainable, since they reuse cork wasted from the production of one-piece natural cork stoppers, allowing the company to have a waste recovery rate of 90%. Therefore, besides the already sustainable nature of cork, that has a negative carbon footprint, CORA also actively works to preserve the environment and, ultimately, have efficient operations by recycling end-of-life materials.

The wine industry, including still and sparkling wines, is the largest market for cork stoppers and, therefore, CORA's main market, for which the company produces through the Amorim Cork and Amorim Champcork segments. However, CORA also produces stoppers for spirits, mainly premium ones, through Amorim Top Series, that was awarded in 2021 with the Sustainable Supplier of the Year award at the Luxury Packaging Awards and saw an increase in value of 31.8% in 2021.

The cork stoppers BU is expected to keep growing, supported by the expected growth in the wine industry (4.2% CAGR from 2022YE-2030YE), driven by increasing demand for sparkling wine, as stated before. However, it is expected that the BU will grow at a faster pace than the wine industry due to the spirits segment, and because CORA mainly produces closures for premium beverages, which require more expensive stoppers.

## Valuation

To value CORA, the main method used was a WACC-based Discounted Cash Flows (DCF) Model to arrive at a price target for December 31st, 2023. To use this approach, the free cash flows to the firm (FCFF) were forecasted until 2027 and later discounted to December 31st of 2023. The FCFF represent the sum of the cash flows to all claimholders in the firm.

## Forecasting Period

The valuation considered a period of 6 years, from 2022 to 2027, calculating the terminal value after 2027 using a perpetual growth rate.

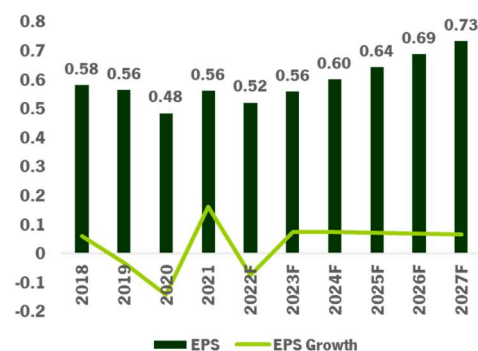


Figure 28 - EPS vs EPS Growth

Source: Refinitiv Eikon (2018-2021) & Author's Estimates (2022-2027)

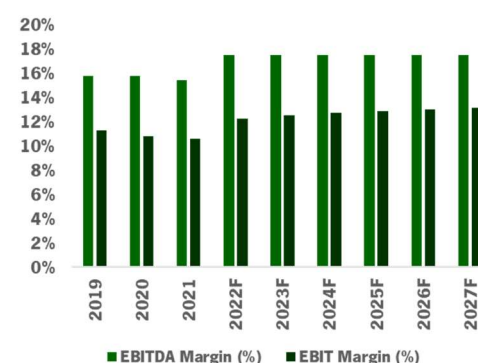


Figure 29 - EBITDA Margin vs EBIT Margin

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

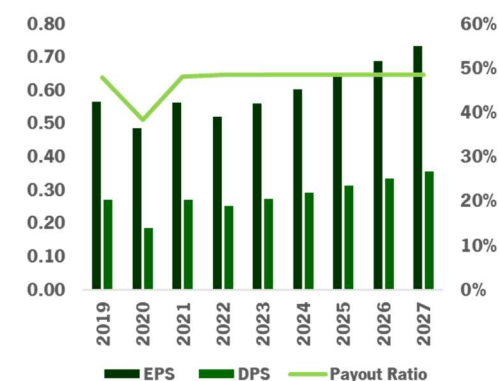


Figure 30 - Dividend Policy 2019YE-2027YE: EPS, DPS and Payout Ratio (%)

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

## Revenues

CORA's revenues were forecasted for each BU based, mainly, on past performance, arriving at values in line with the expected growth of relevant demand drivers for each segment and CORA's competitive position in the industry (Appendix 8).

### Cork Stoppers: The main profitability driver

The cork stoppers BU is expected to grow at a 6.11% CAGR from 2021YE-2027YE, from €593.32M to €836.10M, keeping its average share of 70% of total revenues. This forecast slightly outperforms industry expectations, which is consistent with CORA's past and leading market position, and also because of the spirits segment.

### Solid growth for the other BUs

The Floor and Wall Coverings BU has experienced a more unstable evolution in the past than the other BUs, registering a decrease of 7.70%YoY in 2018 and 3.16%YoY in 2019, but recovering in 2020, even faced with the pandemic, growing 3.19%YoY and in 2021 recorded an outstanding growth of 9.92%YoY. The expected growth in the construction industry and the growing concerns about sustainability are expected to impact the BU positively, which is estimated to grow at 3.32% CAGR from 2021YE-2027YE, from €123.21M to €149.85M. The Composite Cork BU is expected to grow at 3.07% CAGR from 2021YE-2027YE, from €116.70M to €134.62M. The Insulation BU is expected to grow at 3.55% CAGR from 2021YE-2027YE, from €14.55 M to €16.41M, maintaining an average share of 1.5% of total revenues.

## Capital Expenditures (CAPEX)

Capital expenditures (CAPEX) are difficult to evaluate and forecast, and CORA doesn't disclose detailed information about its expenditures. In the last 5 years, CAPEX has varied between 4%-7% of total revenues, but the figure has been decreasing since 2018, going from 7.51% of total sales (€57.31M) to 7.32% (€57.19M) in 2019 and 5.47% (€42.51M) in 2020. CORA is a mature company with well-established operations, so it was assumed that its operations are continually evaluated and updated whenever there is a necessity to do so and, therefore, no big investments are expected, and for the forecasted years, a minimum CAPEX investment for ongoing improvement would be maintained. Therefore, for the forecasted period, CAPEX is calculated as the percentage of total sales, maintaining an average equal to the one in 2021, where it represented 4.97% of total revenues (Appendix 11).

## WACC (Weighted Average Cost of Capital)

To discount the FCFF, the WACC was calculated for each forecasted year, arriving at a rate of 6.85%, for the period between 2023 and 2027. A more detailed breakdown of the WACC is presented in appendixes 13 and 14.

### Cost of Equity

The cost of equity (Ke) was computed using the Capital Asset Pricing Model (CAPM) with adjustments for market risk premium (MRP). The forward yield of Germany's 10-year bond was used as the benchmark for the risk-free rate (RFR) and the MRP was estimated using Damodoran's figures from the main countries and areas that CORA sells for, adjusting them as a percentage of sales.

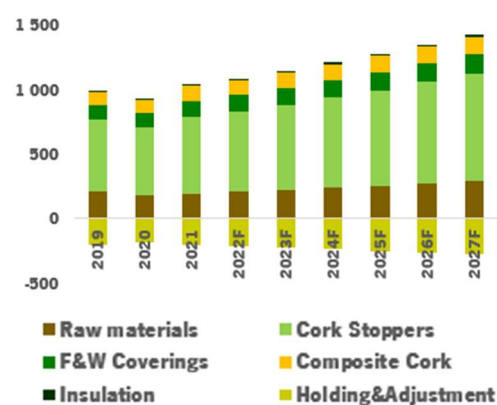


Figure 31 - Sales by Segment 2019YE-2027YE, in Million EUR

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)



Figure 32 - Sales vs Cost of Goods Sold (COGS) 2019YE-2027YE, in Million EUR

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

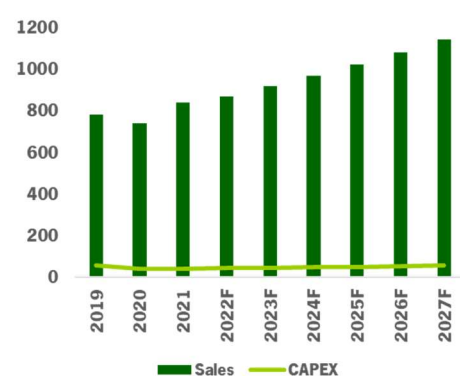


Figure 33 - Sales vs CAPEX 2019YE-2027YE, in Million EUR

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

Finally, the beta ( $\beta$ ) results from the Blume Adjustment to the beta reached through a regression between CORA's and PSI20's weekly returns.

### Cost of Debt

To compute the cost of debt ( $K_d$ ), Germany's 10-year government bond was used again as the benchmark for the RFR, and a synthetic AAA rating based on the company's interest coverage ratio was estimated, which translates to a spread of 0.69% over the RFR. By adding these figures, a pre-tax cost of debt of 3.5% was reached. Considering a 31.5% tax rate, which includes the Portuguese legal tax rate (21%), the local surtax for Santa Maria da Feira (1.5%) and the state surtax (9%), the after-tax cost of debt is 2.42%.

### Terminal Growth Rate

CORA is a mature company with stable revenues, with a market share that doubles OENEO's, the second biggest player in the cork stoppers market. Besides, the company operates in a stable industry. APCOR believes that in 2023 cork exports will grow by one hundred million and by 2030, Portuguese cork exports will have reached 1.500 billion. Thereby, and considering CORA's undeniable leadership in the industry, which is expected to be preserved, along with the business stability and its more than proven resilience even through adverse economic periods, a terminal growth rate of 3% was considered, supported by APCOR's expectations and CORA's competitive positioning, reinvestment rate and return on capital (ROC). A more detailed breakdown of the assumptions and calculations used to reach the terminal growth rate is presented in appendix 15.

### Relative Valuation

Although CORA has five BUs, stoppers historically represent 70% of revenues, so it was considered that to be better comparable firms, peers should operate in this segment. Apart from CORA, OENEO is the only other publicly traded company operating in the cork stoppers business, thereby being the only company considered for the relative valuation, which makes the results more unreliable. Besides, CORA and OENEO do not have the same fiscal year, therefore, to perform the relative valuation, the multiples considered for OENEO are from a March 2024 forecast, retrieved from Refinitiv Eikon, and CORA's are from December 2023. Thus, relative valuation was used more as a complementary methodology, rather than a second methodology to reach a price target.

Company	Ticker	Market Cap	P/E	Price/Sales	P/B	EV/Sales	EV/EBITDA
OENEO, S.A.	SABT.PA	846.44M	19.2	2.32	2.36	2.38	10.96
Corticeira Amorim, SGPS, S.A.	CORA.LS	1.33B	19.56	1.59	1.97	1.64	9.39
Price Targets			€ 10.74	€ 15.99	€ 13.15	€ 16.00	€ 12.81
Average Price Targets				€ 13.30			€ 14.41
Average Price Target					€ 13.85		

Table 4 - Relative Valuation

Source: Refinitiv Eikon & Author's Estimates

The overall price target reached was 13.85€, which represents an upside potential of 59% from the 8.72€ close price registered on December 30th, 2022. The calculations to reach each price target are presented in Appendix 17.

WACC Assumptions	
Risk-Free Rate (RFR)	2.84%
Market Risk Premium (MRP)	7.35%
Beta ( $\beta$ )	0.73
Cost of Equity	8.21%
Spread	0.69%
Cost of Debt	3.53%
Tax Rate	31.50%
After-tax Cost of Debt	2.42%
WACC	6.85%

Table 5 - WACC Assumptions

Source: Author

Enterprise Value	
Perpetual Growth Rate	3.00%
Perpetuity WACC	6.85%
Terminal Value	1 739 425
PV of Terminal Value	1 249 192
PV of FCFE	259 870
Enterprise Value	1 509 063

Table 6 - Enterprise Value

Source: Author

Price target	
Enterprise Value	1 509 063
- Net Debt	53 899
Equity Value	1 455 163
Shares outstanding	133 000
Price per share at 2023YE	€ 10.94
Price at 2022YE	€ 8.72

Table 7 - Price Target 2023YE

Source: Author

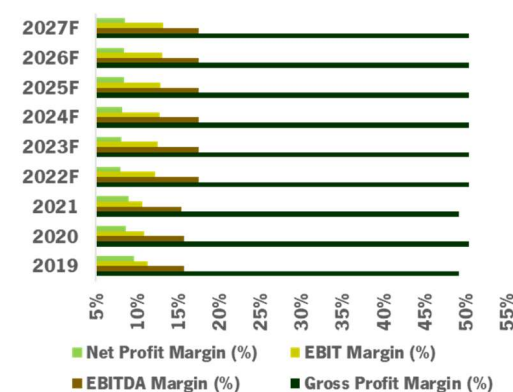


Figure 34 - Net Profit, EBIT, EBITDA, and Gross Profit Margins 2019YE-2027YE

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

## Financial Analysis

In 2020, CORA's total sales decreased 5.2%YoY due to the adverse global context caused by the pandemic and unfavorable exchange rate effects. Nevertheless, the company managed to keep the EBITDA Margin from 2019 and net profit only decreased 4.8%YoY, to €64.3 million. In 2021, operations returned to normal, and CORA recovered, reaching sales of €837.82M, an increase of 13.2%YoY and the highest revenues ever recorded by the company, despite still facing unfavorable exchange rate effects. However, the company was not able to improve its margins, and net income still fell below the pre-pandemic level (€74.95M in 2019YE vs €74.76M in 2021YE), in fact, the EBITDA margin decreased from 15.77% in 2020YE to 15.46% 2021YE, which can partially be explained by an increase in third party suppliers and services, which CORA claims to be due to increases in energy and transportation services, which will continue due to yet another adverse event the world is facing, the Russia-Ukraine War, which is slowing down the economy and causing operational costs to increase.

## Profitability

From 2021YE to 2027YE, total revenues are expected to grow at 5.28% CAGR from €868.48M to €1140.93M, with the cork stoppers BU keeping its position as CORA's main engine of profitability. Gross profit is expected to increase at a 5.70% CAGR, maintaining a margin of 50.43% of total revenues, similar to previous years. EBITDA is expected to recover from the instability observed in the past and grow at a 7.47% CAGR. The net profit margin will decrease from 8.92% in 2021YE to 7.97% in 2022YE, due to an increase in income taxes, but after that it will grow again, maintaining values between 8.11% and 8.54% until 2027.

## Solvency

Debt is expected to increase in the forecasted period, with the company maintaining an average debt-to-equity ratio of 0.31. The debt-to-equity ratio decreased in 2021, from 0.31 in 2020YE to 0.25 in 2021YE, but is expected to increase again, as the company has been increasing its debt in the past years, especially emitting commercial paper, taking advantage of its ability to finance itself at very low costs (the average debt cost during 2021 for all the credit utilized was of 0.89%).

## Investment Risks

### Regulatory Risk | Restriction on Forestry Exploration (RR1)

The cork oaks are heavily protected in Portugal. The legislation imposes heavy fines for damage or improper management of the trees and there are strict rules regulating their harvesting. Bark can only be harvested when the trees reach 25 years and fulfill certain dimensions and it is also absolutely forbidden to harvest cork at intervals of less than nine years. With CORA's experience from years in the cork business, it is unlikely that these regulations will affect the company.

### Operational Risk | Energy and other Supplies Prices (OR1)

As stated before, the global economy has been in crisis for some years now, first due to the COVID-19 pandemic and now the war has worsened the situation even more. Most businesses' operating costs are rising, and materials and supplies costs

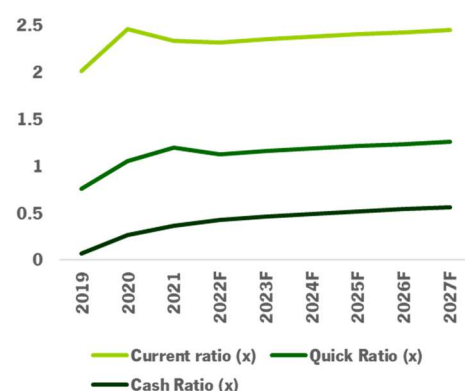


Figure 35 - Liquidity Ratios 2019YE-2027YE

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

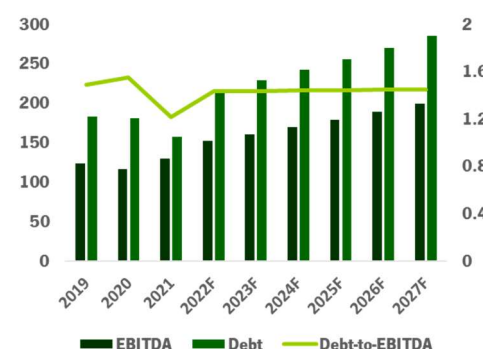


Figure 36 - EBITDA, Debt and Debt-to-EBITDA 2019YE-2027YE

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

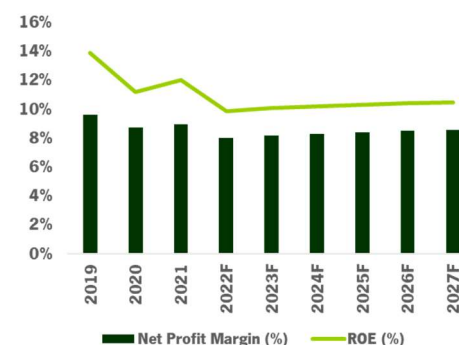


Figure 37 - Net Profit Margin and ROE 2019YE-2027YE

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

are naturally increasing, which affects CORA. In 2021, CORA's third party suppliers and services have already increased due to a rise in energy and transportation costs, but the strong revenues made it possible to maintain the gross profit margin at past years' average. Plus, the company actively works to mitigate these risks by monitoring market prices, having a specialized team dedicated to procurement, using biomass, and revising the energy mix to optimize the production process to obtain greater energy efficiency.

### Operational Risk | Exchange rate risk (OR2)

CORA sells to more than 125 countries, with about 30% of the sales being to non-European countries. Therefore, exchange rates can significantly impact CORA's revenues and operational results. Especially with US dollars, since the USA represents about 17% of total sales and is the third largest market for the Cork Stoppers BU, CORA'S main profitability driver. For instance, in 2021, sales of cork stoppers for the USA didn't record any growth, unlike markets like France and Italy, thanks to the exchange rate (the negative impact on sales was €3.6 million).

### Operational Risk | Governance risk (OR3)

CORA being mostly owned by the Amorim family may carry some risks to minority shareholders. However, the company is well managed, has been reviewing its corporate governance since the Portuguese Securities Market Commission (CMVM) published the first governance recommendations in 1999, regularly distributes dividends and, with the new governance model, more control and independence have been added to the board, so this is not believed to be a major risk.

### Market Risk | Cork Substitutes (MR1)

As stated throughout the report, cork is the preferred closure for wine producers and consumers, representing 70% of all closures worldwide. Cork is sustainable, recyclable, and impermeable to liquid and gas while still allowing the right amount of oxygen into the bottle, features that alternative closures can't fully match. Therefore, higher-quality wines are usually sealed with cork and consumers associate cork with overall quality and are willing to pay more for wines sealed with cork stoppers. Nevertheless, the world economy is facing a difficult moment, with global GDP projected to decrease, an emerging cost-of-living crisis and businesses facing high operational costs, which can on one hand lower the demand for higher-priced wines and, thereby, lower the demand for cork stoppers and, on the other hand, make producers look for cheaper closures to lower operational costs, even though the cost of replacing cork stoppers may not be worth the change. In sum, cork stoppers (natural and technical) are likely to maintain their leading position in the closures market, but cork manufacturers must be aware of the applied prices.

### Market Risk | Slowdown in Wine Consumption (MR3)

A slowdown in wine consumption can negatively impact CORA's sales. Several studies have shown wine consumption to be quite inelastic to price by itself, unlike spirits, which have a more elastic demand, but consumption can be affected by other factors like income and legal factors. So, even though consumption is forecasted to grow, there is a possibility the consumption of luxury goods will decrease due to the cost-of-living crisis and high inflation.

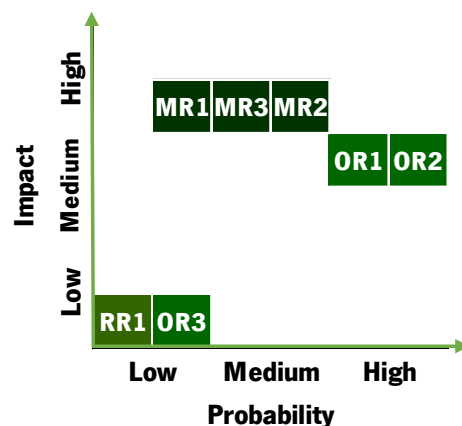


Figure 38 - Risk Matrix

Source: Author

## Market Risk | Slowdown in Wine Production (MR2)

Even if wine consumption does not slowdown, wine production is highly unstable and can decrease due to natural events. Historically, production has always been above consumption since wine, especially premium, is still produced even when demand is lower because it does not have to be consumed in a short period of time, and because some wines are still produced and used for industrial purposes. Since production is highly unstable due to climatic conditions, there is a risk to CORA's business.

## Sensitivity Analysis

To perform the sensitivity analysis, the WACC and the terminal growth rate were used. In the worst scenario the share price can decrease to € 8.56, representing a downside of 2%, in the best scenario the target price can reach € 15.02, representing an upside potential of 72%. From the tables below, it is possible to see that a terminal growth rate of 2.40% or lower would change the investment recommendation, even if the WACC decreased by 1 p.p., and even at 2.60%, the recommendation would only be to buy if WACC was lower than the forecasted 6.85%. Therefore, a decrease in the terminal growth rate can impact the investment recommendation. With the 3% terminal growth rate, WACC can increase up to 7.85% and the investment recommendation (buy) would not change.

Price Target € 10.96		Change in WACC										
		5.85%	6.05%	6.25%	6.45%	6.65%	6.85%	7.05%	7.25%	7.45%	7.65%	7.85%
Change in Perpetual Growth Rate	2%	€ 9.32	€ 9.24	€ 9.16	€ 9.08	€ 9.01	€ 8.93	€ 8.85	€ 8.78	€ 8.70	€ 8.63	€ 8.56
	2.20%	€ 9.67	€ 9.59	€ 9.50	€ 9.42	€ 9.34	€ 9.26	€ 9.18	€ 9.10	€ 9.03	€ 8.95	€ 8.88
	2.40%	€ 10.05	€ 9.96	€ 9.88	€ 9.79	€ 9.71	€ 9.62	€ 9.54	€ 9.46	€ 9.38	€ 9.30	€ 9.22
	2.60%	€ 10.47	€ 10.37	€ 10.28	€ 10.20	€ 10.11	€ 10.02	€ 9.94	€ 9.85	€ 9.77	€ 9.68	€ 9.60
	2.80%	€ 10.92	€ 10.83	€ 10.73	€ 10.64	€ 10.55	€ 10.46	€ 10.37	€ 10.28	€ 10.19	€ 10.10	€ 10.02
	3.00%	€ 11.43	€ 11.33	€ 11.23	€ 11.13	€ 11.03	€ 10.94	€ 10.84	€ 10.75	€ 10.66	€ 10.57	€ 10.48
	3.20%	€ 11.99	€ 11.88	€ 11.78	€ 11.68	€ 11.57	€ 11.47	€ 11.37	€ 11.28	€ 11.18	€ 11.08	€ 10.99
	3.40%	€ 12.61	€ 12.50	€ 12.39	€ 12.28	€ 12.18	€ 12.07	€ 11.96	€ 11.86	€ 11.76	€ 11.66	€ 11.56
	3.60%	€ 13.31	€ 13.20	€ 13.08	€ 12.97	€ 12.85	€ 12.74	€ 12.63	€ 12.52	€ 12.41	€ 12.30	€ 12.20
	3.80%	€ 14.11	€ 13.98	€ 13.86	€ 13.74	€ 13.62	€ 13.50	€ 13.38	€ 13.26	€ 13.15	€ 13.03	€ 12.92
4%	€ 15.02	€ 14.88	€ 14.75	€ 14.62	€ 14.49	€ 14.36	€ 14.24	€ 14.11	€ 13.99	€ 13.87	€ 13.74	

Table 8 – Price Target Sensitivity Analysis to the Perpetual Growth Rate and WACC

Source: Author's Estimates

Upside 25%		Change in WACC										
		5.85%	6.05%	6.25%	6.45%	6.65%	6.85%	7.05%	7.25%	7.45%	7.65%	7.85%
Change in Perpetual Growth Rate	2%	7%	6%	5%	4%	3%	2%	2%	1%	0%	-1%	-2%
	2.20%	11%	10%	9%	8%	7%	6%	5%	4%	4%	3%	2%
	2.40%	15%	14%	13%	12%	11%	10%	9%	8%	8%	7%	6%
	2.60%	20%	19%	18%	17%	16%	15%	14%	13%	12%	11%	10%
	2.80%	25%	24%	23%	22%	21%	20%	19%	18%	17%	16%	15%
	3.00%	31%	30%	29%	28%	27%	25%	24%	23%	22%	21%	20%
	3.20%	37%	36%	35%	34%	33%	32%	30%	29%	28%	27%	26%
	3.40%	45%	43%	42%	41%	40%	38%	37%	36%	35%	34%	33%
	3.60%	53%	51%	50%	49%	47%	46%	45%	44%	42%	41%	40%
	3.80%	62%	60%	59%	58%	56%	55%	53%	52%	51%	49%	48%
4%	72%	71%	69%	68%	66%	65%	63%	62%	60%	59%	58%	

Table 9 – Upside Sensitivity Analysis to the Perpetual Growth Rate and WACC

Source: Author's Estimates



## Appendix 1: Statement of Financial Position

in Thousand EUR	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F
<b>Total Assets</b>	<b>994 154</b>	<b>1 005 684</b>	<b>1 081 291</b>	<b>1 225 701</b>	<b>1 286 367</b>	<b>1 351 521</b>	<b>1 421 291</b>	<b>1 495 840</b>	<b>1 575 366</b>
<b>Current Assets</b>	<b>637 316</b>	<b>638 699</b>	<b>699 008</b>	<b>832 547</b>	<b>891 072</b>	<b>951 947</b>	<b>1 015 490</b>	<b>1 082 005</b>	<b>1 151 782</b>
Inventories	397 840	364 109	340 167	426 577	450 368	475 559	502 234	530 483	560 402
Trade Receivables	165 484	161 360	182 653	193 745	204 551	215 992	228 107	240 938	254 526
Income Tax Assets	11 773	4 838	10 398	10 398	10 398	10 398	10 398	10 398	10 398
Cash and Cash Equivalents	22 144	70 266	109 604	154 034	175 297	196 717	218 482	240 752	263 669
Other current assets	40 075	38 126	56 186	47 793	50 459	53 281	56 270	59 435	62 787
<b>Non-current assets</b>	<b>356 838</b>	<b>366 985</b>	<b>382 283</b>	<b>393 154</b>	<b>395 295</b>	<b>399 575</b>	<b>405 800</b>	<b>413 835</b>	<b>423 584</b>
Property, Plant and Equipment	278 600	281 676	283 990	283 325	284 613	287 727	292 566	299 044	307 095
Intangible Assets	10 852	16 170	17 266	18 569	19 889	21 237	22 621	24 053	25 539
Right of Use	6 037	6 241	6 173	5 053	4 361	3 935	3 672	3 509	3 409
Goodwill	13 744	13 746	9 843	20 836	20 836	20 836	20 836	20 836	20 836
Investment Property	5 387	5 403	5 311	5 221	5 132	5 045	4 959	4 875	4 792
Investment in Associates and Joint Ventures	22 366	24 046	42 401	42 401	42 401	42 401	42 401	42 401	42 401
Deferred Tax Assets	14 396	14 672	12 131	12 131	12 131	12 131	12 131	12 131	12 131
Other Non-Current Assets	5 456	5 031	5 168	5 618	5 931	6 263	6 614	6 986	7 380
<b>Total Liabilities</b>	<b>454 609</b>	<b>429 028</b>	<b>458 006</b>	<b>522 719</b>	<b>545 058</b>	<b>569 038</b>	<b>594 723</b>	<b>622 191</b>	<b>651 528</b>
<b>Current Liabilities</b>	<b>316 380</b>	<b>259 413</b>	<b>298 866</b>	<b>358 867</b>	<b>378 482</b>	<b>399 354</b>	<b>421 540</b>	<b>445 104</b>	<b>470 118</b>
Accounts Payable	132 086	110 402	160 825	165 075	174 282	184 030	194 353	205 284	216 863
Interest-bearing Loans	124 109	88 792	70 104	122 620	129 305	136 487	144 176	152 389	161 143
Income Taxes Payable	1 911	1 767	4 421	4 421	4 421	4 421	4 421	4 421	4 421
Other Current Liabilities	58 274	58 452	63 516	66 751	70 474	74 415	78 590	83 010	87 692
<b>Non-current Liabilities</b>	<b>138 229</b>	<b>169 615</b>	<b>159 140</b>	<b>163 853</b>	<b>166 577</b>	<b>169 684</b>	<b>173 184</b>	<b>177 087</b>	<b>181 410</b>
Total Long Term Debt	59 126	92 192	87 573	94 726	99 891	105 439	111 380	117 724	124 487
Deferred Income Tax	50 370	50 570	51 041	51 041	51 041	51 041	51 041	51 041	51 041
Provisions	3 777	3 349	3 698	3 698	3 698	3 698	3 698	3 698	3 698
Pension Benefits	1 687	2 068	2 184	2 184	2 184	2 184	2 184	2 184	2 184
Other Long Term Liabilities	23 269	21 436	14 644	12 203	9 763	7 322	4 881	2 441	0
<b>Total Equity</b>	<b>539 543</b>	<b>576 656</b>	<b>623 282</b>	<b>702 982</b>	<b>741 309</b>	<b>782 484</b>	<b>826 567</b>	<b>873 649</b>	<b>923 838</b>
Share Capital	133 000	133 000	133 000	133 000	133 000	133 000	133 000	133 000	133 000
Other Reserves	301 515	352 382	388 191	429 393	462 523	498 170	536 607	577 869	622 026
Net Income	74 947	64 326	74 755	69 202	74 400	79 927	85 574	91 393	97 426
Non-Controlling Interest	30 081	26 948	27 336	71 386	71 386	71 386	71 386	71 386	71 386
<b>Total Liabilities &amp; Equity</b>	<b>994 152</b>	<b>1 005 684</b>	<b>1 081 288</b>	<b>1 225 701</b>	<b>1 286 367</b>	<b>1 351 521</b>	<b>1 421 291</b>	<b>1 495 840</b>	<b>1 575 366</b>

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

## Appendix 2: Income Statement

in Thousand EUR	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F
<b>Revenue (total)</b>	<b>781 060</b>	<b>740 114</b>	<b>837 820</b>	<b>868 475</b>	<b>916 912</b>	<b>968 198</b>	<b>1 022 506</b>	<b>1 080 019</b>	<b>1 140 932</b>
Raw-Materials	204 791	179 972	191 453	210 239	223 488	237 572	252 543	268 457	285 375
Cork Stoppers	559 087	527 342	593 317	615 966	654 783	696 046	739 909	786 536	836 102
Floor&Wall Coverings	108 631	112 096	123 214	127 299	131 519	135 879	140 383	145 037	149 845
Composite Cork	104 485	95 185	116 700	115 448	119 050	122 764	126 595	130 545	134 618
Insulation	14 154	12 337	14 547	13 737	14 234	14 750	15 283	15 836	16 409
Holding	4 407	5 919	4 921	5 025	5 305	5 602	5 916	6 249	6 601
Adjustment	(214 495)	(192 737)	(206 332)	(219 239)	(231 467)	(244 413)	(258 123)	(272 641)	(288 018)
Cost of Goods Sold and Materials Consumed	396 671	366 891	425 317	430 509	454 520	479 943	506 864	535 373	565 568
<b>Gross Value</b>	<b>384 389</b>	<b>373 223</b>	<b>412 503</b>	<b>437 965</b>	<b>462 392</b>	<b>488 255</b>	<b>515 642</b>	<b>544 645</b>	<b>575 363</b>
Third Party Suppliers and Services	123 964	121 139	138 569	142 224	150 157	158 555	167 449	176 868	186 843
Staff Costs	141 491	139 283	147 263	152 651	161 165	170 179	179 725	189 834	200 541
Interest/Investment Income - Operating	951	380	205	740	781	825	871	920	972
Unusual Expense/Income	524	5 941	5 265	0	0	0	0	0	0
Other Operating Expenses	(5 881)	(10 217)	(8 288)	(9 523)	(10 054)	(10 616)	(11 212)	(11 842)	(12 510)
<b>Operating Cash Flow (EBITDA)</b>	<b>123 340</b>	<b>116 696</b>	<b>129 489</b>	<b>151 873</b>	<b>160 343</b>	<b>169 312</b>	<b>178 809</b>	<b>188 866</b>	<b>199 518</b>
Depreciation and Amortization (D&A)	35 177	36 547	40 735	45 726	45 733	46 159	46 931	47 999	49 333
<b>Operating Profit (EBIT)</b>	<b>88 163</b>	<b>80 149</b>	<b>88 754</b>	<b>106 146</b>	<b>114 610</b>	<b>123 152</b>	<b>131 878</b>	<b>140 867</b>	<b>150 185</b>
Financial Costs/Interest Expense	(1 430)	(1 729)	(1 212)	(1 403)	(1 934)	(2 040)	(2 153)	(2 274)	(2 404)
Financial Income	5 662	2 332	3 097	3 387	3 576	3 776	3 988	4 212	4 450
Other Non-Operating Income (Expense)	(983)	(639)	10 820	0	0	0	0	0	0
<b>Profit Before Taxes</b>	<b>91 412</b>	<b>80 113</b>	<b>101 459</b>	<b>108 130</b>	<b>116 252</b>	<b>124 889</b>	<b>133 712</b>	<b>142 805</b>	<b>152 231</b>
Provision for Income Taxes	11 951	11 502	18 422	34 061	36 619	39 340	42 119	44 983	47 953
<b>Profit After Taxes</b>	<b>79 461</b>	<b>68 611</b>	<b>83 037</b>	<b>74 069</b>	<b>79 633</b>	<b>85 549</b>	<b>91 593</b>	<b>97 821</b>	<b>104 278</b>
Non-Controlling Interest	(4 514)	(4 285)	(8 281)	(4 867)	(5 233)	(5 621)	(6 019)	(6 428)	(6 852)
<b>Net Income</b>	<b>74 947</b>	<b>64 326</b>	<b>74 756</b>	<b>69 202</b>	<b>74 400</b>	<b>79 927</b>	<b>85 574</b>	<b>91 393</b>	<b>97 426</b>

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

## Appendix 3: Cash-Flow Statement

in Thousand EUR	2022F	2023F	2024F	2025F	2026F	2027F
Net Income	69 202	74 400	79 927	85 574	91 393	97 426
Adjustments:						
D&A	45 726	45 733	46 159	46 931	47 999	49 333
Changes in operating assets and liabilities:						
Δ Trade Receivables	11 092	10 806	11 441	12 115	12 830	13 589
Δ Inventories	86 410	23 791	25 191	26 675	28 249	29 919
Δ Other Current and Non-Current Assets	3 050	2 979	3 154	3 340	3 537	3 746
Δ Trade Payables	4 250	9 207	9 748	10 323	10 932	11 578
Δ Other Current and Non-Current Liabilities	794	1 282	1 501	1 733	1 980	2 241
<b>Operating Activities</b>	<b>19 421</b>	<b>93 046</b>	<b>97 550</b>	<b>102 431</b>	<b>107 688</b>	<b>113 324</b>
CAPEX	(43 139)	(45 545)	(48 092)	(50 790)	(53 646)	(56 672)
Other Investments	(2 016)	(2 016)	(2 016)	(2 016)	(2 016)	(2 016)
<b>Investing Activities</b>	<b>(45 154)</b>	<b>(47 560)</b>	<b>(50 108)</b>	<b>(52 805)</b>	<b>(55 662)</b>	<b>(58 688)</b>
Dividends	(33 553)	(36 073)	(38 753)	(41 491)	(44 312)	(47 237)
Debt Issuances and Repayments	59 669	11 850	12 730	13 630	14 556	15 517
Changes in Capital and NCI	44 050	0	0	0	0	0
<b>Financing Activities</b>	<b>70 166</b>	<b>(24 223)</b>	<b>(26 022)</b>	<b>(27 861)</b>	<b>(29 755)</b>	<b>(31 720)</b>
<b>Change for the Period</b>	<b>44 433</b>	<b>21 263</b>	<b>21 420</b>	<b>21 765</b>	<b>22 270</b>	<b>22 917</b>
Beginning cash	109 604	154 034	175 297	196 717	218 482	240 752
<b>Ending cash</b>	<b>154 034</b>	<b>175 297</b>	<b>196 717</b>	<b>218 482</b>	<b>240 752</b>	<b>263 669</b>

Source: Refinitiv Eikon & Author's Estimates

## Appendix 4: Key Financial Ratios

	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F
<b>Liquidity Ratios</b>									
Current ratio (x)	2.01	2.46	2.34	2.32	2.35	2.38	2.41	2.43	2.45
Quick Ratio (x)	0.76	1.06	1.20	1.13	1.16	1.19	1.22	1.24	1.26
Cash Ratio (x)	0.07	0.27	0.37	0.43	0.46	0.49	0.52	0.54	0.56
<b>Profitability Ratios</b>									
Gross Profit Margin (%)	49.21%	50.43%	49.24%	50.43%	50.43%	50.43%	50.43%	50.43%	50.43%
EBITDA Margin (%)	15.79%	15.77%	15.46%	17.49%	17.49%	17.49%	17.49%	17.49%	17.49%
EBIT Margin (%)	11.29%	10.83%	10.59%	12.22%	12.50%	12.72%	12.90%	13.04%	13.16%
Net Profit Margin (%)	9.60%	8.69%	8.92%	7.97%	8.11%	8.26%	8.37%	8.46%	8.54%
ROA (%)	7.54%	6.40%	6.91%	5.65%	5.78%	5.91%	6.02%	6.11%	6.18%
ROCE (%)	13.01%	10.74%	11.34%	12.25%	12.62%	12.93%	13.19%	13.41%	13.59%
ROC (%)	10.60%	9.06%	9.30%	7.90%	8.09%	8.23%	8.35%	8.44%	8.51%
ROE (%)	13.89%	11.16%	11.99%	9.84%	10.04%	10.21%	10.35%	10.46%	10.55%
EPS (€)	0.56	0.48	0.56	0.52	0.56	0.60	0.64	0.69	0.73
<b>Solvency Ratios</b>									
Debt Ratio (%)	18.43%	18.00%	14.58%	17.73%	17.82%	17.90%	17.98%	18.06%	18.13%
Short-term Debt Ratio (%)	12.48%	8.83%	6.48%	10.00%	10.05%	10.10%	10.14%	10.19%	10.23%
Long-term Debt Ratio (%)	5.95%	9.17%	8.10%	7.73%	7.77%	7.80%	7.84%	7.87%	7.90%
Debt to Equity Ratio (x)	0.34	0.31	0.25	0.31	0.31	0.31	0.31	0.31	0.31
Equity Multiplier	1.84	1.74	1.73	1.74	1.74	1.73	1.72	1.71	1.71
Debt to EBITDA (x)	1.49	1.55	1.22	1.43	1.43	1.43	1.43	1.43	1.43
Interest Coverage Ratio (x)	61.65	46.36	73.23	75.64	59.25	60.37	61.25	61.93	62.47
<b>Efficiency Ratios</b>									
Asset Turnover (x)	0.79	0.74	0.77	0.71	0.71	0.72	0.72	0.72	0.72
Inventory Turnover (x)	1.00	1.01	1.25	1.01	1.01	1.01	1.01	1.01	1.01
Receivables Turnover (x)	4.72	4.59	4.59	4.48	4.48	4.48	4.48	4.48	4.48
Fixed Asset Turnover (x)	2.80	2.63	2.95	3.07	3.22	3.36	3.49	3.61	3.72
Payables Turnover (x)	5.91	6.70	5.21	5.26	5.26	5.26	5.26	5.26	5.26
Collection Period (DSO) (days)	77	80	80	81	81	81	81	81	81
Days in Inventory (DIO) (days)	366	362	292	362	362	362	362	362	362
Payables Period (DPO) (days)	122	110	138	140	140	140	140	140	140

Source: Refinitiv Eikon (2019-2021) & Author's Estimates (2022-2027)

## Appendix 5: Statement of Financial Position Assumptions

	Unit	2022F	2023F	2024F	2025F	2026F	2027F	Assumption
<b>Current Assets</b>								
Inventories	€	426 577	450 368	475 559	502 234	530 483	560 402	$\frac{\text{Average Inventory Days (2017 - 2021)}}{365} \times \text{COGS}$
Trade Receivables	% Sales	22.31%						Average Trade Receivables as % of sales (2017-2021).
Income Tax Assets	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Assumed to be constant, equal to the 2021 nominal value.
Other current assets	% Sales	5.50%						Includes accrued income and deferred costs. Historical average of other assets to sales (2017-2021).
<b>Non-current assets</b>								
Property, Plant and Equipment	€	283 325	284 613	287 727	292 566	299 044	307 095	Appendix 11: CAPEX and D&A
Intangible Assets	€	18 569	19 889	21 237	22 621	24 053	25 539	Appendix 11: CAPEX and D&A
Rights of Use	€	5 053	4 361	3 935	3 672	3 509	3 409	Appendix 11: CAPEX and D&A
Goodwill	€ YoY	10 993	0.00	0.00	0.00	0.00	0.00	In 2022, CORA acquired 50% of Saci S.r.l. and recognized goodwill of 10.993 million euros. From 2022 onwards, goodwill is assumed to be constant.
Investment Property	€	5 221	5 132	5 045	4 959	4 875	4 792	Appendix 11: CAPEX and D&A
Investment in Associates and Joint ventures	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Entities through which the group operates, acting as distribution channels. Assumed to be constant, equal to the 2021 nominal value.
Deferred Tax Assets	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Assumed to be constant, equal to the 2021 nominal value.
Other Non-Current Assets	% Sales	0.65%						Includes mainly advances to suppliers, VAT, deferred costs and other non-specified assets. Historical average of other assets to sales (2017-2021).
<b>Current Liabilities</b>								
Accounts Payable	% Sales	19.01%						Average Accounts Payable as % of sales (2017-2021).
Interest-bearing Loans	D/E	17.44%						Maintaining a target D/E of 0.31x (last 5 years average).
Other Current Liabilities	% Sales	7.69%						Contains mostly accrued costs from supplies, services and staff, VAT, debt to the state and social security and other non specified liabilities. Calculated through the historical average of other liabilities to sales (2017-2021).
Income Taxes Payable	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Equal to the 2021 nominal value.
<b>Non-current liabilities</b>								
Total Long Term Debt	D/E	13.47%						Maintaining a target D/E of 0.31x (last 5 years average).
Deferred Income Tax	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Equal to the 2021 nominal value.
Provisions	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	In 2021, included provisions for tax contingencies (122th), guarantees to customers (677th) and mostly provisions for termination of employment and ongoing lawsuits (2900th). Assumed to be constant, equal to the 2021 nominal value.
Pension Benefits	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Assumed to be constant, equal to the 2021 nominal value.
Other Long Term Liabilities	YoY	(2 441)	(2 441)	(2 441)	(2 441)	(2 441)	(2 441)	Includes repayable grants, from which only 2461 thousand have more than 4 years of maturity. Assumed to be paid by 2027.
<b>Equity</b>								
Share Capital	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	No issuance of shares is expected. Equal to the 2021 nominal value.
Other Reserves	€	429 393	462 523	498 170	536 607	577 869	622 026	$\text{Reserves}_t = \text{Reserves}_{t-1} + \text{Net income}_{t-1} - \text{Dividends}_t$
Net Income	€	69 202	74 400	79 927	85 574	91 393	97 426	Computed from the income statement.
Non-Controlling Interest	€ YoY	44 050	0	0	0	0	0	Increase of 44.05M in 2022 following the acquisition of SACI group (75.5M*0.50 plus 6.3M relating to non-controlling of the consolidated SACI Group) (Corticeira Amorim Consolidated Financial Statements, June 30, 2022) and assumed to be constant from 2022 onwards.

Source: Author's Estimates

## Appendix 6: Income Statement Assumptions

	Unit	2022F	2023F	2024F	2025F	2026F	2027F	Assumptions
Revenue	€	868 475	916 912	968 198	1 022 506	1 080 019	1 140 932	Appendix 8: Sales Forecast.
COGS	€	430 509	454 520	479 943	506 864	535 373	565 568	CORA doesn't disclose detailed information about COGS so these are computed through the Gross Profit Margin, assuming the historical average rate of 50%, between 2017-2021.
Gross Profit Margin	%			50.43%				Average Gross Profit Margin 2017-2021 (Gross Value/Total Revenue)
Gross Value	€	437 965	462 392	488 255	515 642	544 645	575 363	Total Revenue*Gross Profit Margin
Third Party Suppliers and Services	%			16.38%				Historical average as % of revenues (2017-2021).
Staff Costs	%			17.58%				Using the same percentage of revenues as 2021.
Interest/Investment Income - Operating	%			0.09%				Historical average as % of revenues (2017-2021).
Unusual Expense/Income	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Unusual income and expenses are hard to predict and are assumed to be zero in the forecasted years.
Other Operating Expenses	%			-1.10%				Historical average as % of revenues (2017-2021).
Depreciation & Amortization (D&A)	€	45 726	45 733	46 159	46 931	47 999	49 333	Appendix 11: CAPEX and D&A.
Financial costs/Interest Expense	%			0.89%				Average cost of financial debt reported in 2021 (0.89%) multiplied by the debt from t-1.
Financial Income	%			0.39%				Historical average as % revenues (2017-2021).
Other Non-Operating Income (Expense)	YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Hard to predict and assumed to be zero in the forecasted years.
Provision for Income Taxes	%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	Effective tax rate including the Portuguese legal tax rate (21%), the local surtax for Santa Maria da Feira (Derrama municipal) of 1.5% and the state surtax (Derrama estadual) of 9%
Non-Controlling Interest	%			-6.57%				Historical average of non-controlling-interests over profit after taxes (2017-2021).

Source: Author's Estimates

## Appendix 7: BUs Description

Business Unit	Description	End Products	Market
<b>Cork Stoppers: Amorim Cork</b>	The world's biggest producer, supplier and distributor of cork stoppers, with more than 5.8 billion cork stoppers sold per year.	Natural and technical cork stoppers for still wine, champagne and sparkling wine, frizzante, beer, cider and spirits.	Sales to 90 countries, with the main markets being France, the USA, Italy, Spain and Portugal.
<b>Floor and Wall Coverings: Amorim Cork Flooring</b>	Operating in more than 80 countries, this BU supplies the market with floor and wall coverings, achieved under the brands Amorim WISE, Wicanders and Corklife.	Sustainable floor and wall coverings with natural cork qualities like impact resistance and natural thermal insulation.	Sales to close to 60 countries, with the main markets being Germany, Scandinavia, the USA, Portugal and Switzerland.
<b>Composite Cork: Amorim Cork Composites</b>	The BU was created to reinvent end-of-life materials and currently takes advantage of 70% of the waste produced operating for 29 business segments such as aerospace, automotive, construction, energy, mobility, footwear, sports surfaces, interior design and others.	Applications for the construction industry; advanced components for spacecraft; products for home, office and leisure; solutions for the transport sector; flooring components; playgrounds and sports surfaces; others.	Sales to more than 80 countries with the main markets being the USA, Germany, Portugal and France.
<b>Insulation Cork: Amorim Cork Insulation</b>	With a solid position in the European sustainable construction sector, it is now a market leader, supplying the brands Amorim (Institutional brand), Corkpan (Italian), Corktherm 040 (Austrian, German and Swiss), Corkisol (French) and Thermacork (American).	100% natural acoustic, thermal and anti-vibration insulation agglomerated cork solutions, especially suitable for use in indoor, outdoor and cavity walls, slabs, flat and pitched roofs and radiant floors.	Sales to 50 countries with the main markets being Portugal, France, Italy, Spain, Asia and the Middle East.
<b>Raw-Materials: Amorim Florestal</b>	Aims to supply CORA's other BUs, operating in all parts of the world where cork is produced, with the biggest preparation and processing units being in Portugal, Spain, Morocco, Algeria and Tunisia. Amorim Florestal innovates, with the aid of technology, in processes that involve the entire cork extraction, handling and dispatch, which lowers costs and improves reliability. Ultimately, Amorim Florestal's job is to promote a higher level of cork production, that can support CORA's growth targets.		

Source: Corticeira Amorim Website – Business – Business Units & Corticeira Amorim Profile [PowerPoint Slides]

## Appendix 8: Sales Forecast

The **Raw-Materials BU** mainly aims to supply the other 4 BUs, with only 1.4% of total sales in 2021YE being for outside clients. Thereby, raw-materials sales were forecasted as a percentage of the Cork Stoppers BU forecasted sales, since this BU is the main internal client and a lot of the cork used in the other 3 BUs is residual cork from the production of stoppers. To perform the forecast, the historical average of raw-materials to cork stoppers sales was used, starting by calculating the percentage of raw-materials to cork stoppers sales between 2017-2021, arriving at values between 32.3% and 36.6%, and at a historical average of 34.1%. Therefore, for the forecasted period the Raw-Materials BU sales are estimated as 34.1% of cork stoppers sales.

The **Cork Stoppers BU** and **Insulation Cork BU** were forecasted using a linear regression model between the BUs sales from 2004 until 2021 and time. The **Composite Cork BU** was forecasted in the same way, except with a time interval from 2008 to 2021, since there was no available information before 2008. For these BUs, it was considered that relying on past performance was a reasonable method to understand the behavior of sales and that the linear regressions provided trustworthy insights into future performance.

$$\ln(\text{Sales})_t = a + b \times \text{Time (Year)}$$

The **F&W Coverings BU** has struggled with more unsteady results in the past than the other BUs, registering highs and lows in sales growth since 2004, even though the absolute results were never poor. The BU registered a decrease of -7.70%YoY in 2018 and -3.16%YoY in 2019, but recovered in 2020, even faced with the pandemic, growing +3.19%YoY and in 2021 recorded a growth of +9.92%YoY and CORA believes sales will keep growing based on three pillars: continued growth in the sales of the new solutions Amorim WISE, the return of the Hydrocork range and leveraging the SPC line in price sensitive segments. Due to the instability experienced in the past, a linear regression would not yield trustworthy results since past patterns are too volatile. Therefore, for this BU, sales were forecasted using the last 3-year average sales growth, arriving at a CAGR of 3.32%.

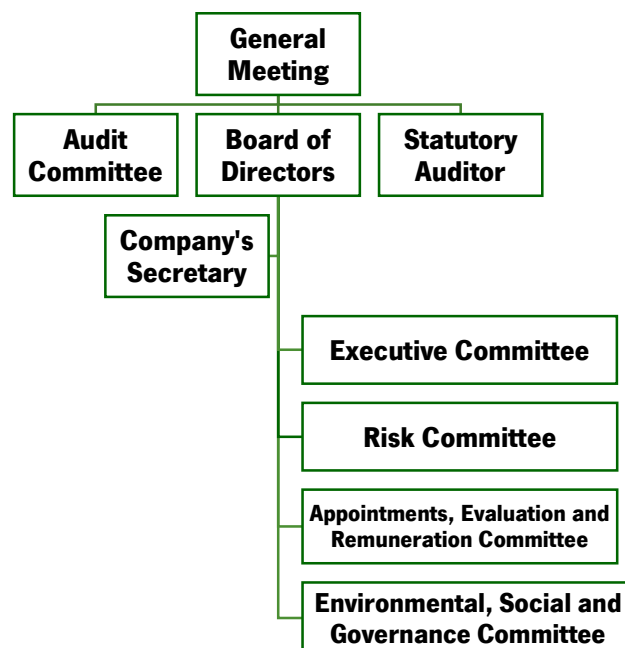
**Holding** and **Adjustment** were forecasted as a percentage of total sales from the 5 BUs, using the historical average of each one to sales from the last 5 years (2017-2021). Adjustments are, mainly, eliminations of sales between BUs, hence the value being negative. For instance, most of CORA's raw-materials sales are for the other 4 BUs, as stated before. Since the percentage of Adjustment to total sales from the 5 BUs has been stable for the past 5 years, it was considered that computing Adjustment as a percentage of total sales would provide a trustworthy result.

in Thousand EUR	2022F	2023F	2024F	2025F	2026F	2027F
<b>Raw-Materials BU</b>	210 239	223 488	237 572	252 543	268 457	285 375
% of Total Sales	24.21%	24.37%	24.54%	24.70%	24.86%	25.01%
<b>Cork Stoppers BU</b>	615 966	654 783	696 046	739 909	786 536	836 102
% of Total Sales	70.93%	71.41%	71.89%	72.36%	72.83%	73.28%
<b>F&amp;W Coverings BU</b>	127 299	131 519	135 879	140 383	145 037	149 845
% of Total Sales	14.66%	14.34%	14.03%	13.73%	13.43%	13.13%
<b>Composite Cork BU</b>	115 448	119 050	122 764	126 595	130 545	134 618
% of Total Sales	13.29%	12.98%	12.68%	12.38%	12.09%	11.80%
<b>Insulation BU</b>	13 737	14 234	14 750	15 283	15 836	16 409
% of Total Sales	1.58%	1.55%	1.52%	1.49%	1.47%	1.44%
<b>Holding</b>	5 025	5 305	5 602	5 916	6 249	6 601
% of Total Sales	0.58%	0.58%	0.58%	0.58%	0.58%	0.58%
<b>Adjustment</b>	-219 239	-231 467	-244 413	-258 123	-272 641	-288 018
% of Total Sales	-25.24%	-25.24%	-25.24%	-25.24%	-25.24%	-25.24%

Source: Author's Estimates

## Appendix 9: Management and Corporate Governance

### Governance Model



Source: Corticeira Amorim Website – Investors – Governance Model

### Remuneration Policy

Director	Position	Fixed Remuneration	Variable Remuneration
<b>Executive:</b>			
António Rios Amorim	Chairman of the BoD; CORA's CEO	€ 239 309.10	€ 500.00
Nuno Filipe Vilela Barroca de Oliveira	Vice-Chairman of the BoD	€ 169 309.10	€ 500.00
Fernando José de Araújo dos Santos Almeida	Member	€ 144 109.10	€ 60 150.00
Cristina Rios de Amorim Baptista	Member	€ 154 749.30	€ 500.00
<b>Non executive:</b>			
Luisa Alexandra Ramos Amorim	Member	€ 0.00	€ 0.00
Juan Ginesta Viñas	Member	€ 0.00	€ 0.00
José Pereira Alves	Member	€ 22 666.64	€ 0.00
Marta Parreira Coelho Pinto Ribeiro	Member	€ 14 666.64	€ 0.00
Cristina Galhardo Vilão	Member	€ 14 666.64	€ 0.00
António Lopes Seabra	Member	€ 14 666.64	€ 0.00

Source: CORA's 2021 Governance Report

## Appendix 10: ISO 45001 and SA 8000 Certifications Overview

### ISO 45001: Occupational Health and Safety (OH&S) Management Systems

The certification ISO 45001 is a norm of the International Organization for Standardization (ISO) that sets basic standards of practice to protect employees. In summary, ISO 45001 focuses on the organizational context, promoting safety, reduction of risks, and improvement of health and well-being in the workplace. An ISO 45001 certification validates that the company meets the standards imposed by the norm.

#### Key Points

**Leadership:** Management must take OH&S standards into account in strategic planning and actively contribute to their effectiveness by supporting employees and communicating with them. ISO 45001 clearly defines the management responsibility in OH&S management to ensure that responsibility is not solely delegated to specific areas of the organization.

**Participation And Consultation:** ISO 45001 requires the participation of employees and their representatives, allowing them to contribute to the decision-making process about OH&S performance and propose changes. The organization must encourage employees to report dangerous situations so that corrective actions can be taken, and employees must be able to communicate and suggest areas for improvement without fear.

### Social Responsibility 8000 (SA 8000): Social Accountability Certification

Like the ISO 45001, SA 8000 also provides an auditable standard to protect employees. However, ISO 45001 focuses more on workplace safety, while SA 8000, which is based on the United Nations Declaration of Human Rights, and other international human rights norms, has a stronger social responsibility branch focusing on themes like child labor, forced or compulsory labor, human trafficking, and discrimination. Nevertheless, the norm also sets standards for topics such as health and safety, working hours, disciplinary practices, remuneration, and freedom of association & right to collective bargaining (meaning that employees shall have the right to form, join and organize trade union(s) and to bargain collectively on their behalf with the organization). Like the ISO 45001, a SA 8000 certification authenticates that the company meets the standards set by the norm.

CORA reports that 67% of its employees are covered by either ISO 45001 or SA 8000 certifications, meaning that 67% of its employees work in facilities that are covered by these standards, whether they are industrial facilities, or other places. CORA actively works to ensure that the standards imposed by these norms are met and, overall, that its employees work in a safe environment and have well-being in the workplace. For instance, the company holds a quarterly occupational safety forum making it possible to share and discuss the best practices in this field and has even created a workplace gymnastics project, since many occupational accidents recorded in the group companies are musculoskeletal, affecting muscles, joints, and bones. This initiative aims to prevent these work-related injuries, improve body posture, concentration, and promote physical activity and a healthy lifestyle. The project focuses on analyzing ergonomic issues of workstations and the individual physical condition of each worker, and then restructuring the layout of activities, and provide workers with training about the most common work-related injuries, risky postural behaviors, individual posture for the elaboration of work tasks with less risk of injury, and an exercise plan. In 2021, workers belonging to the Raw-Materials and Composite Cork BUs participated in these projects. The manual gluing sector begins the shift with a short-term physical activity (5-10 minutes), and considering the positive results, the Cork Stoppers BU also intends to carry out this project. CORA aims to have zero accidents at work by 2024.



## Appendix 11: CAPEX and D&A

CORA does not disclose much information about its CAPEX, so for the forecasted period CAPEX was considered the total of additions to tangible and intangible assets during the year before depreciation and amortization. As stated throughout the report, CAPEX has been decreasing YoY and a minimum maintenance CAPEX investment was considered for the forecasted years, for ongoing improvement, equal to the 2021 percentage of CAPEX over total sales and that the amount allocated to PP&E and intangible assets would be equal to the last 3-year average percentage on total CAPEX.

### CAPEX

in thousand EUR	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F
Total CAPEX	57 191	42 511	41 616	43 139	45 545	48 092	50 790	53 646	56 672
CAPEX as % of Sales	7.32%	5.74%	4.97%	4.97%	4.97%	4.97%	4.97%	4.97%	4.97%
Purchase of PP&E	53 048	36 621	36 017	38 170	40 299	42 553	44 940	47 468	50 145
% of total CAPEX	92.76%	86.14%	86.55%	88.48%	88.48%	88.48%	88.48%	88.48%	88.48%
Purchase of Intangibles	4 143	5 890	5 599	4 969	5 246	5 539	5 850	6 179	6 527
% of total CAPEX	7.24%	13.86%	13.45%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%

Source: Refinitiv Eikon, CORA's 2021 Annual Report & Author's Estimates

### Depreciation and Amortization (D&A)

Investment property, as defined by CORA, includes land and buildings not used in production, registered at acquisition cost plus production and financial costs during construction or installation and subsequently measured at acquisition cost less depreciation and impairment. Methods of depreciation are the same as PP&E, but investment properties are not used in regular activity and are not classified as such. For the forecasted period, no investments are expected and, therefore, investment property decreases YoY, considering amortization. Additionally, a fixed increase of 2 016 thousand euros is considered every year in Rights of Use, to maintain the average increase in this asset registered up until this point.

in Thousand EUR	2022F	2023F	2024F	2025F	2026F	2027F	Assumption
<b>PP&amp;E</b>	<b>283 325</b>	<b>284 613</b>	<b>287 727</b>	<b>292 566</b>	<b>299 044</b>	<b>307 095</b>	$PP\&E_t = PP\&E_{t-1} + CAPEX_t - D\&A_t$
Opening balance (PP&E from t-1)	283 990	283 325	284 613	287 727	292 566	299 044	
Period depreciation	38 835	39 011	39 438	40 102	40 989	42 093	$PP\&E_{t-1} + CAPEX_t * \%D\&A$
%D&A (Last 3Y Average)	12.05%	12.05%	12.05%	12.05%	12.05%	12.05%	
<b>Intangibles</b>	<b>18 569</b>	<b>20 425</b>	<b>22 268</b>	<b>24 115</b>	<b>25 982</b>	<b>27 881</b>	$Intangibles_t = Intangibles_{t-1} + CAPEX_t - D\&A_t$
Opening balance (Int. from t-1)	17 266	18 569	20 425	22 268	24 115	25 982	
Period depreciation	3 665	3 390	3 696	4 003	4 312	4 628	$Intangibles_{t-1} + CAPEX_t * \%D\&A$
%D&A (Last 3Y Average)	16.48%	16.48%	16.48%	16.48%	16.48%	16.48%	
<b>Right of Use (ROU)</b>	<b>5 053</b>	<b>4 361</b>	<b>3 935</b>	<b>3 672</b>	<b>3 509</b>	<b>3 409</b>	$ROU_t = ROU_{t-1} + Increase_t - D\&A_t$
Opening balance (ROU from t-1)	6 173	5 053	4 361	3 935	3 672	3 509	
Period depreciation	3 136	2 707	2 442	2 279	2 178	2 116	$ROU_{t-1} + Increase * \%D\&A$
Yearly increase	2 016	2 016	2 016	2 016	2 016	2 016	
%D&A (Last 3Y Average)	38.30%	38.30%	38.30%	38.30%	38.30%	38.30%	
<b>Investment Property (IP)</b>	<b>5 221</b>	<b>5 132</b>	<b>5 045</b>	<b>4 959</b>	<b>4 875</b>	<b>4 792</b>	$IP_t = IP_{t-1} + Investment_t - D\&A_t$
Opening balance (IP from t-1)	5 311	5 221	5 132	5 045	4 959	4 875	
Period depreciation	90	89	87	86	84	83	$IP_{t-1} + Investment * \%D\&A$
%D&A (Last 3Y Average)	1.70%	1.70%	1.70%	1.70%	1.70%	1.70%	
<b>Total D&amp;A</b>	<b>45 726</b>	<b>45 733</b>	<b>46 159</b>	<b>46 931</b>	<b>47 999</b>	<b>49 333</b>	

Source: Refinitiv Eikon, CORA's 2021 Annual Report & Author's Estimates

## Appendix 12: Payout Policy

Historically, CORA maintained a stable payout policy, with the payout ratio only experiencing an accentuated decrease in 2020, going from 48% in 2019 to 38% in 2020, with the company deciding to retain more earnings due to the unstable situation lived due to the pandemic. For the forecasted period, it was assumed that the company would keep its payout ratio at 48.5%, the average value observed between 2017-2021 (excluding 2020). This payout would translate into an increase in dividend per share (DPS), since earnings are forecasted to grow, and the number of shares will remain the same.

<b>in Thousand EUR</b>	<b>2022F</b>	<b>2023F</b>	<b>2024F</b>	<b>2025F</b>	<b>2026F</b>	<b>2027F</b>
Net Income	69 202	74 400	79 927	85 574	91 393	97 426
# Shares	133 000	133 000	133 000	133 000	133 000	133 000
Dividends	33 553	36 073	38 753	41 491	44 312	47 237
EPS	0.52	0.56	0.60	0.64	0.69	0.73
DPS	0.25	0.27	0.29	0.31	0.33	0.36
Payout ratio	48.5%	48.5%	48.5%	48.5%	48.5%	48.5%

*Source: Author's Estimates*

## Appendix 13: WACC Assumptions

### Cost of equity (Ke)

The cost of equity (Ke) was calculated using the Capital Asset Pricing Model (CAPM), with adjustments for Market Risk Premium (MRP). Since 93% of CORA's revenues are made outside of Portugal, a Country Risk Premium (CRP) was not used, even though the company is headquartered in Portugal and its activity is obviously affected by Portugal related risks and the Portuguese law, it was assumed that including the MRP for Portugal already reflected the risk faced by the company.

$$K_e = RFR + \beta * (MRP)$$

**Risk-Free Rate (RFR):** It was considered the forecasted yield for the German 10Y Government Bond for the next twelve months, retrieved from Trading Economics on April 2023.

**Beta ( $\beta$ ):** The beta for CORA results from the Blume Adjustment to the beta, reached through a regression between CORA's and PSI20's weekly returns, from January 30th, 2021, until January 30th, 2023. Considering peer companies or industry betas wouldn't give an accurate beta since the company fits into the Forest and Wood Products industry, but there are not directly comparable firms within the industry, with OENEO being the only publicly traded cork manufacturer.

**MRP:** Except for Portugal and the USA, CORA doesn't disclose the percentage of its sales by country, but by geographical areas. Therefore, a group of countries that have a significant impact and weight on CORA's total sales was selected, considering information from the 2021 Annual Report and the average MRP for each geographic area was computed, using the individual Equity Risk Premium (ERP) for each country chosen, retrieved from Professor Aswath Damodaran's website. Lastly, the average MRP for each area was multiplied by the area's weight on total sales.

Area	MRP	Area	%Sales	MRP (Area)	MRP (Weighted)
<b>Portugal</b>	<b>9.23%</b>	Portugal	7.1%	9.23%	0.66%
<b>EU, Norway and Switzerland</b>	<b>6.84%</b>	Rest of European Union*	59.9%	6.84%	4.10%
Denmark	5.94%	Other European Countries	3.6%	7.19%	0.26%
Finland	6.63%	United States	16.9%	5.94%	1.00%
France	6.79%	Other American Countries	6.9%	13.33%	0.92%
Germany	5.94%	Australia and Asia	4.3%	5.94%	0.26%
Italy	9.73%	Africa	1.4%	11.13%	0.16%
Norway	5.94%	Total	100%		7.35%
Spain	8.70%	*Includes Switzerland and Norway			
Sweden	5.94%	<i>Source: CORA's 2021 Annual Report &amp; Author's Calculations</i>			
Switzerland	5.94%				
<b>Other European Countries</b>	<b>7.19%</b>				
Iceland	7.40%				
United Kingdom	6.97%				
<b>USA</b>	<b>5.94%</b>				
<b>Other American Countries</b>	<b>13.33%</b>				
Argentina	26.65%				
Chile	7.40%				
Canada	5.94%				
<b>Australia and Asia</b>	<b>5.94%</b>				
Australia	5.94%				
<b>Africa</b>	<b>11.13%</b>				
South Africa	11.13%				

*Source: Country Default Spreads and Risk Premiums (Damodaran Online)*

## Cost of Debt

To compute the Cost of Debt (Kd), a synthetic rating was estimated to arrive at a spread over the RFR. With an interest coverage ratio over 8.5, CORA has an AAA rating, which gives a 0.69% spread.

$$Kd = RFR + \text{Spread}$$

in Thousand EUR	2017	2018	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F
EBIT	101 554	103 198	88 163	80 149	88 754	106 146	114 610	123 152	131 878	140 867	150 185
Interest Expense	1 093	3 171	1 430	1 729	1 212	1 403	1 934	2 040	2 153	2 274	2 404
Interest Coverage (x)	92.91	32.54	61.65	46.36	73.23	75.64	59.25	60.37	61.25	61.93	62.47

Source: Refinitiv Eikon (2017-2021) & Author's Estimates (2022-2027)

For large manufacturing firms		
Interest coverage ratio	Rating	Spread
>8.5	Aaa/AAA	0.69%
6.5-8.5	Aa2/AA	0.85%
5.5-6.5	A1/A+	1.07%
4.25-5.5	A2/A	1.18%
3-4.25	A3/A-	1.33%
2.5-3	Baa2/BBB	1.71%
2.25-2.5	Ba1/BB+	2.31%
2-2.25	Ba2/BB	2.77%
1.75-2	B1/B+	4.05%
1.5-1.75	B2/B	4.86%
1.25-1.5	B3/B-	5.94%
0.8-1.25	Caa/CCC	9.46%
0.65-0.8	Ca2/CC	9.97%
0.2-0.65	C2/C	13.09%
<0.2	D2/D	17.44%

Source: Inputs for synthetic rating estimation (ratings.xls)  
(Damodaran Online)

## Appendix 14: WACC

The WACC is the same every year since a target debt-to-equity (D/E) of 0.31x was used, assuming the average D/E from the past 5 years, which translates into an increase from the 2021 D/E (0.25x), since debt is expected to increase as the company has been increasing its debt, especially by emitting commercial paper.

$$WACC = \frac{E}{E + D} \times Ke + \frac{D}{E + D} \times Kd \times (1 - \text{Tax Rate } (t))$$

WACC Component	Rate	Assumption
Risk-Free Rate (RFR)	2.84%	Forward yield of Germany's 10-year government bond
Market Risk Premium (MRP)	7.35%	Weighted average of the MRP for CORA's main markets
Beta ( $\beta$ )	0.73	Adjusted beta from covariance between CORA's and PSI20's returns
Cost of Equity	8.21%	Calculated using CAPM
Spread	0.69%	Based on AAA synthetic rating
Cost of Debt	3.53%	Risk-free rate plus a spread of 0.69% (based on AAA synthetic rating)
Tax Rate	31.50%	Tax rate (21%), Santa Maria da Feira's surtax (1.5%) and state surtax (9%)
After-tax Cost of Debt	2.42%	Cost of Debt*(1-Tax Rate)
WACC	6.85%	It was used a target D/E of 0.31x

Source: Trading Economics, Country Default Spreads and Risk Premiums (Damodaran Online), Inputs for synthetic rating estimation (ratings.xls) (Damodaran Online), PWC Tax Summaries (Portugal) & Author's Calculations

## Appendix 15: Terminal Growth Rate

The expected growth rate in operating income (EBIT) for the terminal period was based on a function between the Return on Capital (ROC) and the Reinvestment Rate between the forecasted period of 2023-2027.

*Expected growth rate (g) = Reinvestment Rate x ROC*

$$\text{Reinvestment Rate} = \frac{(\text{Net CAPEX} + \Delta \text{Net Working Capital (NWC)})}{\text{EBIT} (1 - t)}$$

	2023F	2024F	2025F	2026F	2027F
CAPEX (th EUR)	45 545	48 092	50 790	53 646	56 672
Net Capex	-188	1 933	3 859	5 647	7 339
Reinvestment rate	30.75%	32.83%	34.47%	35.79%	36.88%
ROC	8.09%	8.23%	8.35%	8.44%	8.51%
g	2.49%	2.70%	2.88%	3.02%	3.14%

*Source: Author's Estimates*

Considering the results, a terminal growth rate of 3% was considered, which is believed to be sustainable and in accordance with the fact that CORA is a mature company, with an undeniable leadership position and resilience, since the company has systematically shown its capacity to maintain good revenues and profits, even though unfavorable economic periods.

## Appendix 16: FCFF Valuation

*FCFF = EBIT(1 - t) + D&A - ΔNWC - CAPEX*

$$\text{Terminal Value (TV)} = \frac{[\text{FCFF}_{2027} \times (1 + g)]}{\text{WACC} - g}$$

The terminal value was discounted at the same WACC rate as the FCFF.

	2023F	2024F	2025F	2026F	2027F
CAPEX (th EUR)	45 545	48 092	50 790	53 646	56 672
Net Capex	-188	1 933	3 859	5 647	7 339
Reinvestment rate	30.75%	32.83%	34.47%	35.79%	36.88%
ROC	8.09%	8.23%	8.35%	8.44%	8.51%
g	2.49%	2.70%	2.88%	3.02%	3.14%

in Thousand EUR	2023F	2024F	2025F	2026F	2027F	TV
EBIT (1-t)	78 508	84 359	90 336	96 494	102 877	
D&A	45 733	46 159	46 931	47 999	49 333	
NWC	466 599	492 363	519 645	548 538	579 138	
Δ NWC	24 333	25 764	27 282	28 892	30 600	
CAPEX	45 545	48 092	50 790	53 646	56 672	
FCFF	54 363	56 663	59 196	61 954	64 937	1 739 425

**Perpetual Growth Rate (g) 3%**

**Enterprise Value 1 509 063**

- Net Debt	53 899
Equity Value	1 455 163
Shares outstanding	133 000
Price at 2023YE	€ 10.94

*Source: Author's Estimates*

## Appendix 17: Relative Valuation

In relative valuation, the estimated value is based on the pricing of comparable assets relative to a common variable. Relative valuation requires choosing a measure of value, calculating price multiples for comparable firms, and applying the comparable firm multiple to the measure of the firm being analyzed. As stated before, the only company used in relative valuation is OENEO, S.A. and the multiples used were price/earnings, price/sales, price/book, EV/EBITDA, and EV/Sales.

### Price Multiples

P/E		Price/Sales		P/B	
P/E Peer	19.20	Price/Sales Peer	2.32	P/B Peer	2.36
CORA's Earnings	74 400	CORA's Sales	916 912	CORA's Book Value	741 309
Equity Value	1 428 481	Equity Value	2 127 236	Equity Value	1 749 489
Shares Outstanding	133 000	Shares Outstanding	133 000	Shares Outstanding	133 000
<b>Price Target</b>	<b>10.74</b>	<b>Price Target</b>	<b>15.99</b>	<b>Price Target</b>	<b>13.15</b>

Source: Refinitiv Eikon & Author's Estimates

### Enterprise Value (EV) Multiples

EV/EBITDA		EV/Sales	
EV/EBITDA Peer	10.96	EV/Sales Peer	2.38
CORA's EBITDA	160 343	CORA's Sales	916 912
CORA's EV	1 757 362	CORA's EV	2 182 251
Net Debt	53 899	Net Debt	53 899
Equity Value	1 703 463	Equity Value	2 128 352
Shares Outstanding	133 000	Shares Outstanding	133 000
<b>Price Target</b>	<b>12.81</b>	<b>Price Target</b>	<b>16.00</b>

Source: Refinitiv Eikon & Author's Estimates

## REFERENCES

- 100% Cork. (2021, December 28). *Survey reveals that cork closures seal 91 percent of the world's top wines*. Retrieved from <https://100percentcork.org/survey-reveals-that-cork-closures-seal-91-percent-of-the-worlds-top-wines/>
- 100% Cork. (2022, September 21). *New study reveals that cork plays a central role in the perceived quality of a wine*. Retrieved from <https://100percentcork.org/new-study-reveals-that-cork-plays-a-central-role-in-the-perceived-quality-of-a-wine/>
- 100% Cork. (n.d.). *Why 100% cork? - Best for wine*. Retrieved March 21, 2023, from <https://100percentcork.org/why-cork/best-for-wine/>
- Amorim Cork. (n.d.). *Why cork*. Retrieved March 25, 2023, from <https://www.amorimcork.com/en/cork/why-cork/>
- Amorim Cork. (n.d.). *Cork vs artificial closures*. Retrieved April 4, 2023, from <https://www.amorimcork.com/en/cork-and-wine/cork-vs-artificial-closures/>
- Amorim Top Series. (2021, July 14). *Capsulated cork stoppers are the perfect choice for a spirits market, increasingly dependent on e-commerce, premiumization, sustainability and innovative packaging design*. Retrieved from <https://www.amorimtopseries.com/en/news/>
- Associação Portuguesa da Cortiça. (2014, June 25). *Cork stopper is the preferred closure for chinese wine consumers*. APCOR. Retrieved from <https://www.apcor.pt/en/media-center/news-post/cork-stopper-is-the-preferred-closure-for-chinese-wine-consumers/>
- Associação Portuguesa da Cortiça. (2017, September 26). *American wine consumers overwhelmingly prefer cork closures*. APCOR. Retrieved from <https://www.apcor.pt/en/media-center/news-post/american-wine-consumers-overwhelmingly-prefer-cork-closures/>
- Associação Portuguesa da Cortiça. (n.d.). *Forest*. APCOR. Retrieved March 27, 2023 from <https://www.apcor.pt/en/montado/forest/>
- Associação Portuguesa da Cortiça. (2015, August 20). *Cork Supply Portugal*. APCOR. Retrieved from <https://www.apcor.pt/entrevista-cork-supply-portugal/>
- Associação Portuguesa da Cortiça. (2021). *APCOR year book 2020*. Retrieved from [https://www.apcor.pt/wp-content/uploads/2021/08/Cork\\_BoletimEstatistico\\_APCOR\\_2020.pdf](https://www.apcor.pt/wp-content/uploads/2021/08/Cork_BoletimEstatistico_APCOR_2020.pdf)
- Associação Portuguesa da Cortiça. (2022). *Boletim estatístico 2º trimestre 2022*. Retrieved from [https://www.apcor.pt/wp-content/uploads/2022/10/Boletim\\_Trimestral\\_13\\_2022.pdf](https://www.apcor.pt/wp-content/uploads/2022/10/Boletim_Trimestral_13_2022.pdf)
- Associação Portuguesa da Cortiça. (2022). *Boletim estatístico 3º trimestre 2022*. Retrieved from [https://www.apcor.pt/wp-content/uploads/2023/01/Boletim\\_trimestral\\_14\\_2023.pdf](https://www.apcor.pt/wp-content/uploads/2023/01/Boletim_trimestral_14_2023.pdf)
- Associação Portuguesa da Cortiça. (2022). *Boletim estatístico anual 2021*. Retrieved from [https://www.apcor.pt/wp-content/uploads/2022/04/apcor\\_boletim\\_trimestral\\_11\\_2022\\_web.pdf](https://www.apcor.pt/wp-content/uploads/2022/04/apcor_boletim_trimestral_11_2022_web.pdf)
- Associação Portuguesa da Cortiça. (n.d.). *Cork oak*. APCOR. Retrieved November 9, 2022 from <https://www.apcor.pt/en/montado/cork-oak/>

- Associação Portuguesa da Cortiça. (n.d.). *Cork stoppers*. APCOR. Retrieved November 10, 2022 from <https://www.apcor.pt/en/products/cork-stoppers/>
- Aswani, S. (2022, October 5). *English sparkling wine prospers but needs to win the celebratory occasion*. Wine Intelligence. Retrieved from <https://www.wineintelligence.com/english-sparkling-wine-prospers-but-needs-to-win-the-celebratory-occasion/>
- Aswani, S. (2022, November 2). *Growing wine confidence amongst Italian wine drinkers*. Wine Intelligence. Retrieved from <https://www.wineintelligence.com/growing-wine-confidence-amongst-italian-wine-drinkers/>
- Aswani, S. (2022, September 7). *Premiumisation and sparkling wines compensate for shrinking Dutch wine population*. Wine Intelligence. Retrieved from <https://www.wineintelligence.com/premiumisation-and-sparkling-wines-compensate-for-shrinking-dutch-wine-population/>
- Aswani, S. (2022, October 26). *Still wine needs to look to the success of sparkling wine in Norway*. Wine Intelligence. Retrieved from <https://www.wineintelligence.com/still-wine-needs-to-look-to-the-success-of-sparkling-wine-in-norway/>
- Clements, K. W., Mariano, M. J., Verikios, G., & Wong, B. (2022). How elastic is alcohol consumption? *Economic Analysis and Policy*, 76, 568-581. <https://doi.org/10.1016/j.eap.2022.09.003>
- Construction market 2023-2027: A descriptive analysis of five forces model, market dynamics, and segmentation - Technavio. (2023, January 6). *PR Newswire*. Retrieved from <https://www.prnewswire.com/news-releases/construction-market-2023-2027-a-descriptive-analysis-of-five-forces-model-market-dynamics-and-segmentation—technavio-301711922.html>
- Cork Quality Council. (2022). *Cork finished brands continue sales success*. Retrieved from [https://cdn.shopify.com/s/files/1/1158/6548/files/2XSales\\_by\\_Closure2022.pdf?v=1643612278](https://cdn.shopify.com/s/files/1/1158/6548/files/2XSales_by_Closure2022.pdf?v=1643612278)
- Cork Quality Council. (2023). *Screening for TCA with group cork soaks*. Retrieved from [https://cdn.shopify.com/s/files/1/1158/6548/files/SPME-Screening\\_for\\_TCA2023.pdf?v=1674079994](https://cdn.shopify.com/s/files/1/1158/6548/files/SPME-Screening_for_TCA2023.pdf?v=1674079994)
- Cork Quality Council. (n.d.). *Industry statistics*. Retrieved February 27, 2023, from <https://www.corkqc.com/pages/industry-statistics>
- Corticeira Amorim. (2021). *Articles of association*. Retrieved from <https://www.amorim.com/en/investors/corporate-governance/corporate-regulation-and-policies/>
- Corticeira Amorim. (2022). *Circular Economy*. Amorim. Retrieved November 1, 2022, from <https://www.amorim.com/en/>
- Corticeira Amorim. (2022). *Consolidated annual report 2021*. Retrieved from <https://www.amorim.com/en/investors/financial-information/annual-report/>
- Corticeira Amorim. (2022). *Corporate governance report 2021*. Retrieved from <https://www.amorim.com/en/investors/corporate-governance/corporate-governance-report/>
- Corticeira Amorim. (2022). *Corticeira Amorim consolidated financial statements June 30, 2022*. Retrieved from



[https://www.amorim.com/xms/files/Investidores/Outros\\_Relatorios/Corticeira\\_Amorim\\_-\\_RC\\_1S2022\\_-\\_EN.pdf](https://www.amorim.com/xms/files/Investidores/Outros_Relatorios/Corticeira_Amorim_-_RC_1S2022_-_EN.pdf)

- Corticeira Amorim. (2022, April). *Corticeira Amorim: Profile* [PowerPoint Slides]. Amorim Cork Composites. Retrieved from [https://amorimcorkcomposites.com/media/8390/amorim\\_profile\\_2022\\_sv.pdf](https://amorimcorkcomposites.com/media/8390/amorim_profile_2022_sv.pdf)
- Corticeira Amorim. (n.d.). *About us*. Amorim. Retrieved November 1, 2022, from <https://www.amorim.com/en/corticeira-amorim/about-us/>
- Corticeira Amorim. (n.d.). *Business*. Amorim. Retrieved November 1, 2022, from <https://www.amorim.com/en/business/overview/>
- Corticeira Amorim. (n.d.). *Circular Economy*. Amorim. Retrieved November 1, 2022, from <https://www.amorim.com/en/sustainability/environmental/circular-economy/4335/>
- Corticeira Amorim. (n.d.). *Corporate milestones*. Amorim. Retrieved November 25, 2022, from <https://www.amorim.com/en/corticeira-amorim/corporate-milestones/>
- Corticeira Amorim. (n.d.). *Governance model*. Amorim. Retrieved April 6, 2023 from <https://www.amorim.com/en/investors/corporate-governance/governance-model/>
- Corticeira Amorim. (n.d.). *Recycling*. Amorim. Retrieved November 1, 2022, from <https://www.amorim.com/en/sustainability/environmental/recycling/4301/>
- Corticeira Amorim. (n.d.). *Shareholder structure*. Amorim. Retrieved April 6, 2023, from <https://www.amorim.com/en/investors/corticeira-amorim-share/shareholder-structure/>
- Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset, university edition* (3rd ed.). John Wiley & Sons.
- Damodaran, A. (2023, January 5). *Country default spreads and risk premiums*. Home Page for Aswath Damodaran - NYU Stern. Retrieved February 1, 2023, from [https://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/ctryprem.html](https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html)
- Damodaran, A. (2023). *Inputs for synthetic rating estimation (ratings.xls)* [spreadsheet]. Home Page for Aswath Damodaran - NYU Stern. Retrieved January 10, 2023, from <https://pages.stern.nyu.edu/~adamodar/>
- de Castro, A., Avillez, F., Rodrigues, V., da Silva, F. G., Santos, F., Rebelo, F., Jorge, M. N., & Aires, N. (2020). *A fileira da cortiça: Da floresta ao consumidor*. Associação Portuguesa da Cortiça. Retrieved from [https://www.apcor.pt/wp-content/uploads/2020/12/APCOR\\_estudo\\_caraterizacao\\_2020.pdf](https://www.apcor.pt/wp-content/uploads/2020/12/APCOR_estudo_caraterizacao_2020.pdf)
- Exportações de cortiça conseguem máximo histórico de 1212 milhões de euros em 2022. (2023, February 12). *Dinheiro Vivo*. Retrieved from <https://www.dinheirovivo.pt/economia/exportacoes-de-cortica-conseguem-maximo-historico-de-1212-milhoes-de-euros-em-2022-15826520.html>
- Felismino, E. (2017, February 12). *MASilva produz rolhas de cortiça para o mundo*. ECO Sapo. Retrieved from <https://eco.sapo.pt/2017/02/12/masilva-produz-rolhas-de-cortica-para-o-mundo/>
- Global wine market to reach \$528.3 billion by 2030. (2023, March 10). *PR Newswire*. Retrieved from <https://www.prnewswire.com/news-releases/global-wine-market-to-reach-528-3-billion-by-2030-301767903.html>

- International Monetary Fund. (2022). *World economic outlook, October 2022*. Retrieved from <https://www.imf.org/en/Publications/WEO/Issues/2022/10/11/world-economic-outlook-october-2022>
- International Monetary Fund. (2023). *World economic outlook update, January 2023*. Retrieved from <https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023>
- International Organisation of Vine and Wine. (2022). *State of the world vine and wine sector 2021*. Retrieved from [https://www.oiv.int/sites/default/files/documents/eng-state-of-the-world-vine-and-wine-sector-april-2022-v6\\_0.pdf](https://www.oiv.int/sites/default/files/documents/eng-state-of-the-world-vine-and-wine-sector-april-2022-v6_0.pdf)
- International Organisation of Vine and Wine. (2022). *World wine production outlook: OIV first estimates*. Retrieved from [https://www.oiv.int/sites/default/files/documents/EN\\_OIV\\_2022\\_World\\_Wine\\_Production\\_Outlook.pdf](https://www.oiv.int/sites/default/files/documents/EN_OIV_2022_World_Wine_Production_Outlook.pdf)
- International Wine and Spirit Research. (2022). *Premiumisation continues across beverage alcohol, but shows signs of slowing down in Q4 2022 onwards*. Retrieved from <https://www.theiwsr.com/wp-content/uploads/Premiumisation-continues-across-beverage-alcohol-but-shows-signs-of-slowing-down-in-Q4-2022-onwards.pdf>
- Jackson, C. (2021, December 15). *What is sustainable construction?* Construction 21 International. Retrieved from <https://www.construction21.org/articles/h/what-is-sustainable-construction.html>
- Leithead, A. (2022, October 14). *Why cork is making a comeback*. BBC. Retrieved from <https://www.bbc.com/future/article/20221013-why-the-humble-wine-cork-is-being-reinvented>
- OENEO. (2022). *2021-2022 annual results*. Retrieved from <https://oeneo.com/en/investors/#block-publications>
- Ofício Circulado N.º 20237, de 27 de Janeiro de 2022: IRC - Taxas de derrama incidentes sobre o lucro tributável do período fiscal de 2021. (2022). Autoridade Tributária e Aduaneira.
- PWC Worldwide Tax Summaries. (2023, January 3). *Portugal: Corporate - Taxes on corporate income*. Retrieved from <https://taxsummaries.pwc.com/portugal/corporate/taxes-on-corporate-income>
- Reynolds, D., Rahman, I., Bernard, S., & Holbrook, A. (2018). What effect does wine bottle closure type have on perceptions of wine attributes? *International Journal of Hospitality and Management*, 75, 171-178. <https://doi.org/10.1016/j.ijhm.2018.05.023>
- Social Accountability International. (2014). *Social accountability 8000: International standard*. Retrieved from <https://sa-intl.org/wp-content/uploads/2020/02/SA8000Standard2014.pdf>
- Société Générale de Surveillance (SGS). (n.d.). *ISO 45001: Sistemas de gestão e segurança ocupacionais*. Retrieved May 9, 2023, from <https://www.sgs.pt/pt-pt/sustainability/social-sustainability/audit-certification-and-verification/iso-45001-occupational-health-and-safety-management-systems-ohsms>
- Sousa, J. (2014, December). *Estimation of price elasticities of demand for alcohol in the United Kingdom* (HM Revenue and Customs Working Paper No. 16). Retrieved from <https://www.gov.uk/government/publications/estimation-of-price-elasticities-of-demand-for-alcohol-in-the-uk>

- Trading Economics. (n.d.). *Germany Government Bond 10Y*. Retrieved April 3, 2023, from <https://tradingeconomics.com/germany/government-bond-yield>
- Yahoo Finance. (2023). *Corticeira Amorim, S.G.P.S., S.A. (COR.LS) - Historical Data*. Retrieved April 5, 2023, from <https://finance.yahoo.com/quote/COR.LS/history?p=COR.LS>
- Yahoo Finance. (2023). *Corticeira Amorim, S.G.P.S., S.A. (COR.LS) - Summary*. Retrieved April 8, 2023, from <https://finance.yahoo.com/quote/COR.LS?p=COR.LS>
- Yahoo Finance. (2023). *PSI (PSI20.LS) - Historical Data*. Retrieved April 5, 2023, from <https://finance.yahoo.com/quote/PSI20.LS/history?p=PSI20.LS>