Equity Valuation of Heineken N.V.

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Abstract

In this dissertation, Heineken's fair value per share, as of 31st December 2024 was estimated and compared with its actual market share price, as of 31st March 2023. Hereby, this thesis aims to provide an investment recommendation, of whether to buy, hold or sell a stock position in the company, in relation with the market price. By first studying the different commonly used valuation models, the WACC-based DCF was selected as the main and most suitable one for valuing Heineken. Moreover, a relative valuation was also performed in order to compare the results obtained with the DCF analysis. The DCF valuation delivered a target share price of €136.4. This obtained target share price, in comparison with the actual market share price of €99.1, as of 31st March 2023, results in an estimated upside potential of +37.6%. Hence, a Buy recommendation to Heineken's share is recommended. The outputs obtained from the relative valuation also supported this recommendation. Finally, the conclusions and assumptions used in this thesis were compared with the ones from an equity investment report, J.P.Morgan. The results between both and respective investment recommendation differed, as J.P.Morgan obtained a target share price of €100, as of 31st December 2024, providing a neutral recommendation. The different fair prices are the reflection of different assumptions made in the computations of certain forecasts, between this dissertation and J.P.Morgan, as the last presented a more conservative position.

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Keywords: Beer and cider Industry, Equity Research, Target Share Price, DCF, Heineken N.V.

Resumo

Nesta dissertação, o valor teórico por ação da Heineken, à data de 31 de Dezembro de 2024, foi estimado e comparado face ao seu valor de mercado, à data de 31 de Março de 2023. Assim, o objetivo desta tese é fornecer uma recomendação de compra, neutra ou de venda da posição nesta empresa, em comparação ao seu preço de mercado. Após o estudo dos diferentes modelos de avaliação, usados mais frequentemente, a avalição DCF baseada no WACC foi selecionada como sendo a principal e mais apropriada para a Heineken. Adicionalmente, uma avalição através de múltiplos foi realizada, de modo a comparar os resultados obtidos com os da avaliação DCF. Obteve-se, através da avaliação DCF, um preço alvo de €136.4. Este preço, em relação ao preço de mercado de €99.1, à data de 31 de Março de 2023, resulta num retorno estimado de +37.6%. Assim, uma recomendação de compra é dada para as ações da Heineken. Os resultados da avaliação relativa também suportam esta recomendação. Por último, as conclusões e pressupostos desta dissertação foram comparados com os de um report publicado por J.P. Morgan. Os resultados entre os dois, e respectivas recomendações foram distintas, uma vez que J.P.Morgan obteve um preço alvo de €100, à data de 31 de dezembro de 2024, emitindo uma recomendação neutra. Os diferentes preços-alvos são o reflexo de diferentes pressupostos realizados no cálculo de certas previsões, entre esta dissertação e o report da J.P Morgan, apresentando este último uma posição mais conservadora.

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List of Abbreviations

AMEE	Africa, Middle East and Eastern Europe
APV	Adjusted present value
AR	Annual Report
ARs	Annual Reports
CAGR	Compounded annual growth rate
CAPEX	Capital Expenditures
CAPM	Capital asset pricing model
CCC	Cash Conversion cycle
CF	Cash Flow
D	Market Value of Debt
DCF	Discounted cash flow
DDM	Dividend discount model
DCI	Days Inventory Outstanding
D/E	Debt-to-Equity Ratio
D/V	Debt-to-Value Ratio
D&A	Depreciation and amortization
DTA	Deferred tax assets
DTL	Deferred tax liabilities
DPO	Days payable outstanding
DSO	Days sales outstanding
E	Market Value of Equity
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciations and amortizations
EPS	Earnings per share
EUR	Euro
E/V	Equity-to-Value Ratio
EV	Enterprise Value
EVA	Economic Value Added
FCFE	Free cash flow to the equity
FCFF	Free cash to the firm
FTEE	Full time equivalent employees
GDP	Gross domestic product
Hl	hectolitres
HO&OE	Head Office & Other/Eliminations
IA	Intangible Assets
IA&JV	Investments in associates and joint ventures
Mhl	Millions of hectoliters
MRP	Market Risk Premium
MVD	Market Value of Debt

NCI	Non-Controlling Interests
NOPLAT	Net operating profit less adjusted taxes
OWC	Operating working capital
PE	Personnel Expenses
PGR	Perpetuity growth rate
PPE	Plant, property and equipment
PV	Present Value
RMC&S	Raw materials, consumables & Services
ROE	Return on equity
ROIC	Return on invested capital
ROU	Right of Use
RV	Relative Valuation
TRE	Thomson Reuters Eikon
TSP	Target Share Price
TV	Terminal Value
WACC	Weighted average cost of capital
YTM	Yield to maturity

1. Introduction

The purpose of this dissertation is to estimate, as of 31st December 2024, Heineken's fair value per share, and compare it with its actual market share price, as of 31st March 2023. Hereby, an investment recommendation, of whether to buy, hold or sell a stock position in the company, is aimed to be answered by this thesis.

The dissertation is divided into five sections. First, a literature review is performed, to describe the most used and important valuation methods, as well as other crucial concepts regarding equity valuation. Afterwards, an overview of the industry in which Heineken operates, as well as Heineken's strategy and historical financial performance are conducted.

Next, assumptions and computations regarding Heineken's forecasts, to obtain its intrinsic value, are conducted. A WACC-based Discounted Cash flow (DCF), sensitivity analysis and relative valuation (RV) are performed. Finally, the results obtained from the DCF valuation are compared with the ones from an equity research report, to study and compare possible discrepancies between them.

2. Literature Review

The objective of this section is to provide an overview of the most common valuation methods that exist. The main relevant papers that have been published in this field will be presented, in order to provide a clearer analysis.

2.1 Introduction to Valuation

From Portfolio management, to mergers and acquisitions or corporate finance, valuation is crucial in the Finance field. As stated by Damodaran (2006, page 3) "Understanding what determines the value of a firm and how to estimate that value seems to be a prerequisite for making sensible decisions".

Valuation can be defined as the "estimation of an asset's value based on variables perceived to be related to future investment returns, on comparisons with similar assets or, when relevant, on estimates of immediate liquidation proceeds" (Pinto et al., 2015, page 2). Valuation is not an objective process, as any biases and assumptions an analyst has will be reflected in the value reached (Damodaran, 2012).

Numerous valuation models exist, but there are only two valuation methods: intrinsic and relative. For any asset, its intrinsic value is determined by the expected cash flows that the asset will generate over its life, and how uncertain one feels about these cash flows. However, most assets are valued relative to one another (Damodaran 2011).

A security's market price can differ from its intrinsic value, when it comes to publicly traded securities (Pinto et al., 2015). Hence, for an investor, the estimation of an asset's intrinsic value reflects her or his perspective of the "real" or "correct" value of it (Pinto et al., 2015). Consequently, "analysts often view market prices both with respect and with skepticism. They seek to identify mispricing (a difference between the estimated intrinsic value and the market price of an asset)", as stated by Pinto et al. (2015, page 3).

Analysts use a variety of models, from the basic to the complex. Overall, there are three general approaches to valuation: DCF valuation, RV and Contingent claim valuation. Depending on the approached used, the valuation outcome may differ (Damodaran, 2012).

2.2 Discounted Cash Flows Valuation

According to Damodaran (2012, page 35), the DCF valuation (or intrinsic valuation) "relates the value of an asset to the present value (PV) of expected future cash flows on that asset". This cash flows change, depending on the asset being valued.

By applying equation (1), the PV of an asset can be estimated. The Free cash flow of a firm are often forecasted over a five-year period in a DCF. However, depending on the industry, stage of development, and inherent predictability of the firm's financial performance, the projection period might be longer. Hence, is fundamental to project FCF to a time in the future when the target's financial performance achieves a steady state (Rosenbaum & Pearl, 2013).

The discount rate will vary depending on how risky the predicted cash flows are, with lower rates for safer projects and higher rates for riskier assets. Furthermore, since it is impossible to forecast cash flows forever, the DCF valuation often ends by terminating the projection of cash flows at some point in the future, and then calculating a terminal value that captures the firm's value at that moment (Damodaran, 2012).

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

Where:

- n = Life of the Asset
- CF_t = Cash flow in period t
- r = Discount rate
- TV = Terminal Value in perpetuity of the Firm

The DCF method works well for firms whose cash flows are positive, can be reasonably predicted for the future, and have a risk proxy that can be utilized to calculate discount rates. Moreover, in a general way, DCF models can be differentiated between Firm Valuation and Equity Valuation (Damodaran, 2012).

2.2.1 Firm Valuation

2.2.1.1 Free Cash Flow to Firm (FCFF)

According to Pinto et al. (2015, page 297), "Free cash flow to the firm is the cash flow available to the company's suppliers of capital after all operating expenses (including taxes) have been paid and necessary investments in working capital (e.g., inventory) and fixed capital (e.g., equipment) have been made". EBIT is often used as a starting point for determining FCF in a DCF analysis. The marginal tax rate, depreciation & amortization (D&A), capital expenditures (CAPEX), and changes in working capital are other elements that must be evaluated in order to bridge from EBIT to FCF (Rosenbaum & Pearl, 2013). FCFF are computed based on equation (2). Only the portion of operating cash flow that remains after such reinvestment is "free" (Pinto et al., 2015):

$$FCFF = EBIT * (1 - Tax\ rate) + D\&A - \Delta Working\ Capital - CAPEX \qquad (2)$$

This cash flow is frequently referred to as an unlevered cash flow because it occurs before debt payments. Tax advantages associated with interest payments are not included in this firm free cash flow. By discounting the firm's free cash flow at the weighted average cost of capital (WACC), the value of the company is determined. Hence, the enterprise value (EV) can be computed by using equation (3), in which is assumed that the firm achieves a steady state after n years and begins to grow at a constant growth rate (g) (Damodaran, 2012).

$$Value\ of\ firm = \sum_{t=1}^{t=n} \frac{FCFF_t}{(1+WACC)^t} + \frac{TV_n}{(1+WACC)^n} \qquad (3)$$

Where:

- $FCFF_t$ = Free cash flow to firm in year t
- $WACC$ = Weighted average cost of capital
- TV_n = Projection Period's Terminal year

The value of equity is computed as the difference between the value of the firm minus the market value of debt (MVD). The value per share is obtained by equation 5.

$$Equity\ value = Value\ of\ firm - Market\ value\ of\ debt \qquad (4)$$

$$Value\ per\ share = \frac{Equity\ Value}{\#Shares\ Outstanding} \quad (5)$$

2.2.2 Equity Valuation

2.2.2.1 Free Cash Flow to Equity (FCFE)

According to Pinto et al. (2015, page 297), "Free cash flow to equity is the cash flow available to the company's holders of common equity after all operating expenses, interest, and principal payments have been paid and necessary investments in working and fixed capital have been made".

Since they reflect outflows, any capital expenditures, broadly defined to include acquisitions, are deducted from the net income. On the other hand, since depreciation and amortization are accounting expenses rather than cash expenses, they are added back in (Damodaran, 2012).

Net capital expenditures, which is computed as the difference between capital expenditures and depreciation, reflects long-term assets' investment. The change in noncash working capital determines what a company is reinvesting in its short-term assets (inventory, accounts receivable, etc.). As such, the total reinvestment is obtained by adding the net capital expenditures to the change in non-cash working capital (Damodaran, 2011). Finally, the cash flow effects of changes in debt can be measured by netting the repayment of existing debt against the issuance of new debt (Damodaran, 2012).

$$\begin{aligned} FCFE = Net\ income &- (Capital\ expenditures - Depreciation) \\ &- (Change\ in\ noncash\ working\ capital) \\ &+ (New\ debt\ issued - Debt\ repayments) \end{aligned} \quad (6)$$

The Equity Value can be estimated by discounting FCFE at the cost of equity (k_e) that is, the rate of return demanded by the company's equity investors. If done correctly, FCFF and FCFE will produce consistent predictions for the equity value, as long as conform assumptions in both valuations are performed (Damodaran, 2012).

$$Equity\ Value = \sum_{t=1}^{t=n} \frac{FCFE_t}{(1+k_e)^t} + \frac{TV_n}{(1+k_e)^n} \quad (7)$$

Where:

- $FCFE_t$ = Free cash flow to equity in year t

- $k_e = Cost\ of\ equity$

The relationship between FCFF and FCFE is represented by equation 8 (Damodaran, 2012):

$$FCFF = FCFE + Interest\ expense(1 - Tax\ rate) + Principal\ repayments - New\ debt\ issues + Preferred\ dividends \quad (8)$$

2.2.3 Weighted Average Cost of Capital (WACC)

As stated by Rosenbaum & Peal (2013, page 151), the WACC "is a broadly accepted standard for use as the discount rate to calculate the present value of a company's projected FCF and terminal value. It represents the weighted average of the required return on the invested capital (customarily debt and equity) in a given company". This discount rate needs to reflect the intrinsic risk in the predicted company's future cash flows. WACC is based on determining a firm's target capital structure that is compatible with its long-term plans, which includes two parts: Its equity-to-total capitalization (E/(D+E)) and debt-to-total capitalization (D/(D+E)) ratios (Rosenbaum & Peal, 2013).

$$WACC = \frac{D}{D+E} k_d (1 - Tax\ rate) + \frac{E}{D+E} k_e \quad (9)$$

Where:

- D = Market Value of Debt
- E = Market Value of Equity
- $Tax\ Rate$ = Marginal Tax rate
- k_d = Cost of Debt
- k_e = Cost of Equity

Market values should be used, and not book or accounting values. The Market value of Equity can be obtained by multiplying the current stock price by the number of the firm's shares outstanding. In addition, the MVD can be estimated by computing "the net present value of all future payments on the debt, including the full repayment of the debt" (Frykman & Tolleryd, 2003).

WACC may alter over time, because of changes in the capital structure of the company. Herey, often, researchers implement target weights as opposed of using current market-value weights (Pinto et al, 2015).

2.2.3.1 Cost of Equity (k_e)

According to Rosenbaum & Pearl (2013, page 154), the "Cost of equity is the required annual rate of return that a company's equity investors expect to receive (including dividends)". To compute the Cost of Equity, there are two commons methods. The First, created in the early 1960s, is called Capital Asset Pricing Model (CAPM). CAPM is considered the standard method and is the one used for the longest time. The second method is the Fama-French (a multifactor model), explained in appendix 1(Damodaran, 2012; Pinto et al., 2015).

2.2.3.1.1 Capital Asset Pricing Model (CAPM)

According to Rosenbaum & Pearl (2013, page 154), "CAPM is based on the premise that equity investors need to be compensated for their assumption of systematic risk in the form of a risk premium, or the amount of market return in excess of a stated risk-free rate". In addition, if the model's underlying premises—that investors are risk-averse and base their investment strategies on the mean return and variance of returns of their whole portfolio—are true, the CAPM, an equation for required return, should hold in equilibrium. The model's key finding is that investors assess an asset's risk in terms of how it affects their whole portfolio's systematic risk (Pinto et al., 2015).

$$Cost\ of\ equity\ (k_e) = r_f + \beta_L * (r_m - r_f) \quad (10)$$

Where:

- r_f = risk-free rate;
- β_L = levered beta
- r_m = expected return on the market
- $r_m - r_f$ = market risk premium (MRP)

As such, the expected return to equity investors that is, k_e, is based, as stated by Frykman & Tolleryd (2003, page 74) in two parts that need to be computed "the risk free interest that investors earn on a risk-free investment and an additional yield that is appropriate for the level

of risk that the investor takes when investing in the company". All of this is dependent on the firm's level systematic risk that is represented by the beta (β).

2.2.3.1.1.1 The Risk-free rate (r_f)

There are two conditions which need to be met for an asset to be classified as risk-free (actual return equal to its expected return): First, it can´t exist no risk of default and second there must be no reinvestment risk (Damodaran, 2012). Thereby, according to Frykman & Tolleryd (2003, page 75), "The risk-free rate of return usually refers to the return on a government bond or a treasury bill in the home country of the company being valued with a duration that matches the investor's investment horizon".

Usually, 10 or 30-year government bond rates are used as risk-free rates, thereby implying that governments don't default, since only institutions that cannot default can issue risk-free securities (Damodaran, 2011). Moreover, is crucial to estimate the risk-free rate in a way that is consistent with how the cash flows are assessed for calculating projected returns. For example, the risk-free rate will equal the yield on US Treasury bonds if cash flows are estimated in nominal US dollars (Damodaran, 2012).

2.2.3.1.1.2 Market Risk Premium

According to Frykman & Tolleryd (2003, page 75) "The market risk premium is the average risk premium that is required to invest in a risk security (for example, shares) compared with 'safe' investments (for example, government bonds)". In other words, it is the "spread of the expected market return over the risk-free rate" (Rosenbaum & Pearl, 2013, page 155). The S&P 500 is frequently used as the market return proxy. There are two methods commonly used to compute this parameter: Historical Risk Premiums and Implied Equity Premiums, explained in appendix 1 (Damodaran, 2012). Other autors also suggest a third method: a survey estimates, where experts' expectations are assessed (Pinto et al., 2015).

The most common method is by computing the Historical Risk Premium. This can be done by taking a long-term historical look at the premium that stocks have received over default-free (generally government) securities. The historical risk premium is estimated as the difference between the two returns on an annual basis (Damodaran, 2012). Wall Street commonly uses an equity risk premium that ranges from 5% to 8% (Rosenbaum & Pearl, 2013).

2.2.3.1.1.3 Beta

The beta of a stock measures its market or systematic risk, which is the sensitivity of its returns to the returns on a risky asset's "market portfolio." Systematic risk is defined as risk that cannot be mitigated by portfolio diversification (Pinto et al., 2015). Beta, the slope of the equation below, equals the covariance of returns with the market portfolio's returns divided by the variance of returns in the market portfolio (Pinto et al., 2015; Damodaran, 2012).

$$\beta = \frac{Covariance(R_{j,}R_m)}{\sigma_m^2} \tag{11}$$

In a future period, the corresponding beta value has been observed to be closer to the mean value of 1.0, than to the raw beta value. Therefore, it makes sense to adjust the raw beta, since valuation is a forward-looking notion. Blume (1971) pioneered the most commonly used adjustment, that is known as beta smoothing (Pinto et al.,2015).

$$Adjusted\ beta = \left(\frac{2}{3}\right)(Unadjusted\ beta) + (\frac{1}{3})(1.0) \tag{12}$$

Only assets that have been traded and have market prices can be estimated using the historical approach (Damodaran, 2012). However, by identifying publicly traded peer companies, an analyst can evaluate the beta of a private firm indirectly, based on the public peer's beta. The procedure must account for the effect of differences in financial leverage between the private firm and the benchmark on beta (Pinto et al.,2015).

Hereby, the analyst must unlever the beta for each firm in the peer group to obtain the asset beta ("unlevered beta"), with the purpose of reducing the impact of distinct capital structures (equation 13). Next, the analyst determines the average unlevered beta for the peer group after computing the unlevered beta for each individual firm. Afterwards, the firm's target capital structure and marginal tax rate are used to relever this average unlevered beta (equation 14) (Rosenbaum & Pearl, 2013).

$$\beta_U = \frac{\beta_L}{(1 + \frac{D}{E} \times (1 - t))} \tag{13}$$

Where:

- β_U = unlevered beta

- β_L = levered beta
- D/E = debt-to-equity ratio
- $t = marginal\ tax\ rate$

$$\beta_L = \beta_U \times (1 + \frac{D}{E} \times (1 - t)) \quad (14)$$

Where:

- D/E = target debt-to-equity ratio

2.2.3.2 Cost of Debt (K_d)

According to Damodaran (2012, page 309), "The cost of debt measures the current cost to the firm of borrowing funds to finance projects". There are three factors that influence this parameter: The Company's default risk (and consequent default spread), the Riskless rate and the benefits of debt connected to taxes.

If one is dealing with an investment-grade company, the cost of debt can be computed by using the yield to maturity of the company's long-term, option-free bonds. This can be done by assuming that those long-term outstanding bonds are broadly traded and liquid. However, market prices should not be used for companies that only have short-term or infrequently traded bonds. Alternatively, yield to maturity should be calculated using credit ratings (Kooler et al, 2020).

There are cases where there is no rating available. In that scenario, two alternatives are available to estimate the cost of debt. The first consists on estimating a firm's synthetic rating in which, based on its interest coverage ratio, the firm is assigned with a synthetic rating and associated default spread. The second consists on using the firm recent borrowing history (Damodaran, 2012).

As such, the after-tax cost of debt is estimated by multiplying the pretax cost of debt by 1 minus the marginal tax rate. It is possible to understand that the cost of debt is reduced by the marginal tax rate, to value the tax shield. Several authors consider that the correct tax rate to be used is the marginal tax rate, instead of the current effective tax rate (Kooler et al, 2020; Pinto et al, 2015).

$$After - Tax\ Cost\ of\ debt = Pretax\ Cost\ of\ Debt(1 - Tax\ rate) \quad (15)$$

Where:

$$Pretax\ Cost\ of\ Debt(K_d) = r_f + Default\ Spread \quad (16)$$

More information regarding how to compute the cost of debt for an emerging market company can be found in appendix 1.

2.2.3.3 Terminal Growth

A terminal value is used to capture the value of the company after the projection period, since it is impossible to predict a company's FCF indefinitely. As such, the terminal value is often determined based on the company's FCF of the last year of the projection period. In a DCF, the terminal value often takes up a sizable amount of a company's value, many times as much as three-quarters, or more. As a result, it is critical that the company's terminal year financial data depicts a steady state level of financial performance rather than a cyclical peak or low (Rosenbaum & Pearl, 2013).

According to Rosenbaum & Pearl (2013), there are two most common methods of computing the terminal value: The Perpetuity growth method and the Exit Multiple Method.

The Multiple Approach uses a multiple of a company's terminal year EBITDA (or EBIT) to determine the terminal value of its FCF produced after the projection period. This multiple is often based on the trading multiples for comparable companies on the current last twelve months (LTM). It is crucial to employ both a normalized trade multiple and EBITDA, as current multiples may be impacted by sector or economic cycles (Rosenbaum & Pearl, 2013).

$$Terminal\ Value = EBITDA_n \times Exit\ Multiple \quad (17)$$

Where:

- $n = Projection\ Period's\ Terminal\ Year$

The second method is the Perpetuity Growth Method. Firms can extend the lives of their assets by reinvesting some of their cash flows into new ones. Thus, the terminal value can be estimated based on equation 18, assuming that cash flows will continue to grow at a constant rate eternally after the terminal year. “The perpetuity growth rate is typically chosen on the basis of the

company's expected long-term industry growth rate, which generally tends to be within a range of 2% to 4% (i.e., nominal GDP growth) (Rosenbaum & Pearl, 2013, page 159).

$$Terminal\ Value = \frac{Cash\ flow_n \times (1+g)}{(r-g)} \quad (18)$$

Where:

- $n = Projection\ period's\ terminal\ year$
- $r = Discount\ rate$
- $g = Perpetuity\ growth\ rate$

2.3 Relative Valuation

According to Damodaran (2012, page 629), "In relative valuation, the objective is to value assets based on how similar assets are currently priced in the market". In addition, after performing the valuation using another approach, a comparison with the multiples of similar firms allows an assessment of the performance of the valuation as well as identifying disparities between the firm being evaluated and the firms it is being compared with (Fernández, 2001).

There are three different steps needed in order to conduct a RV Analysis. First, it is crucial to choose the Comparable Companies' Universe correctly, also known as Peer group. It's standard procedure to choose a group of 8 to 15 peers and average the multiples of those peers (Kooler et al, 2020). Similar-sized companies, from the same industry, and with similarities in terms of business and financial Profile, should be selected. (Rosenbaum & Pearl, 2013).

The second step, according to Damodaran (2006, page 58), is "scaling the market prices to a common variable to generate standardized prices that are comparable", by using valuation multiples. Multiples can be classified in two basic categories: Enterprise and Equity Multiples (Rosenbaum & Pearl, 2013).

When it comes to Equity Multiples, there are some common ones. The Price-To-Earnings Ratio (P/E) ratio is the most well-known trading multiple. Moreover, the Prices to Sales (P/S) and the Price to Book Value (P/BV) are also frequently used (Rosenbaum & Pearl, 2013; Fernández, 2001).

$$P/E = Share\ Price\ /Earnings\ per\ Share \quad (19)$$

$$P/S = Share\ Price\ /\ Sales\ per\ Share \quad (20)$$

$$P/BV = Market\ Capitalization\ /\ Book\ Value\ of\ shareholder's\ equity \quad (21)$$

Regarding EV Multiples, they are used as a multiple of unlevered financial statistics, as they express the interests of both equity and debt holders. The typical multiples used are: EV/EBITDA, the most common multiple used and acts as a benchmark for valuing most sectors, EV/EBIT and EV/Sales (Rosenbaum & Pearl, 2013).

Concerning the third step, it is important to take into account for discrepancies between assets, after comparing their standardized values, and make the necessary adjustments. For example, as opposed to lower growth firms in an equal industry, higher growth firms should be trading at higher multiples. To do some adjustments, several methods can be used. This includes executing subjective adjustments, the use of modified multiples (for example dividing the PE ratio by the projected increase rate in EPS, while using this multiple across firms with distinct growth rates) and statistical techniques, which includes market and sector regressions (Damodaran, 2006).

It should be highlighted that when multiples are constructed, forecast predictions, not historical data, should make up the denominator. Forward-looking multiples, as opposed to backward-looking multiples, are in line with the principles of valuation (Kooler et al, 2020).

Finally, it is crucial to remember that RV also presents some disadvantages. For example, is to focus on business-specific problems, is market-based and may differ significantly from the inferred valuation of a firm based on the DCF (Rosenbaum & Pearl, 2013).

2.4 Conclusion

In this thesis, the DCF method is the primary valuation approach used in valuing Heineken N.V. This decision was based on the fact that Heineken is a mature firm with a stable capital structure, therefore excluding the need of using the APV approach. Moreover, a RV is also performed as a complement of the performance of the DCF valuation, as well as for identifying disparities between Heineken and its peers. The option pricing theory was not considered as a valuation

method, since Heineken is not in a highly investment-intensive sector. Finally, the dividend discount model is not taken into account because is not the only way of providing value to Heineken's Shareholders. Moreover, appendix 1 provides further information about the literature review.

3. Industry Overview

3.1 Worldwide Beverages Industry

Four different segments compose the Worldwide Beverage Industry. Historically, non-alcoholic Drinks was the segment that accounted for the majority of revenues and other beverages the minority. For the forecasted period, all segments are expected to grow in terms of revenues. In particular, the segment of the alcoholic drinks is estimated to grow at a CAGR of 7%, from 2023-2028, and to reach US$112,4bn revenues, by 2028 (Statista, 2023).

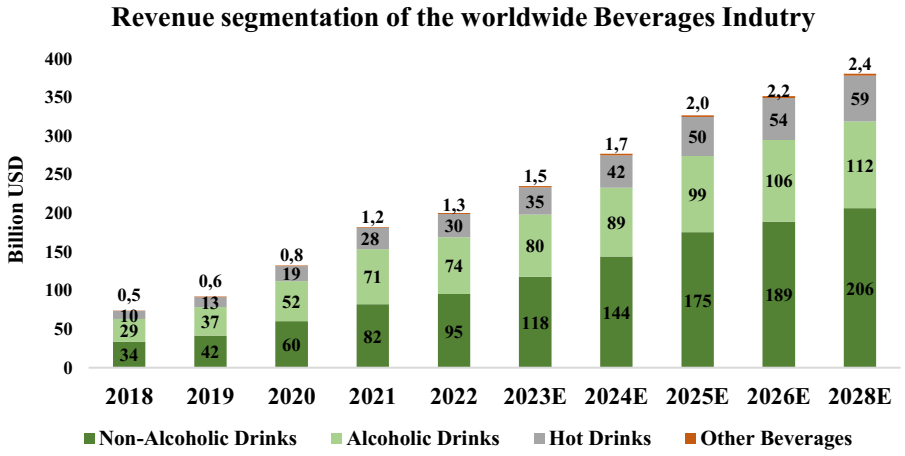


Figure 1: Revenue Segmentation of Worldwide Beverages Industry 2018-2028E (Statista, 2023)

Hence, the consolidated revenue of the worldwide beverage industry is estimated to continue to increase, from 2023-2028, at a CAGR of 10.1%. By 2028, total revenue is estimated to reach US$380,45bn. Moreover, by 2027, the number of users is predicted to amount to 1,454.00m and user penetration to reach 18.3% (Statista, 2023).

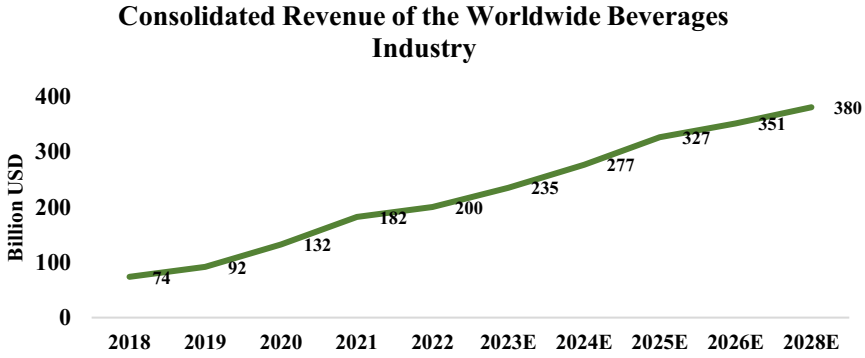


Figure 2: Total Revenue of Worldwide Beverages Industry 2018-2028E (Statista, 2023)

3.2 Global Beer & Cider Market

Concerning the Global Beer & Cider Market, in 2021, the majority of market value came from the Europe Segment ($185,516.6 Million), and the minority from Middle East ($5,675.4 Million) (MarketLine, 2022b).

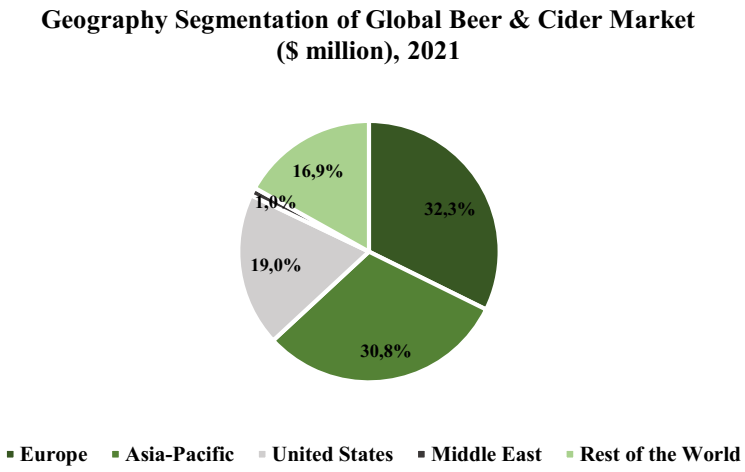


Figure 3: Geography Segmentation Global Beer and Cider Market 2021 (MarketLine, 2022)

In 2021, in terms of volume, A-BlnBev was the company with the biggest market share (25.8%), followed by Heineken (11.1%). A-BlnBev is expected to continue to be, in the coming years, the player with the biggest market share and was the one that, from 2016-2021, increased the most its market share (+3.98%). In the same period, Heineken increased its market share by 1.45% (MarketLine, 2022b).

On the opposite side, the players that decreased the most its market share, in the last 5 years and in volume terms, were Kirin Group and the Carlsberg Group. Concerning the most widely used brands in the market, and in terms of volume, the top one belongs to China Resources Enterprise, “Snow” (volume share, in 2021, of 5.51%). In third place, is “Heineken”, with a volume share, in 2021, of 2.18% (MarketLine, 2022b).

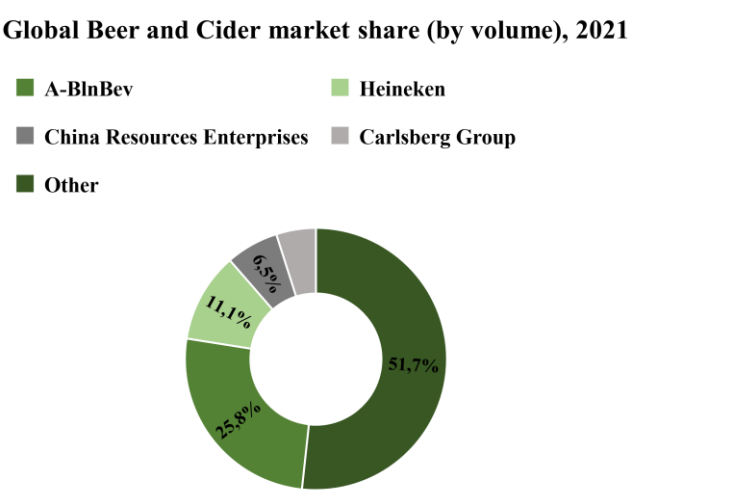


Figure 4: Global Beer and Cider Market share 2021 (MarketLine, 2022)

Regarding the Global Beer & Cider's market value, the same had a modest value growth from 2016-2021 (CAGR of 0.4%). The market was very impacted by the Covid-19 outbreak, leading to a decrease, in 2020, of the market value. In the coming years, with the increase in tourism and travelling, demand will continue to further grow. For the forecast period (2022-2026), market value is expected to increase in a more predominant way, at a CAGR of 6% (MarketLine, 2022b).

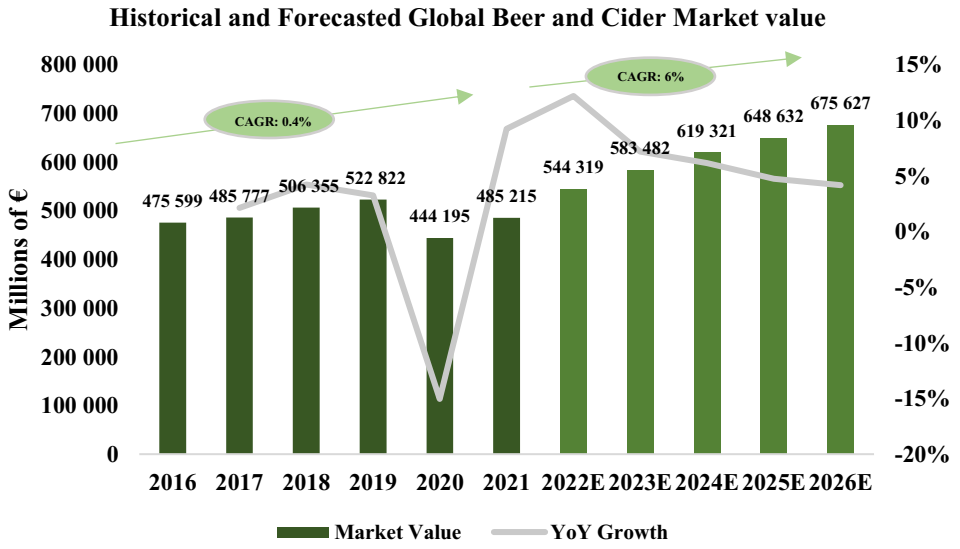


Figure 5: Historical and Forecasted Global Beer and Cider Market value 2016-2026E (MarketLine, 2022)

Concerning the Global Beer & Cider' Market volume, the same had low volume growth between 2016-2021 (CAGR of -0.2%). In 2020, Market volume suffered an expressed

decreased caused by the covid-19 pandemic. For the forecasted period (2022-2026), market volume is expected to increase in a more notable way, at a CAGR of 2.2% (MarketLine, 2022b).

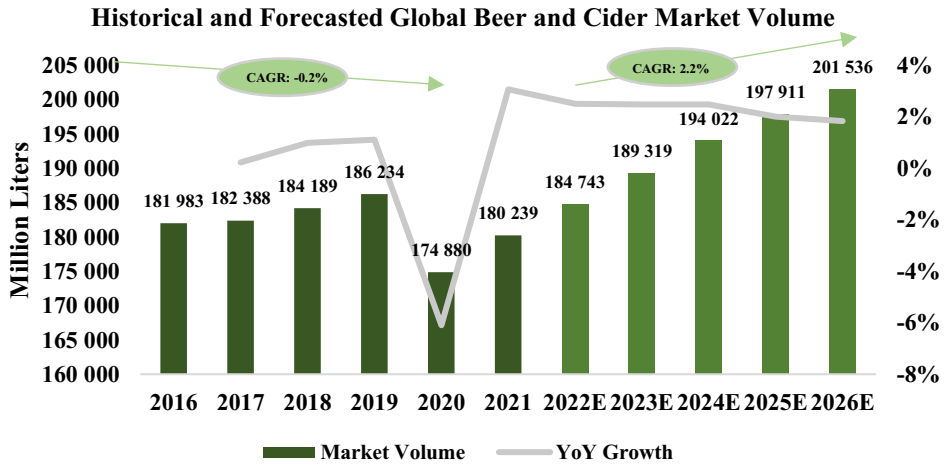


Figure 6: Historical and Forecasted Global Beer and Cider Market volume 2016-2026E (MarketLine, 2022)

With respect to the Global Beer & Cider's Category Segmentation, the beer segment was the biggest, as accounted, on average, from 2016-2021, in 97.7% of the total value of the market. In the same period, the cider segment accounted in a minority part, with an average of 2.3% of the market (MarketLine, 2022b).

3.2.1 Geographical Overview

A geographical overview of most important regions of this market is presented in appendix 3.

3.2.2 Porter's five forces

Porter's five forces methodology was used, as it is a useful framework to understand the five variables that affect the Global Beer & Cider Industry. Appendix 4 presents in detail the five forces.

3.2.2.1 Summary

The scheme below summarizes the five forces, where 0 means zero power, and 5 means very strong power.

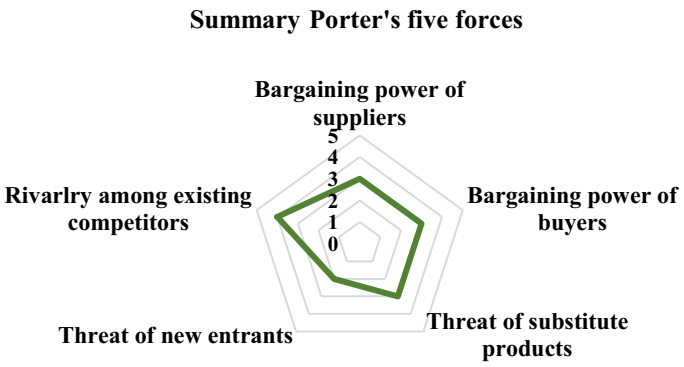


Figure 7: Summary Porter's five forces

4. Company Overview

4.1 General Overview

Heineken NV is the brewing company that sells and primarily markets beer. The company was founded in 1864 when Gerard Adriaan Heineken bought a brewery for sale in the central area of Amsterdam: The Haystack. With the construction of his second brewery in Rotterdam, in 1873, the company started to establish itself in the Dutch beer market. In 1939, Heineken was listed on the Dutch stock exchange. In 1968, by merging with Amstel, another Dutch brewery founded in 1870, Heineken was able to increase its market share to 55% in Netherlands (Heineken N.V., 2022c).

Heineken has more than 300 local, regional and international specialty beers and ciders and over 85,000 employees at a global level. The company has 167 breweries around the world and its brands are present in 190 countries across its four reportable segments: Europe; Americas; Africa, Middle East and Eastern Europe (AMEE) and Asia Pacific. Heineken has another reportable segment (which does not represent a geographical region) called Head Office & Other/Eliminations (HO&OE). Heineken is the number one brewer in Europe and number two brewer in the world, after A-BlnBev. Drinks from Heineken are sold all around the world. Heineken distributes its beverages to customers through partnerships, acquisitions, subsidiaries and operating companies, as well as wholesalers, pubs, taprooms, hotels, bars and retailers (Heineken N.V., 2022d; MarketLine, 2023a).

4.2 Types of Products and Brands

Besides its main activity of being a brewery, Heineken produces ciders, other flavoured brands and low- and no-alcohol solutions. Besides its International brands, Heineken produces regional

and local brands, following its geographical segments, so that the company is able to answer local and regional consumer preferences.

4.2.1 Beer and Craft Beer

In 2022, Heineken produced 256.9 millions of hectolitres (mhl) of beer and 54.9mhl of Heineken®. Globally, Heineken is the most international brewer, as it brews in more than 70 countries. For more than a century, Heineken® has been the star performer and "flagship brand" of Heineken, sold in 84 countries. Amstel is the second-largest international beer in Heineken's beer portfolio, available in 110 markets. Tiger is another popular international brand, considered as being, in 2022, the number one international premium beer in Asia, as well as one of the fastest-growing beer brands worldwide. Heineken also expanded its portfolio at a global level concerning craft beers, as they are growing, in the recent years, in demand and popularity. Heineken owns three main International craft brands (Heineken N.V., 2022e).

Heineken's consolidated beer volume has been overall increasing since 2018, with exception of 2020, because of the covid-19 pandemic. In that year, beer volume declined due to the closures of several pubs and further covid-19 restrictions, which affected all geographies and markets where Heineken was present. From 2018-2022, the CAGR of Heineken's consolidated beer volume was 2.4%.

4.2.2 Cider

Global demand for cider has been rising in the last years, and Heineken is the top cider market worldwide. In 2022, Heineken produced 5.0mhl of cider, being its cider locally manufactured in 15 markets. Strongbow is Heineken's "flagship" cider brand, as it is the number one cider brand globally. In 2015, Heineken introduced Orchard Thieves, which is growing 70% on a yearly basis and is accessible in 21 markets (Heineken N.V., 2022e).

4.2.3 Other Flavoured beverages and Low & no-alcohol

Other flavoured alcoholic beverages also have an important role on the portfolio of Heineken. The major brands in this category are Desperados and Pure Piraña. The global trend for wellness continues and more individuals limit their alcohol use or seek out drinks with less sugar. In 2022, Heineken produced 15.5mhl from its low-and no-alcohol segment. Led by Heineken® 0.0, which is available in more than 120 markets, Heineken continues to dominate the global market share in terms of the 0.0 beer category (Heineken N.V., 2022e).

4.3 Breakdown of Heineken's global Volume

In summary, Heineken's global volume can be decomposed in three categories: beer, cider and low- and no-alcohol volume. In its annual reports, Heineken only publishes information regarding the breakdown of volume of each reportable segments when it comes to beer. For cider and low-and no-alcohol categories, there is only information at the consolidated level. The reason for such is because the majority of Heineken's overall global volume comes from the beer category. The other two categories represent much lower percentages of Heineken's total global volume. Moreover, the volumes of the cider and low-and no-alcohol categories have been quite constant in the last years. Hence, this thesis will focus on analyzing how the beer volume and its corresponding revenues differ across Heineken's reportable segments. Appendix 5 shows the breakdown evolution of Heineken's global volume.

4.4 Ownership Structure and Share Price Evolution

Heineken's Ownership Structure and share price evolution are presented in appendix 6 and 7.

4.5 Reportable Segments / Markets

In the next topics, net revenues are taking into consideration, and not total revenues. The reason for such is excise tax expenses. Section 5.1.1.2 addresses this subject in a detailed way. Historically, the majority of Heineken's revenues comes from the Europe Segment and the minority from the Asia Pacific segment. However, in the last years, Asia Pacific has increased its net revenues, in particular in 2022, due to a robust market resurgence from the effects of covid-19 restrictions, as well as Heineken's superior performance. Overall, in all segments, there has been an increase tendency in the growth of net revenues.

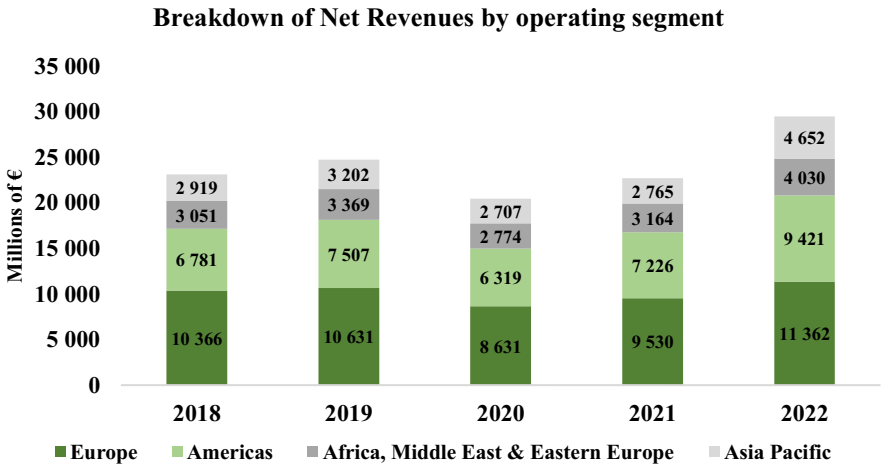


Figure 8: Net revenues by operating segment 2018-2022 (Heineken N.V. ARs)

Historically, the Americas segment was the one with the highest consumption and Asia Pacific the lowest. However, the trend in Asia Pacific has changed: By focusing on premiumisation, there was an increase in the consumption by +63% in 2022, versus 2021. Generally, beer consumption has been more or less stable in the other segments.

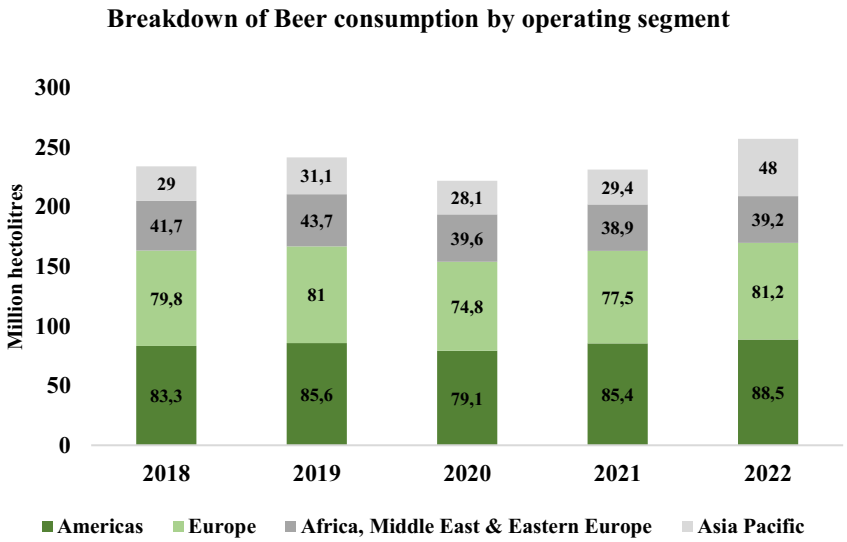


Figure 9: Beer consumption by operating segment 2018-2022 (Heineken N.V. ARs)

Europe was the segment with the lowest CAGR in terms of net revenues (as it is the most mature market), and Asia Pacific the highest. In 2022, Europe was the segment with the highest weight in terms of total revenues. Asia Pacific was the segment with the highest CAGR of beer consumption as it had, globally, the biggest demand for beer and cider (MarketLine, 2022d). Moreover, in 2022, the Americas was the segment with the biggest weight regarding total beer consumption. Based on its historical performance, Asia Pacific has demonstrating potential to continue to be a promising segment, in the coming years.

Table 1: Key Statistics 2018-2022 (Heineken N.V. ARs)

	Europe	Americas	AMEE	Asia-Pacific
CAGR Net revenues 2018-2022	2,3%	8,6%	7,2%	12,4%
2022 weight in Total net revenues	39%	32%	14%	16%
Average 2018-2022 weight in Total net revenues	42%	31%	14%	13%
CAGR Beer consumption 2018-2022	0,4%	1,5%	-1,5%	13,4%
2022 weight in Total Beer consumption	32%	34%	15%	19%
Average 2018-2022 Weight in Total Beer consumption	33%	36%	17%	14%

Data from MarketLine (2022a, 2022c – 2022g) was extracted to compute Heineken's market share per region. When writing this thesis, there was only historical data until 2021, by MarketLine, and forecasted for 2022. According with figure 10, the AMEE segment is the one where Heineken has the biggest market share, and Asia Pacific the lowest. However, Asia Pacific has shown potential to further increase its market share, as it happened with the increase, in 2022, by 2.4%, versus 2021. Moreover, it was the segment whose market share had the biggest CAGR (+13.9%), from 2018-2022.

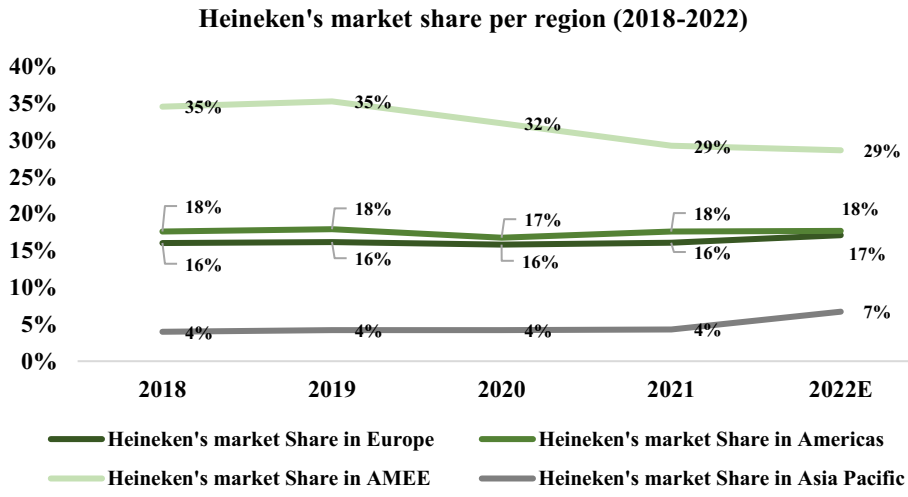


Figure 10: Market Share per region 2018-2022 (MarketLine, 2022a, 2022c -2022g)

4.6 Heineken's strategy

With its "EverGreen" Strategy, Heineken aims to deliver, in the coming years, balanced and superior growth. This strategy is based on five objectives.

First, Heineken is focused on innovation and premiumisation of its different segments. Second, Heineken is focus on addressing its cost base and explore further productivity improvements, such as FTEE (full time equivalent employees), commercial (marketing and sales investments) and supply chain productivity. Third, related with Sustainability & Responsibility, Heineken launched the "Brew a Better World 2030" strategy, which is based on three pillars: Environmental (reach net zero carbon, zero waste to landfill and reduce average water usage), Social and Responsibility (Heineken N.V., 2022a).

In fourth place, Heineken has striven to become more digital, by increasing investments in this area. Heineken has been modernizing its technological environment, developing a digitally enabled organization, and digitizing its route to consumer. Moreover, while simultaneously continuing to reorganize its IT infrastructure, the company has putting efforts in improving its capabilities in e-commerce, data, and analytics. In last place, Heineken has been focusing on increasing its talent and leadership development (Heineken N.V., 2022a).

4.7 SWOT Analysis

Appendix 8 presents Heineken's SWOT Analysis, by demonstrating its strengths, weaknesses, opportunities and threats.

5. DCF Valuation

To compute Heineken's target share price (TSP) the DCF valuation was used, as it is the most suitable approach in this case. FCFF were discounted at the date of 31 December 2024, to be possible to compare the respective TSP with the one from the Investment Bank report (as the same discounts FCFF as of December 2024). The explicit period was considered to be from 2023 until 2029, where Heineken is expected to reach a steady state, by 2029. After 2029, a terminal value is used to forecast the FCFF.

5.1 Forecasts

5.1.1 Revenues

5.1.1.2 Historical Analysis

Heineken presents different values for revenue and net revenue, because of excise tax expenses. Excise duties (on the production or sale of alcoholic beverages) are frequent in this sector. Those have been quite constant, since 2018. Gross revenue has been overall increasing, with the exception of year 2020, as Heineken was very impacted by the covid-19 pandemic (suffered with obligatory facilities lockdown). Consequently, in 2020, net income was equal to negative €88 Million. Net Revenue had the same tendency of Gross revenue. In the last five years, the CAGR of gross revenue was 6.6% and 6.3% for net revenue. Moreover, in 2022 ROIC was equal to 8.7% and, in the last five years, its CAGR was 6%.

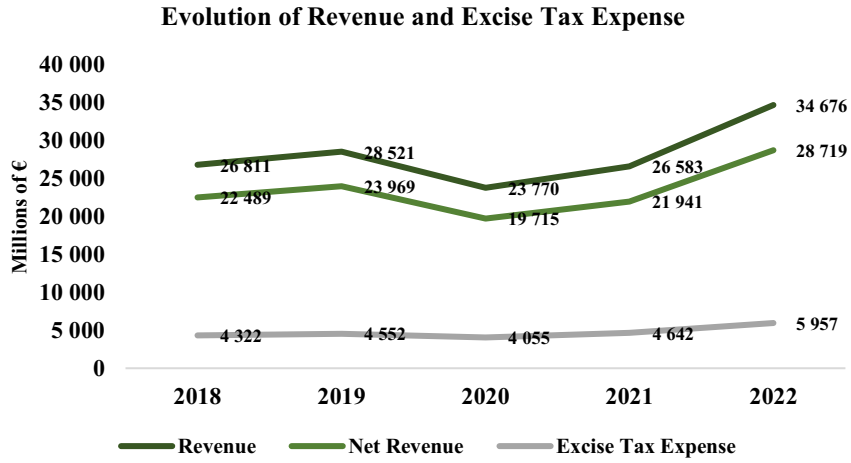


Figure 11: Historical Revenues 2018-2022

5.1.1.2 Forecast

Heineken's revenues were forecasted by considering its main drivers: volume (million hl) and average revenue per hl (€). To obtain a correct valuation, revenues were forecasted in separated, and not as a whole, by considering each operating segment. Therefore, net revenue per segment were computed by multiplying the respective volume with the average revenue per hl. Data regarding the growth of volume per operating segment was obtained from Marketline (2022a, 2022c – 2022g).

5.1.1.2.1 Europe Segment

Being Born in Europe, Heineken has its presence very consolidated in this market (it is the leading brewer in this geography). This market is very saturated and mature, providing lower opportunities for any outstanding growth. Nevertheless, Heineken continues to make efforts to expand its premium brands, especially the ones targeted for Gen Y and Z: "Next Generation brands". Moreover, the cider segment has growing in several markets, such as UK and Portugal, as well as the popularity of non-alcoholic options. Heineken has also been committed in expanding its presence in this segment, as it was the case with the acquisition, in Poland, of 28.2% of Grupa Zywiec's (GZ) shares (taking full ownership of the company) and by assuming, in 2022, complete ownership of London's largest brewery, Beavertown Brewery, a maker of premium beers (Heineken N.V., 2022a).

In terms of volume, the European Beer and cider Market is expected to grow at a CAGR of 1.63% between 2023-2029, achieving an estimated growth of 1.4% by 2029, as Heineken's volume gradually achieves a steady state. Moreover, in the forecasted period, Heineken's market share is estimated to continue to be almost constant, due to the high rivalry degree and saturation of the market. Furthermore, because of that rivalry, the average revenue per hl is forecasted to grow at a lower rate than the expected inflation in Europe. As such, between 2023-2024 prices are estimated to growth at 2.1% per year, in particular because of the popularity of cider and non-alcoholic options in this market, and next, to start decreasing, reaching an estimated growth of 1% by 2029. Hence, from 2023-2029, the average revenue per hl is estimated to grow at a CAGR of 1.52%.

5.1.1.2.2 Americas Segment

By focusing on premiumisation, Heineken continues to grow on its key markets, such as Brazil and Mexico. Heineken® is the brand leader in Brazil and Amstel ultra in Mexico. Heineken

maintains its position as the leading 0.0 and continues to dominate the “beyond beer” market, in this geography. Moreover, Heineken has improved its position as the market leader in premium beer, with triple-digit growth over pre-pandemic levels, with the brand Sol. The craft beer market is now being led by Heineken Brazil, which produces Lagunitas and other varieties. Heineken continues to make investments in this region, in particular Heineken USA, which, with an investment of more than €100 million, is preparing for the release, in 2023, of Heineken® Silver. Moreover, strong performance in the Caribbean markets, in particular in Suriname, Jamaica, and Panama, also contributed to Heineken's success on the regional performance, and are expected to further contribute (Heineken N.V., 2022a).

Hereby, it is expected that Heineken will continue to grow in this market, by focusing on premiumisation and expansion of its portfolio beyond beer. In the forecasted period, is predicted that Heineken will increase its market share in the Americas, mainly in Brazil. Concerning the volume forecast, the American Beer and cider market is expected to grow at a CAGR of 1.4% from 2023-2029, with an estimated growth of 1.2% by 2029, as the steady state is achieved.

Based on the historical performance, the average revenue per hl is forecasted to grow at a rate almost equal to the predicted inflation in the American market. As such, in 2023, the average revenue per hl is forecasted to have a growth of 4% and, to decrease gradually in the next years, as it happens with Americas’ estimated inflation rate. Hence, from 2023-2029, the average revenue per hl is estimated to grow at a CAGR of 2.16%. The popularity of craft beer (Heineken Brazil leads the market and is estimated to continue) and other premium beers, also supports the forecasted values regarding the average revenue per hl.

5.1.1.2.3 AMEE Segment

Historically, Heineken’s solid performance was driven by Ethiopia, South Africa, Nigeria, and Rwanda's achievements. Those markets are expected to further grow, in the coming years. Moreover, Heineken® continues to be the leading brand in AMEE. Hence, in this geography, Heineken is expected to keep growing due to promising advancements in South Africa (Heineken’s most relevant country in this segment), premiumisation (such as flavoured categories) and investments done, as it was the case of the acquisitions of Distell and Namibia Breweries. Although Heineken’s announcement about its decision of leaving Russia, the same as been only partial, as of March 2023. Heineken no longer sells Heineken® in Russia, but continues, while trying to search for a suitable new owner, with operations reduced in Russia. No information about when the total exit will happen, as well as who will be the new owner

and in which geography, has been published to date. This creates a challenge in terms of forecasts. As a result, the forecast of the AMEE segment does not include Russia's effects (Heineken N.V., 2022a).

Concerning the volume forecast, the Beer and Cider Market of South Africa is expected to grow, from 2023-2029, at a CAGR of 1.43%, with a predicted growth of 1.3% by 2029, as the steady state is achieved.

The AMEE segment is subject to volatile macroeconomic conditions. Therefore, it has the highest estimated inflation rates in the coming years, in comparison with the other segments. Hence, the average revenue per hl is forecasted to grow 5% per year, from 2023-2026, and then, to gradually decrease, until an estimated growth of 3.5% by 2029. Hereby, from 2023-2029, the average revenue per hl is predicted to grow at a CAGR of 4.16%.

5.1.1.2.4 Asia-Pacific Segment

A wide range of markets, including Vietnam and Indonesia have caused the success of Heineken's historical growth, in this segment. By focusing on premiumisation, Heineken was able to generate great results from its international premium brands. Moreover, to improve its premium beer leadership position, driven by Heineken® and Tiger, Heineken has boosted efforts in superior marketing and communications (Heineken N.V., 2022a).

When it comes to revenue generated through digital channels, this segment is the second-largest region generating most revenues, and a pathfinder in the digital route-to-consumers. Heineken has been focusing on expansion strategies in this segment, as it was the case with the opening of the Vung Tau brewery extension, Heineken's largest brewery in Asia Pacific (Heineken N.V, 2022a). As mentioned, this segment has been demonstrating promising potential as it has worldwide, the highest demand for beer and cider (Marketline, 2022d). Furthermore, as of May 2023, Asia-Pacific was the market that accounted with the highest percentage (35.8%) of the global soft drinks market (MarketLine, 2023b).

Therefore, by further focusing on premiumisation, largest investments in communications and marketing, focus on the digital route-to-consumers and further expansions, Heineken is estimated to continue to grow in Asia-Pacific. Heineken's market share is forecasted to grow in the coming years due the predicted expansion of middle-class population and increased urbanization in Asia-Pacific. Is estimated that around 90% of the world's middle class will reside in this region by 2050 (Heineken N.V., 2022a).

Regarding the volume forecast, the Beer and cider market in Asia-Pacific is expected to growth at a CAGR of 2.38% from 2023-2029, with an estimated growth of 2% by 2029, as the steady state in terms of volume is reached.

Moreover, prices are expected to growth 3,3% per year, until 2025, and then to decrease until an estimated growth of 2% by 2029. The same happens with the estimated inflation in the Asia-Pacific, as gradually decreases and afterwards becomes quite constant, until 2029. Therefore, the average revenue per hl is forecasted to grow at a CAGR of 2.68%, from 2023 until 2029.

5.1.1.2.5 HO&OE

This segment was predicted to grow based on the expected annual long-term inflation. Therefore, it was forecasted to grow at 3% per year, from 2023-2025, and afterwards to gradually decrease until an estimated growth of 1.5% by 2029. Hence, the respective CAGR, from 2023-2029 is estimated to be 2.16%.

5.1.1.2.6 Summary Revenues Forecast

The graphs below demonstrate the estimations of the consolidated Beer volume and net revenue in the forecast period, by combining the individual forecasts of the five segments. Moreover, detailed computations by operating segment, are presented in appendix 10.

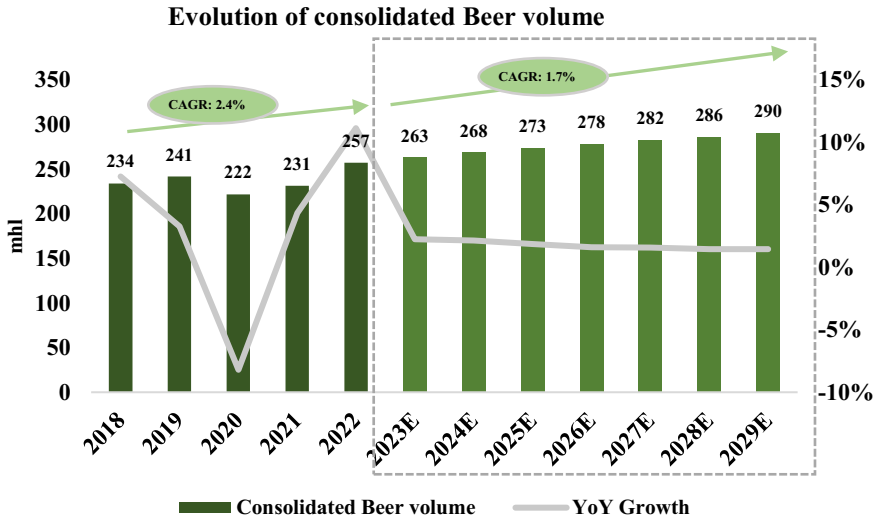


Figure 12: Forecast Beer volume 2018-2029E

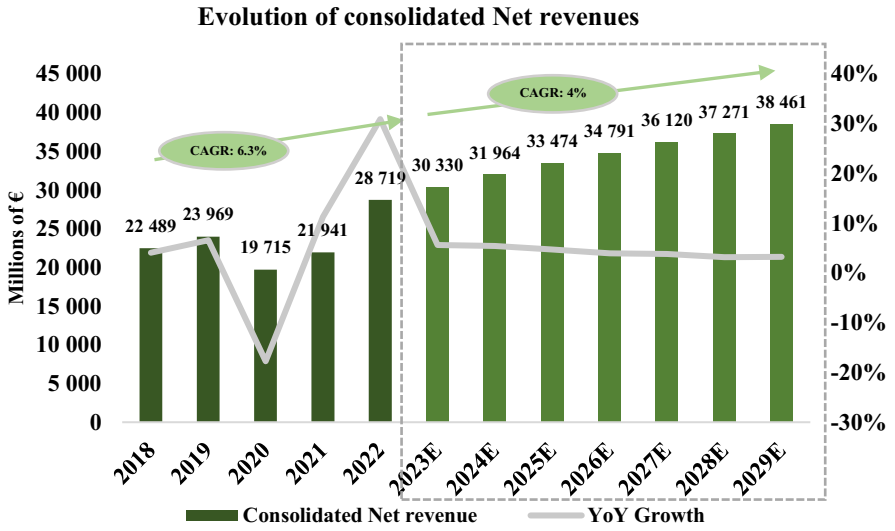


Figure 13: Forecast Net revenues 2018-2029E

5.1.2 Operating Expenses

Operating expenses include the cost of Raw material, consumables & Services (RMC&S) and Personnel Expenses (PE). RMC&S increased by 38% in 2022, versus 2021, due to inflation in commodity and energy prices. Moreover, in the last five years, they represented, on average, 63% of total net revenues.

RMC&S were estimated as a percentage of total net revenues. The way of computing each type of cost, of this category, differed. For raw materials, non-returnable packaging, goods for resale and repair and maintenance, an average of the last 5 years was assumed to continue constant over the forecasted period. For inventory movements, the same principle was used but considering the average of the last 3 years.

For Marketing and selling expenses it was considered that 2022 ratios would increase by 10 bps per year, for the next 4 years and then, from 2027-2029, to decrease and become constant at the 2024 ratio. Heineken plans to continue to make large investments in marketing and communications, special in Asia-Pacific, in the coming years. Moreover, Heineken is also putting efforts in increasing its capabilities in e-commerce. Hence costs of Marketing and selling expenses are expected to increase (Heineken N.V., 2022a).

For Transport Expenses and Energy & Water it was assumed that the 2022 ratios would decrease by 10 bps by year, from 2023-2025, and then to become constant, from 2026 to 2029, at the ratio of 2025. This rational is supported by Heineken's "Brew a Better World 2030"

strategy which, among others, aims to reduce the average water usage in water-stressed areas and reduce carbon emissions across its value chain (Heineken N.V., 2022a).

Finally, for other expenses, it was presumed that the 2022 ratio would decrease by 10 bps each year, from 2023-2026, and then to become stable, from 2027-2029, at the ratio of 2026. Heineken is focus in continuing to explore further productivity improvements by addressing its cost base, therefore aiming to continue to obtain structural gross savings. Hereby, these costs are expected to reduce in the coming years (Heineken N.V., 2022a).

Concerning PE, those were forecasted based on the percentage of the total number of FTEE (historically, the Americas was the segment with the highest number of FTEE and Asia-Pacific the lowest). In the last five years, PE represented, on average, 4.4% of the number of FTEE. In 2021, Heineken increased the productivity per employee, as net revenues increased while the number of FTEE decreased.

It was first necessary to estimate the evolution of the number of FTEE, based on the net revenues of each operating segment. The 2022 ratio of each operating segment was assumed to increase 1% per year, for the next 2 years (2023-2024), and then to become stable at the 2024 ratio, from 2025-2029. The rational behind that is because, as part of Heineken's latest acquisitions and objectives to continue to expand in each segment, so does the number of FTEE is expected to increase.

Afterwards, to estimate PE, the ratios of 2022 were expected to remain constant, in all types of costs, in the forecasted period.

Appendix 11 presents all calculations in detail.

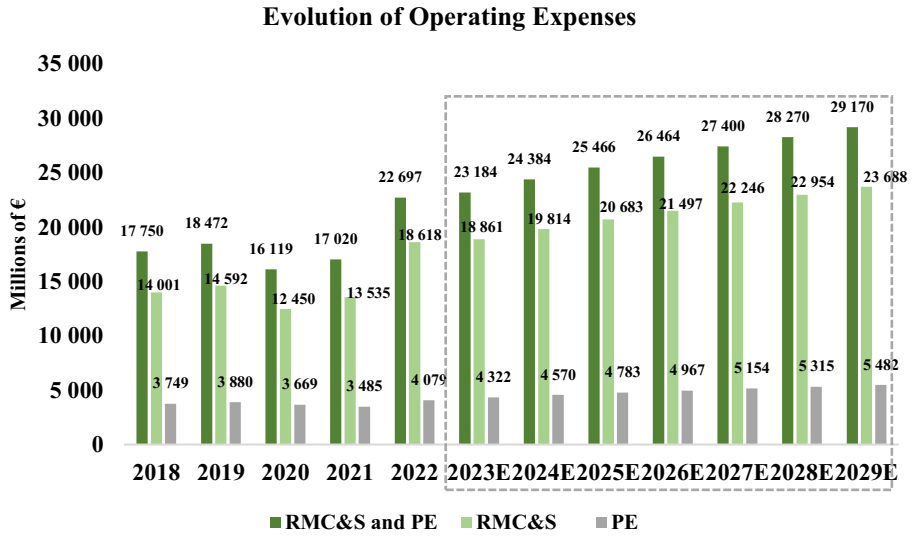


Figure 14: Forecast Operating Expenses 2018-2029E

5.1.3 Tax rate

The effective tax rate of 2022 (28%) was impacted by the Russian Impairment registered in that year, which was considered, for tax purposes, non-deductible. Therefore, and since the Russian Impairment was not planned and sporadic, the effective tax rate of 2021 (30%) was considered for our forecasts, as it better reflects the value of the same in "normal times". Moreover, since no information was available regarding any specific effective tax rate's target, and because of not being viable to forecast changes in the same, it was assumed that this tax rate would continue to be constant over the explicit period (Heineken N.V., 2022a).

5.1.4 CAPEX

CAPEX was divided between purchases of property, plant and equipment (PPE) and purchase of intangible assets (IA). Purchases at the level of PPE and respective depreciation are related with land & buildings, plant & equipment, other fixed assets and under construction. Purchases/internally developed and respective amortization of IA are related with goodwill, brands, software, research and development, among others.

CAPEX has been varying in the past years, being equal to 7.14% of total net revenues, as an average of 2021 and 2022. Overall, the CAPEX/Depreciation ratio has been above 1, with exception of 2020 and 2021, which was below 1, indicating an underinvestment. Moreover,

CAPEX increased by 26% in 2022, versus 2021. That variation was due to investments concerning capacity expansion in Vietnam, Nigeria and Brazil (Heineken N.V., 2022).

Both PPE and IA were forecasted based on the percentage of net revenues. Because of Heineken's objectives of continuing to make expansions in its operating segments, the 2022 ratio of purchases of PPE was forecasted to increase by 10 bps per year, from 2023-2025, and then to become stable, from 2026-2029, at the ratio of 2025.

Moreover, Heineken aims to continue to make improvements in its technology environment (digital transformation), digitize its route to consumer, and improving its capabilities in data and analytics. As such, it is expected that purchases/internally developed of IA regarding Software, Research and Development will increase substantial in the coming years. Hereby, the 2022 ratio of purchases of IA was forecasted to increase by 10 bps per year, from 2023-2025, and afterwards to become stable at the 2025 ratio (Heineken N.V., 2022a). Appendix 12 displays all calculations in detail.

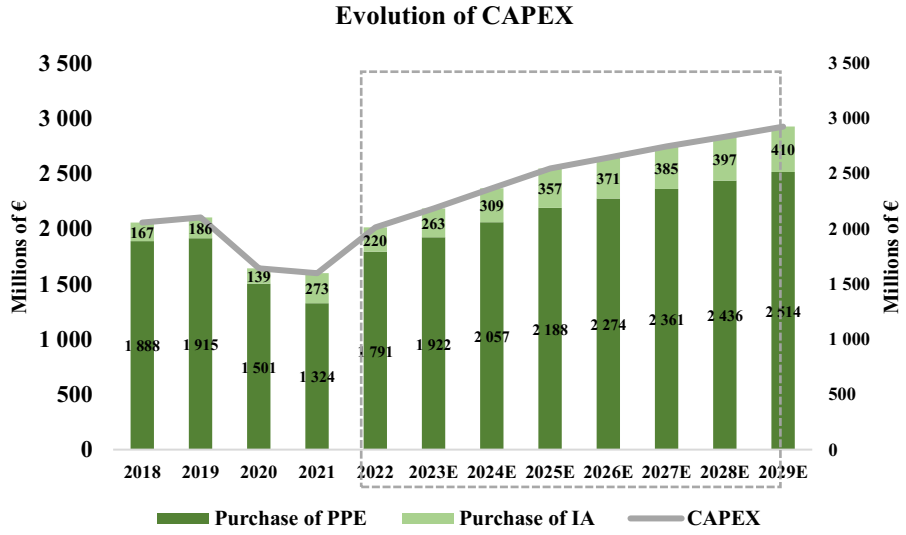


Figure 15: Forecast CAPEX 2018-2029E

5.1.5 D&A and Impairments

D&A and Impairments were forecasted for PPE and IA, as there is a direct connection between them. In 2022, there was a decrease of this item by 4%, versus 2021, because of a reversal impairment on IA. It was first fundamental to predict the evolution of PPE and IA in the explicit period. PPE and IA were forecasted as a percentage of net revenues. For both of them, it was

assumed that the respective 2022 ratio would increase by 10 bps per year, from 2023-2025, to then stabilize at the 2025 ratio.

Next, depreciation and respective impairments were forecasted as a percentage of PPE (of the respective year), and amortization and respective impairments were forecasted as a percentage of IA (of the respective year). Depreciation and impairment of PPE includes Heineken's PPE owned assets, as well as Heineken's right of use (ROU) assets, which are concealed by a lease agreement (Heineken N.V., 2022a).

As such, the respective 2022 ratios of D&A were also forecasted to increase by 10 bps per year, from 2023-2025, and then to stay constant at the 2025 ratio. In addition, impairment losses of both PPE and IA were estimated to stay constant at the respective 2022 ratio, over the explicit period.

Moreover, the group of "other", which Heineken does not indicate its composition, but is included in the total costs of D&A and Impairments, was forecasted as a percentage of net revenues. It was assumed that, over the explicit period, would stay constant at the 2022 ratio.

Finally, the impairment of assets classified as held for sale, which was, in 2022, related with Russia's disposal group, allocated as held for sale (it was registered an impairment loss in the amount of 88 Million), is estimated to no longer have any value in the explicit period, as Heineken's does not provide any further expectations about it.

A summary of the calculations is displayed below. Appendix 13 presents all of them in detail.

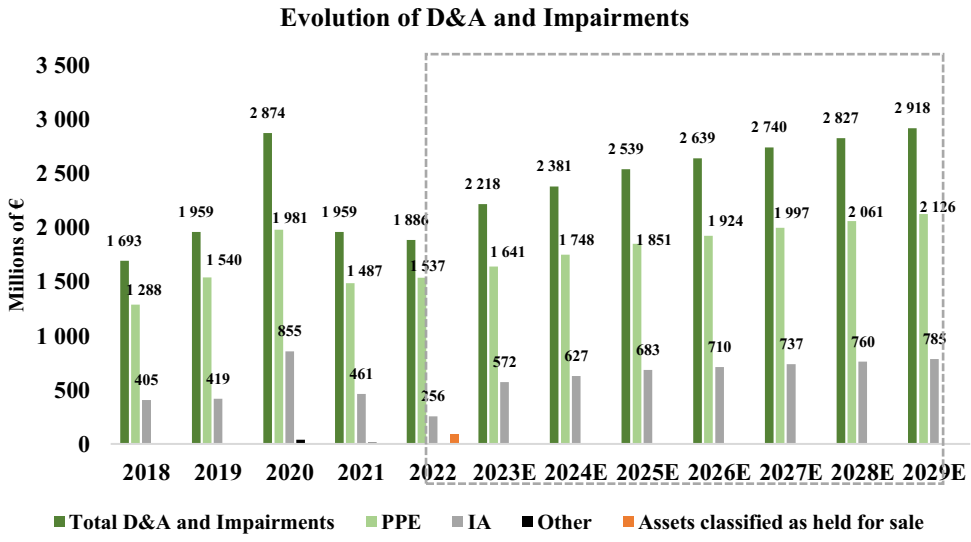


Figure 16: Forecast D&A and Impairments 2018-2029E

5.1.6 EBITDA and EBIT

Is now possible to display the evolution of EBITDA and EBIT over the explicit period. In the historical period there was an upward tendency in both, and the same was also assumed over the explicit period.

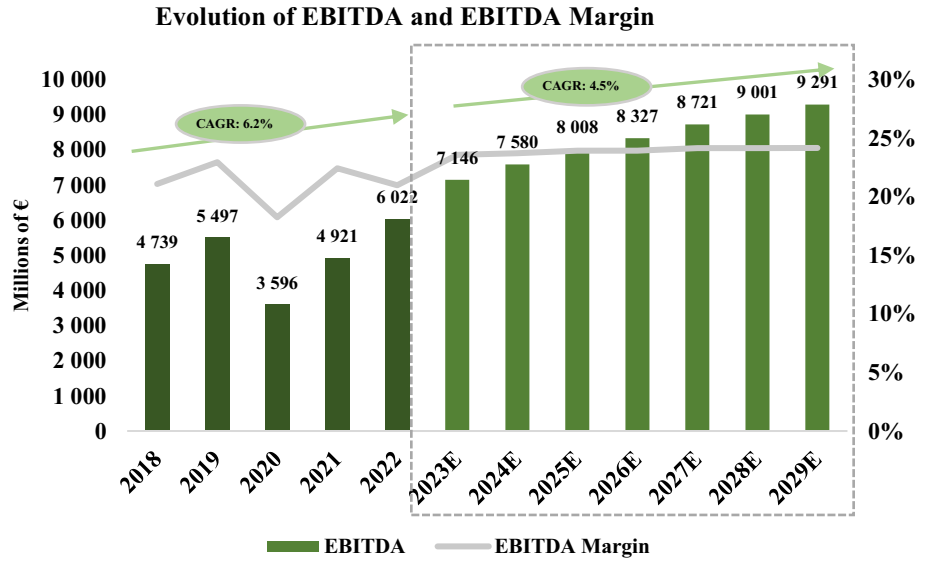


Figure 17: Forecast EBITDA and EBITDA margin 2018-2029E

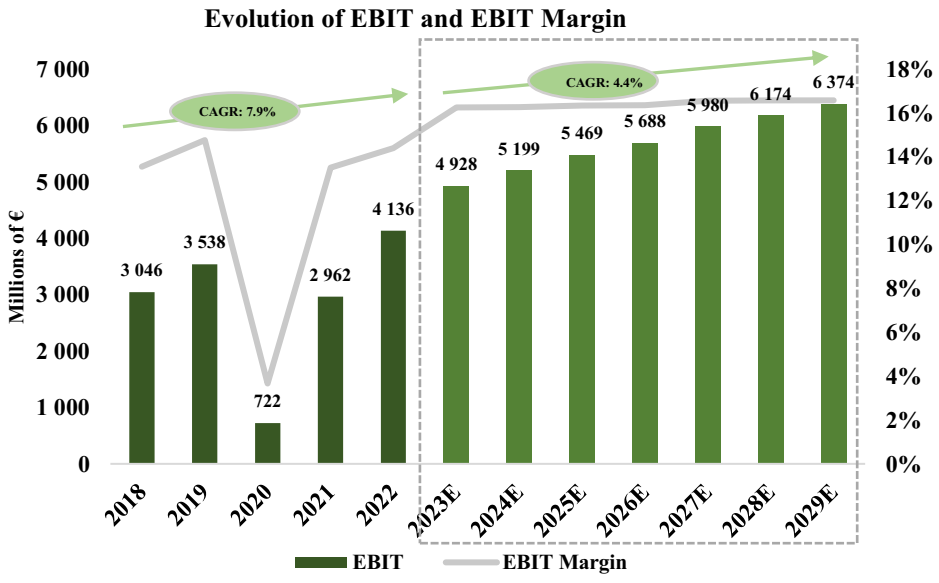


Figure 18: Forecast EBIT and EBIT margin 2018-2029E

5.1.7 Operating Working Capital (OWC)

Total receivables, current tax assets, deferred tax assets (DTA) and inventory were considered as part of the current assets. Total Payables, tax liabilities and deferred tax liabilities (DTL) were considered as part of current liabilities.

In its AR, Heineken reports, under the item of trade and other payables, dividends and interests, which were not considered as part of the calculations for the working capital (since those are non-operating). As such, dividends and interest are expressed in the balance sheet separately from trade and other payables, under the name of other non-operating payables.

In 2022, the negative increased in OWC, versus 2021, was justified by a higher inventory position, total payables (due to inflation in transport prices and in raw material's commodity prices), and current and deferred tax liabilities.

Working capital has been negative since 2018, and the cash conversion cycle has been below zero since that time. In fact, in 2022, and in comparison with 2021, Heineken was able to reduced its cash conversion cycle in €22 Million, due to a lower operating cycle and days pays outstanding ratio. This is the reflection of Heineken's management effectiveness and an increase of the company's capacity of a fast conversion of inventory into cash. As Heineken does not provide any information about its working capital prospects, it was assumed that the same would continue to be negative in the explicit period.

Total receivables were forecasted based on the historical days sales outstanding ratio (DSO), which is dependent of daily net revenues. For the explicit period, it was assumed that the 2022 DSO ratio would continue to be constant. In addition, despite the fact that Loans and advances to customers are not, in the balance sheet, part of the group of current assets, they still have to be taken into account as they are considered as long-term accounts receivables. Hence, as sales increase, loans and advances to customers were also predicted to increase. As such, the average of the ratio of loans and advances to customers by net revenues, from 2020-2022, was assumed to stay constant over the forecasted period. Hereby, this item was computed, for the explicit period, by multiplying this constant ratio by the estimated net revenue, of each year.

Inventories were forecasted based on the historical days in inventory ratio (DCI), which is dependent of daily cost of goods sold. It was estimated that the 2022 DCI ratio would continue to be constant over the forecasted period. Finally, total payables were forecasted based on the historical days pays outstanding ratio (DPO), which depends of daily cost of goods sold. For

the explicit period, it was assumed, once again, that the 2022 DPO ratio would continue to be constant.

Current tax assets, current tax liabilities, DTA and DTL were forecasted as a percentage of net revenues. Hereby, for all them, it was assumed that the respective 2022 ratio would continue to be constant over the explicit period. Despite the fact that DTA and DTL are not considered, in the balance sheet, as part of current assets and liabilities, they still have to be taking into account, as they result from operations.

Detailed estimations are presented in appendix 14.

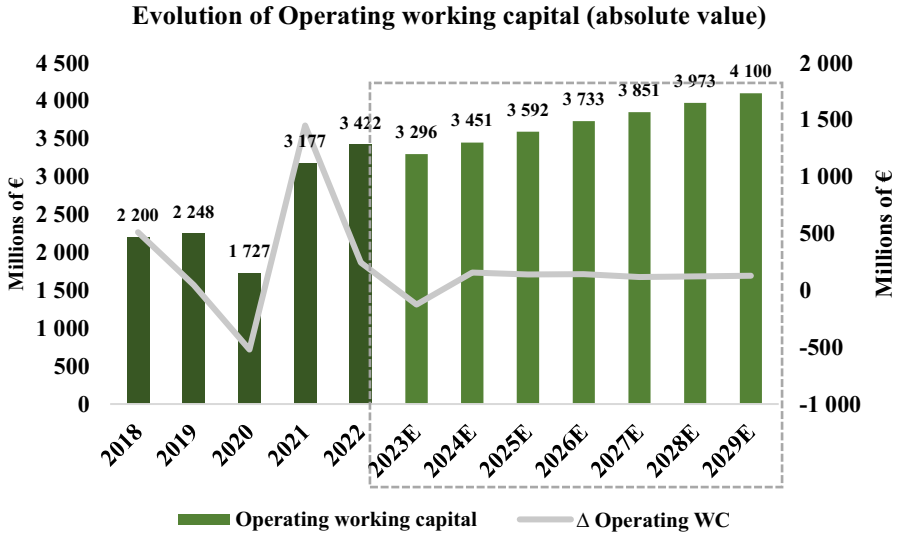


Figure 19: Forecast of OWC 2018-2029E

5.1.8 Forecasts of Financial Statements

The Balance Sheet and Income Statement were estimated for the forecasted period (2023-2029), as the majority of its elements were estimated by now. Those are presented in appendix 15 and 16.

5.2 Weighted Average Cost of Capital

To discount the FCFF, the WACC was estimated. The WACC depends of the respective weight of the market values of equity and debt, as well as the cost of equity and the cost of debt. The table below consolidates the different parameters that were required to be estimated, originating a WACC of 5.83%. The calculations of each parameter are individual explained in the next sections.

Table 2: Summary WACC computations

MV Equity	57,059
MV Debt	19,235
D+E	76,294
D/V	25,21%
E/V	74,79%
D/E	33,71%
Ke	6,92%
Kd	3,70%
Tc	30%
After-tax cost of debt	2,59%
WACC	**5,83%**

5.2.1 Cost of Equity

The CAPM was used to estimate the cost of equity. It was necessary to obtain the values regarding the risk-free rate, levered beta and market risk premium (MRP). It is fundamental for the risk-free rate to be in the same currency as the one that Heineken's uses in its financial statements, euros. In fact, Heineken's headquarters are based in the Netherlands. Hence, the yield of the 10-year German Government Bund was used, as it is considered as being the best proxy for the risk-free rate (it has high liquidity and low default risk). As of 31 March 2023, the respective yield was 2.30%.

By comparing Heineken's monthly returns against the STOXX 600 Index, over the past five years (31/Dec/2017-31/Dec/2022), Heineken's levered beta was estimated using the respective linear regression. The STOXX 600 Index was used as it consider to be a well-diversified and value-weighted index. From the regression, Heineken's levered beta, which is the slope, was equal to 0.84.

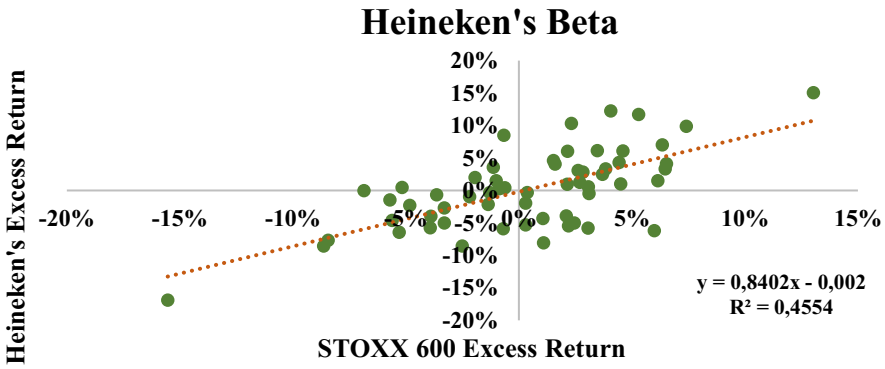


Figure 20: Computation of Heineken's Beta (Thomson Reuters)

Finally, KPMG Corporate finance's recommendation of the MRP, as per 31 March 2023, was used. According to them, MRP is predicted to be 5.5%, as of that date. The same was also assumed in this thesis. As a result, it was obtained a cost of equity of 6.9%, as the table below demonstrates.

Table 3: Summary Cost of Equity computations

Risk free rate	2,30%
Levered Beta	0,840
Market Risk Premium	5,50%
Cost of Equity	**6,9%**

5.2.2 Cost of Debt

By considering the yields to maturity (YTM) of Heineken's bonds outstanding, the cost of debt was computed. In fact, as of 2022, bonds constituted the majority of Heineken's debt (82%), followed by bank financing and other (10%) and lease liabilities (8%). As such, this method seemed appropriated to compute Heineken's cost of debt.

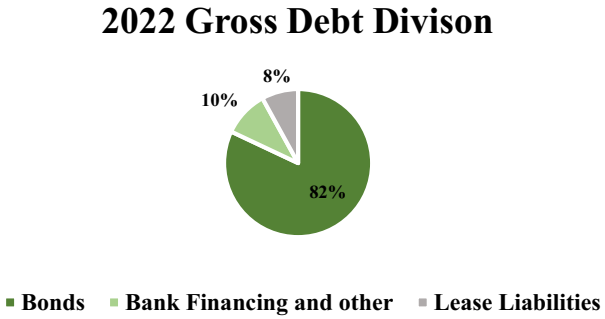


Figure 21: Gross Debt division 2022 (Heineken N.V., 2022a)

Heineken has 28 bonds outstanding, the longest one having a maturity date as of 29 March 2027. It was first necessary to collect, from Thomson Reuters Eikon (TRE), the amount outstanding in euros of each bond, as several of them are issued in other currencies (TRE already has converted, in its platform, the amount outstanding of each bond to euros), as well as the respective YTM. Of the 28 bonds outstanding, three are denominated in another currency, UDS. To convert their yield to euros, it was necessary to compute the delta between the Germany government bond yield and the U.S Treasury yield, for each corresponding maturity. Next, by summing that delta with the corresponding yield, in USD, of each bond, it was obtained the corresponding yield in euros. The bonds denominated in USD and respective computations of their yields to euros, are presented in the tables below.

Table 4: Yields conversion (Bloomberg)

	Maturity		
	5 years	**20 years**	**30 years**
Germany Gov. bond yield	2,22%	2,49%	2,46%
U.S Treasury bond yield	3,41%	3,84%	3,75%
Delta	-1,19%	-1,35%	-1,29%

Table 5: USD Bonds (Thomson Reuters)

Maturity Date	**Amount Outstanding (EUR)**	**YTM - USD**	**Currency**	**YTM - EUR**
29-jan-2028	1,001,183,217	4,47%	U.S.Dollar	3,28%
01-out-2042	455,083,280	5,27%	U.S.Dollar	3,92%
29-mar-2047	591,608,264	5,43%	U.S.Dollar	4,14%

Next, by using the excel function sumproduct(), the cost of debt was computed, by considering the weight of each bond and respective YTM. As a result, it was obtained a cost of debt of 3.70%. Detailed computations are included in appendix 17.

It should be noted that the value of 3.70% is the before-tax cost of debt. Hence, by multiplying this value by the effective tax rate (30%), the after-tax cost of debt, which includes interest tax shields, is achieved, being equal to 2.59%.

5.2.3 Capital Structure

Obtaining Heineken's target capital structure that is, target market values of equity and debt, and the respective D/E ratio at market values is the final process to compute the WACC.

The Market capitalization was computed by multiplying Heineken's share price as of 31 March 2023 (99.06€), by the corresponding number of shares outstanding (576 Million), as of that same date. The value obtained was €57,059 Million.

The MVD was computed by first separating publicly traded debt from non-publicly. For the first, the market value of Heineken's outstanding bonds was computed. The amount outstanding in Euros of each bond had already been computed in the calculations of the cost of debt. Hence, was only necessary to extract, from TRE, the last quote (market price) of each bond. Afterwards, the market value was computed by multiplying the amount outstanding of each bond by the corresponding market price, and divide by 100. A market value of €13,273 Million was obtained, regarding Heineken's outstanding bonds (appendix 17).

Afterwards, the MVD was computed for the book value of long-term debt, which is not part of the bonds (Lease Liabilities, Bank Loans and other interest-bearing liabilities). As such, that debt was converted into MV, by using the equation below, which treats long-term debt as a single coupon bond (represented by the interest expense).

$$Market\ value\ of\ Debt = I_E * \frac{1 - (\frac{1}{(1+k_D)^t}}{k_D} + \frac{BV_D}{(1+k_D)^t} \quad (22)$$

Where:

- I_E = Interest Expense
- k_D = Cost of Debt
- BV_D = Book Value of Debt
- t = Average Maturity of Long-Term Debt

As of 2024, interest expense is forecasted to be €458Million. The cost of debt, as previously estimated, is 3.70% and the average maturity of the long-term debt is seven years. Hence, the market value of long-term debt (not part of bonds) is estimated to be €4,258 Million. The book value of short-term debt (Deposits from third parties and Bank overdrafts) was assumed to be equal to the market value, providing a value of €1,704 Million. Finally, by adding all of the

computed market values, it was reached Heineken's market value of total debt, being estimated to be €19,235 Million.

Table 6: MVD Computations

	2022
BV Long term-debt (not part of bonds)	1,907
Interest Expense	458
Cost of debt	3,70%
Weighted average maturity	7
MV Long term debt (not part of bonds)	4,258
(+) MV Bonds	13,273
(+) BV Short-term Debt	1,704
Total MVD (€ Million)	**19,235**

Therefore, the capital structure was computed: Equity is the major source of Heineken's funding (74.79% of the capital structure's weight), while debt is the minority (25.21%). Hence, the D/E is estimated to be 33.71%.

5.3 DCF Valuation – Target Price

Table 7: Computation FCFF and TSP

Millions of € (otherwise mentioned)	2023E	2024E	2025E	2026E	2027E	2028E	2029E
EBIT*(1-t)	3,450	3,639	3,828	3,981	4,186	4,322	4,461
(+) D&A and Impairments	2,218	2,381	2,539	2,639	2,740	2,827	2,918
(-) Δ OWC	126	-156	-140	-141	-118	-123	-127
(-) CAPEX	2,184	2,366	2,545	2,645	2,746	2,833	2,924
FCFF	**3,357**	**3,810**	**3,963**	**4,117**	**4,298**	**4,438**	**4,582**
Time Period			1	2	3	4	5
WACC			5,83%	5,83%	5,83%	5,83%	5,83%
PV FCFF			3,744	3,676	3,626	3,538	3,452
Total PV FCFF							18,037
PGR							1%
Terminal value							95,829
PV Terminal value							72,188
Enterprise value							**90,225**
(-) Net Debt							13,611
(-) Non-Controlling Interests							2,369
(+) Investments in Associates and Joint Ventures							4,296
Equity Value							**78,541**
Shares Outstanding (Million)							576
Target Share Price (€)							**136,4**
Current Share Price (€) - 31 March 2023							99,1
Var.							37,6%

With all the forecasts done it was possible to estimate the FCFF of the explicit period, following equation [2]. EBIT was the starting point which, by taking into consideration its respective taxes (30%), originates the NOPLAT. Next, FCFF were computed. Over the forecasted period, FCFF were always increasing in relation with the previous year, since net revenues were increasing as well. FCFF were then discounted with the WACC of 5.83%, as of 31 December 2024, from the 2025-2029. Next, the PV of each FCFF was computed and all were added.

Subsequently, it was necessary to estimate the perpetual growth rate (PGR). It was decided the approach of using a stable growth rate which will be used in the estimation of Heineken's terminal value, once the steady state is reached (2029). According to the IMF (2023b), the

average of the GDP growth for advance economies, from 2023 to 2028, is forecasted to be 1.7%, and 3.1% for the world GDP growth. The value of the PGR cannot be higher than the forecasted world GDP growth. Moreover, since the regions which most contribute to Heineken's total revenues belong to advance economies, it was also assumed that the PGR cannot be higher than the forecasted GDP growth for advance economies. In addition, overall, over the explicit period, there was a decrease tendency in the magnitude of the growth of FCFF, year by year, as the steady state is achieved. Hence, it was considered to be appropriate to assume a PGR of 1%.

Next, the terminal value was computed, based on the equation [18], and discounted to the same date of 31st December 2024. By summing the PV of FCFF with the PV of the terminal value, the EV, which represents Heineken's firm value, was reached. However, the objective is to obtain the equity value, requiring further adjustments.

The value of net debt was obtained by deducting the forecasted value of cash and cash equivalents, as of 31st December 2024, from the forecasted MVD of 2024. Next, the forecasted values of 2024 regarding non-controlling interests (NCI) and investments in associates and joint ventures (IA&JV) were also retrieved, both of them from the balance sheet. As such, the equity value was obtained by deducting the values of net debt and NCI and adding the value of IA&JV, from the EV.

By dividing the equity value with the number of shares outstanding (576 Million), the TSP as of 31st December 2024 was obtained, being equal to €136.4 per share. When compared with Heineken's price per share as of 31st March 2023 (99,1€), the obtained TSP represents an upside potential of 37.6%. Hereby, a buy recommendation, from the DCF valuation, is provided by this thesis for Heineken.

5.3.1 Sensitivity Analysis

The TSP, derived from the DCF model, is subject to different parameters, and when their values change, so does the value of the obtained TSP. That is the case of the PGR and the discount rate, as the correct estimation of those variables is crucial to obtain a correct estimation of the terminal value, and consequently TSP.

Hence, to understand how the change in those two variables affect the final TSP, a sensitivity analysis was conducted. The stressed variables, WACC and PGR, were subject to variations of

0.5% and 0.25%, respectively. The results of the sensitivity analysis are demonstrated in the table below.

Table 8: Sensitivity Analysis

		Perpetuity growth rate				
	136,4	**0,50%**	**0,75%**	**1,0%**	**1,25%**	**1,50%**
	4,83%	157,2	166,5	177,1	189,1	202,9
	5,33%	138,9	146,2	154,3	163,5	173,8
WACC	**5,83%**	124,0	129,9	**136,4**	143,5	151,5
	6,33%	111,8	116,6	121,8	127,6	133,9
	6,83%	101,5	105,5	109,8	114,5	119,6

As is possible to analyze from the results obtained, by keeping the same WACC (5.83%) but changing the PGR, the TSP ranges from €124.0 to €151.5. In addition, by keeping the same PGR (1%), but changing the WACC, the TSP ranges from €109.8 to €177.1. Finally, when changing, at the same time, the two parameters, the TSP ranges from €101.5 up to €202.9. As a key note, these variations reflect, respectively, very pessimistic and optimistic hypotheses. Indeed, and believing that the chosen WACC and PGR reflect as correctly as possible Heineken's growth prospects, the mentioned hypotheses are considered to be improbable.

6. Relative Valuation

By using the ratios of Heineken's comparable firms, a RV was conducted, in order to make a comparison between the value obtained by this method, with the one from the DCF valuation.

6.1 Peer Group

The list of Heineken's peer group, and respective ratios, was retrieved from TRE. It was fundamental to select a reasonable peer group, to obtain a precise RV. Comparable companies were selected based on the conditions that those are in the same industry as Heineken, as well as operating at an international level. Companies that only operate in a small number of markets, with distinct business models, in relation with Heineken, were rejected. The peer group was further restricted, by considering different conditions, such as risk, profitability and size. Moreover, the growth rate and ROIC are two crucial variables that need to be taken into account when choosing the peer group. The first, identifies if companies are growing at similar rates and the last helps to measure the profitability of each one. Hereby, peers that are in conformity

with Heineken's financial metrics were picked and the ones that were not (for example Molson Coors Beverages, since it had a negative ROIC), were not selected. At the end, it was obtained a final peer group constitute by four companies.

None of the selected peers is perfectly similar to Heineken, as such is not viable. Nevertheless, the differences between Heineken and the companies from the peer group are expected to dissipate, as an average of all the comparables multiples will be performed later.

Table 9: Statistics of Heineken and Peer group (Thomson Reuters)

	Market Cap (€ Billion)	EBITDA Margin	Current Ratio	Earnings per Share (EUR)	Last 2 years Revenue Growth	Last 1 year Revenue Growth	ROIC
Heineken	60,66	22,5%	0,78	4,92	45,67%	30,89%	8,70%
Anheuser-Busch Inbev SA	105,03	34,4%	0,67	3,03	33,65%	19,68%	4,50%
Carlsberg A/S	21,72	21,0%	0,70	9,32	20,27%	16,89%	11,50%
Pernod Ricard SA	56,43	31,3%	1,95	8,18	26,67%	21,27%	7,10%
Diageo PLC	96,25	34,2%	1,53	1,81	36,18%	26,91%	13,50%

6.2 Multiples

After having the final selection of the peer group, it was crucial to select the most appropriate multiples. The first decision was to use 1-year forward multiples, whose information was retrieved, once again, from TRE. Next, it was decided to select three types of multiples, which are the most frequently used: one related with capitalization (P/E), and EV/EBITDA and EV/Sales, both of them related with the value of a company. After having the information collected, in order to achieve Heineken's multiple, an average of each comparable multiple was executed. Next, the target price of each multiple was computed by taking into consideration the forecasted values of Heineken for 2024 regarding revenue, EBITDA and net income.

Table 10: Peer Group Multiples (Thomson Reuters)

Peer group			
Company Name	**Forward P/E (NTM) - Mean**	**Forward EV to EBITDA (NTM)**	**Forward EV to Sales (NTM)**
Anheuser-Busch Inbev SA	19,16	9,16	3,09
Carlsberg A/S	19,93	11,53	2,42
Pernod Ricard SA	21,60	15,97	5,22
Diageo PLC	21,52	16,11	5,63
Heineken	20,55	13,19	4,09
EV	-	100,000	130,769
Value of Equity	73,272	86,389	117,158
# Shares	576	576	576
Price per Share	**127,2**	**150,0**	**203,4**

Depending on the multiple used, the obtained TSP differed . A range of target share prices from €127.2 up to €203.4 was reached, being the average of the three €160.2. All of those target share prices are higher than Heineken's market price as of 31st March 2023 (€99.1). Moreover, it is observed that the P/E multiple was the one that provided a lower TSP, and EV/Sales the highest. Its seems reasonable that the last provided the highest result since, despite the effort of trying to select a peer group as similar as possible to Heineken, there are still differences at the operational level between all of them (for example, in terms of forecasted revenues).

Since the RV is very affected by the correct selection of the peer group, plus the use of forward multiples being influenced by actual market fluctuations, this thesis considers that the TSP obtained from the DCF valuation is the most viable to be taken into account. Nevertheless, the results from the RV support the conclusion from the DCF valuation that is, the issue of a buy recommendation.

7. Investment Banking Report Comparison

The results obtained from the DCF and RV from this thesis were compared with the ones from an investment banking report (J.P Morgan), published at 27th March 2023. Since J.P Morgan discounted its valuation as of December 2024, the same was done in the valuation of this thesis, so that it could be possible to directly compare the two obtained TSP.

J.P Morgan obtained a TSP of €100, as of December 2024, while this thesis obtained a TSP of €136.4, as of the same date. In fact, despite the fact that both valuations used a DCF analysis, the assumptions made were significantly different from each other.

Table 11: TSP Dissertation and J.P Morgan equity report

	Dissertation	J.P Morgan
Estimation Period	2023-2027	2023-2025
Valuation method	DCF	DCF
Valuation date	31/12/2024	31/12/2024
Share price (as of 31 and 24 March 2023 respectively)	99.1	97.74
TSP	136.4	100
Estimated target price potential (%)	37.6%	2.3%
Absolute Rating	Buy	Neutral

First, J.P Morgan only forecasted its valuation from 2023-2025, while our valuation was forecasted from 2023-2029. Moreover, in those forecasts, J.P Morgan is much more optimistic than this thesis as, for example, the first predicts higher net revenues for 2024 and 2025. Despiste the fact that the majority of the forecasts from J.P Morgan and this thesis are expected to grow in the same direction, the first assumes a more expressed growth, year after year, of some inputs, such as net revenues, EBITDA, EBIT and net profit, than us. Moreover, our valuation predicts higher COGS over the forecasted period, than J.P Morgan.

Table 12: Forecasts Thesis versus J.P Morgan

	2024E - Dissertation	2025E - Dissertation	2024E - J.P Morgan	2025E - J.P Morgan
Net Revenue	31,964	33,474	33,180	35,127
Growth	*4,73%*		*5,87%*	
COGS	19,814	20,683	17,585	5,490
Growth	*4,39%*		*-68,78%*	
EBITDA	7,580	8,008	7,636	8,144
Growth	*5,65%*		*6,65%*	
D&A	2,381	2,539	2,273	2,353
Growth	*6,65%*		*3,52%*	
EBIT	5,199	5,469	5,363	5,790
Growth	*5,19%*		*7,96%*	
Net Profit	3,208	3,397	3,409	3,754
Growth	*5,89%*		*10,12%*	
Total Assets	57,381	60,397	54,186	54,660
Growth	*5,26%*		*0,87%*	

It might be expected that because of the higher forecasts of J.P Morgan, the obtained TSP should be higher than the one from this thesis. In reality, it was the opposite. However, the reason for such is that J.P Morgan used a much higher WACC (10.1%), in comparison with our valuation (5.83%). Therefore, the TSP from J.P Morgan decrease substantially. Nevertheless, this thesis believes that the estimation of a WACC of 5.83% seems reasonable, and should not be higher.

In conclusion, J.P Morgan provides a neutral recommendation, since the upside potential, in comparison with Heineken's share price as of 24 March 2023, was only 2.31%, while our valuation provides a buy recommendation, as the upside potential, in comparison with Heineken's share price as of 31st March 2023, is 37.6%.

8. Conclusion

The objective of this Dissertation was to identify what is the fair price of Heineken's common stock as of 31st December 2024. The dissertation started by revising theoretical concepts related with equity valuation. Afterwards, a deep study of the company, industry in which is inserted and historical performance were performed, to identify which valuation method were the most appropriate for Heineken. The DCF and RV were the ones that seemed the most correct methods to be used, and in this process, was gathered information regarding Heineken's peers. Finally, Heineken's valuation was performed, and the results were compared with the ones obtained from an investment banking report.

The figure below summarizes the variations of Heineken's TSP, in comparison with the current share price (€99.1), as of 31st March 2023. The DCF valuation provided a TSP of €136.4, while the values obtained with the use of forward multiples ranged from €127.2 up to €203.4. Moreover, we analyzed the variations of the TSP with the sensitivity analysis. By keeping the WACC constant, the TSP varies between €129.9 up to €143.5. Similarly, by maintaining the PGR constant, the TSP varies from €121.8 to €154.3. Finally, J.P Morgan provided a TSP of €100. The adding effect of this five variations, suggest a buy recommendation.

Concluding, although J.P Morgan had a more conservative approach in terms of the discount factor, therefore obtaining a TSP of €100 and providing a neutral recommendation, the values obtained from the DCF and RV from this thesis suggest the opposite. Because of the estimated upside potential of +37.6%, obtained from the DCF analysis of this thesis, and expected positive outlook of the company plus the Beer & Cider market, a final buy recommendation is given to Heineken.

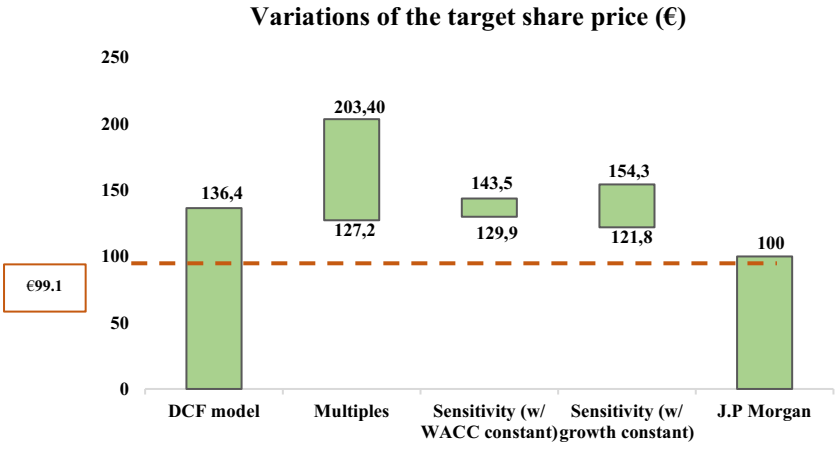


Figure 22: Variations of the TSP

Appendices

Appendix 1: Additional Literature Review

Adjusted Present Value (APV)

WACC-based models perform best when a firm keeps its debt-to-value ratio largely unchanged. When is that is not the case, the adjusted present value (APV) is advised (Koller et al., 2020). The effects of debt financing are separated from the value of a company's assets using the APV. Therefore, the value of the firm without debt is initially assessed. Afterwards, the net effect on value is calculated as debt to the company is added, taking into account both the benefits and the costs of borrowing. Utilizing debt to finance a business's activities has both positive and negative effects: on the plus side, interest expenses are tax deductible (creating tax shields); on the negative side, it increases the risk of bankruptcy and the associated costs. As such, the value of a firm can be computed based on the two equation below (Damodaran, 2006).

$$\begin{aligned} &Value\ of\ business \\ &\quad = Value\ of\ business\ with\ 100\%\ equity\ financing \\ &\quad + \ Present\ value\ of\ Expected\ Tax\ benefits\ of\ Debt \\ &\quad - Expected\ Bankruptcy\ Costs \end{aligned}$$

Therefore:

$$Value\ of\ Levered\ firm = \frac{FCFF_0(1+g)}{\rho_u - g} + \ t_c D - \ \pi_a BC$$

With a deeper analysis on the last equation, it is possible to decompose it in three different steps. First, by discounting the expected free cash flow to the firm at the unlevered cost of equity, i.e, by valuing the company as if it had no debt, the value of the unlevered firm is estimated (Damodaran, 2006).

$$Value\ of\ Unlevered\ Firm = \frac{FCFF_0(1+g)}{\rho_u - g}$$

Where:

- $FCFF_0$ = firm's current operating cash flow after taxes.
- ρ_u = Unlevered Cost of equity
- g = expected growth rate

In the second step, the estimated tax benefits from a specific level of debt are computed. This tax benefit is discounted at the cost of debt to indicate the riskiness of this cash flow and depends on the firm's tax rate and interest payments (Damodaran, 2012).

$$Value\ of\ tax\ benefits = \frac{(Tax\ rate * Cost\ of\ Debt * Debt)}{Cost\ of\ Debt}$$
$$= Tax\ rate * Debt = t_c D$$

Where:

- t_c = Marginal Tax rate
- D = Market value of debt

Finally, the third step is to assess how the firm's default risk and expected bankruptcy costs are impacted by the given level of debt. This includes the direct and indirect costs of bankruptcy (Damodaran, 2012).

$$PV\ of\ expected\ bankruptcy\ cost$$
$$= Probability\ of\ bankruptcy * PV\ of\ bankruptcy\ cost$$
$$= \pi_a BC$$

Where:

- π_a = likelihood of default with the addition of new debt
- BC = cost of bankruptcy's present value

According to Luehrman (1997), the APV approach, provides a superior option that is available for appraising a business operation, as it enables the separation of an issue into manageable components. However, since neither the bankruptcy cost nor the bankruptcy probability can be directly calculated, this is one of the biggest estimation challenges in the APV approach (Damodaran, 2006).

Economic Value Added (EVA)

Firms have increased their attention on value generation, over the last decades. They may be familiar with the concept of DCF value, but they are hesitant to link compensation to a figure that is dependent on so many assumptions. One the approaches created to solve this concern is the Economic Value Added (Damodaran, 2012).

According to Young (1997, page 335) "EVA measures the difference between the return on a company's capital and the cost of that capital. A positive EVA indicates that value has been created for shareholders; a negative EVA signifies value destruction".

$$EVA = (Return\ on\ capital\ invested - Cost\ of\ Capital)$$
$$* (Capital\ invested)$$
$$= After - tax\ operating\ income - (Cost\ of\ capital$$
$$* Capital\ invested)$$

As a result, a firm's value may be expressed as three factors: the capital invested in existing assets, the present value of the economic value that these assets add, and the anticipated present value of the economic value that will be added by future investments (Damodaran, 2012).

$$Firm\,Value = Capital\,Invested_{assets\,in\,place} + \sum_{t=1}^{t=\infty} \frac{EVA_{t,assets\,in\,place}}{(1+k_c)^t} + \sum_{t=1}^{t=\infty} \frac{EVA_{t,future\,projects}}{(1+k_c)^t}$$

Where:

- EVA_t = Economic Value Added by the project in year t
- k_c = Cost of capital

Dividend Discount Model (DDM)

According to Pinto et.al (2015, page 241), "The DDM is the simplest and oldest present value approach to value a stock". When an investor buys a stock, they often anticipate receiving two different forms of cash flows: dividends during the holding period and an anticipated price at the completion of the holding period. Therefore, the value of a stock is the present value of dividends through infinity, since its predicted price is influenced by those future dividends (Damodaran, 2012; Pinto et al., 2015).

$$V_0 = \sum_{t=1}^{t=\infty} \frac{D_t}{(1+k_e)^t}$$

Where:

- V_0 = Value of the stock at time 0
- D_t = Expected dividend per share in year t
- k_e = Cost of Equity

In order to estimate the expected dividends per share (DPS) is necessary to make assumptions regarding the expected future growth rates in earnings and payout ratios. Therefore, different versions of the DDM have been created in order to forecast this future growth, as it not possible to estimate dividends for an infinitive period of time (Damodaran, 2012). Those versions are: The Gordon Growth Model and the two-stage dividend discount model.

The Gordon Growth Model

Established by Gordon and Shapiro (1956) and Gordon (1962), this model assumes that dividends growth at a constant rate eternally, and can be used when a company is in a steady state. Therefore, according to Pinto et al. (2015, page 246), the "DDM is most appropriate for companies with earnings expected to grow at a rate comparable to or lower that the economy's nominal growth rate".

$$V_0 = \frac{D_0(1+g)}{K_e - g} \text{ or } V_0 = \frac{D_1}{K_e - g}$$

Where:

- V_0 = Value of the stock at time 0
- D_0 = Expected dividend per share at time 0
- D_1 = Expected dividend per share at time 1
- K_e = Cost of Equity
- g = Expected growth rate in perpetuity

Two-Stage Dividend Discount Model

This model permits two phases of growth: an early phase in which the growth rate is not stable, and a succeeding steady state in which the growth rate is steady and is anticipated to stay that way indefinitely. Although the growth rate during the initial phase is often larger than the steady growth rate, the model can be modified to assess businesses that are anticipated to have short-term low or even negative growth rates before returning to stable growth (Damodaran, 2012).

$$V_0 = \sum_{t=1}^{t=n} \frac{D_t}{(1+k_e)^t} + \frac{V_n}{(1+k_e)^n} \text{ where } V_n = \frac{D_0(1+g_S)^n(1+g_L)}{k_e - g_L}$$

Therefore:

$$V_0 = \sum_{t=1}^{t=n} \frac{D_0(1+g_s)^t}{(1+k_e)^t} + \frac{D_0(1+g_S)^n(1+g_L)}{(1+k_e)^n(k_e-g_L)}$$

Where:

- V_0 = Value of the stock at time 0
- D_0 = Expected dividend per share at t = 0
- k_e = cost of equity
- g_s = extraordinary short-term rate
- g_L = normal long-term rate
- V_n = Terminal value of the stock

The Fama-French Model

Empirical evidence had developed by the end of the 1980s, showing that, at least over specific lengthy time periods in several equity markets, investing strategies biased toward small-market capitalization securities and/or value might provide higher long-term returns than the CAPM forecasts. As such, Fama and French, in 1993, answered these apparent flaws of the CAPM in a three-factor model known as the Fama-French model (FFM). Therefore, the required rate of return can be computed based on the formula below (Pinto et al., 2015).

$$r_i = R_f + \beta_i^{mkt}(R_M - R_F) + \beta_i^{size} SMB + \beta_i^{value} HML$$

Where:

- r_i = Expected rate of return
- R_f = Risk-free rate
- $R_M - R_F$ = Market Risk premium
- SMB (Small minus Big) = Historic excess return of small-cap portfolios minus large-cap portfolios
- HML (High minus Low) = Historic excess returns on high book-to-market portfolios minus low book-to-market portfolios.
- β = Sensitivity of each factor's coefficient

Other Markets: Historical Risk Premiums

One important aspect in the Historical Risk Premium approach mentioned above is that in markets like the United States, it might produce credible predictions. Nevertheless, it produces useless estimates for risk premiums in emerging markets. First, any equities market's risk premium is based on the equation below (Damodaran, 2012).

$$Equity\ Risk\ Premium = Base\ Premium\ for\ mature\ equity\ market + Country\ Premium$$

The increased risk in a particular market is reflected in the Country premium. There are two methods that can be used to estimate it. One is derived from country bond default spreads and the other one is centered on equity market volatility. The use of Default Risk Spreads is one of the most straightforward ways to rate a country. This can be done with the information provided by rating agencies regarding the selected rating to a country's debt. Those ratings can be utilized to predict default spreads over the riskless rate (Damodaran, 2012).

$$Cost\ of\ Equity\ (in\ U.S\ dollars) = rf + Beta \times U.S\ risk\ premium + Default\ Spread$$

Regarding the Equity market volatility, the standard deviation of stock prices is a common indicator of equity risk. The relative risk can be estimated by comparing the standard deviations of one market against other. Afterwards, one can compute the total risk premium for any market by multiplying the premium used for U.S stocks with the relative standard deviation (Damodaran, 2012).

$$Relative\ Standard\ deviation_{country\ X} = \frac{Standard\ deviation_{U.S}}{Standard\ deviation_{country\ X}}$$

$$Equity\ risk\ premium_{country\ X} = Risk\ Premium_{U.S} \times Relative\ Standard\ deviation_{country\ X}$$

The next issue to be resolved is how exposed specific companies within that country are to country risk. λ measures that exposure. One possible way to estimate that parameter, and the simplest one, is by the Revenue Breakdown method. Afterwards, the expected return can be computed (Damodaran, 2012).

$$\lambda = \frac{Proportion\ of\ revenues\ in\ country_{firm}}{Proportion\ of\ revenues\ in\ country_{average\ firm}}$$

$$\begin{aligned} Expected\ return \\ &= r_f + Beta(Mature\ equity\ risk\ premium) \\ &+ \lambda(Country\ risk\ premium) \end{aligned}$$

Implied Equity Premiums

The estimation of risk premiums can also be done in a different way that does not require historical data, but does rely on the assumption that the market is generally priced accurately. The equation below describes a straightforward stock valuation model, which is the present value of dividends with a constant rate of growth. The required return on equity is the only parameter that is not yet known. By solving the equation for that unknown, the implied expected return on stocks is obtained. Afterwards, the implied equity risk premium is calculated by subtracting the risk-free rate (Damodaran, 2012).

$$Value = \frac{Expected\ dividends\ next\ period}{Required\ return\ on\ equity - Expected\ growth\ rate}$$

Cost of Debt - Emerging market company

According to Damodaran (2012), the cost of debt for firms in an emerging market is impacted by the possibility of a country default. As such, the cost of debt should be computed based on the equation below.

$$\begin{aligned} Cost\ of\ debt_{emerging\ market\ company} \\ &= Riskless\ rate + Country\ default\ spread_{emerging\ market} \\ &+ Company\ default\ spread_{synthetic\ rating} \end{aligned}$$

Option Pricing Model (or Contingent Claim Valuation)

To determine the value of assets with similar properties to options, contingent claim valuation use option pricing models. The Black-Scholes Model and the Binomial Model are the basic models in use to price options. Although some assets are not typically thought of as options, they still possess certain features. For example, equity can be thought of as a call option on the value of the underlying firm, with the term of the debt serving as the option's life and the face value of debt serving as the strike price. A patent can be equated to a call option on a product, with the ongoing costs serving as the strike price and the patent life serving as the option's time to expiration.The Contingent Claim Valuation presents some disadvantages: For example, the inputs for the underlying asset's value and its variation cannot be derived from financial markets

when the underlying asset is not traded, hence they must be estimated, resulting in more estimation errors (Damodaran, 2012).

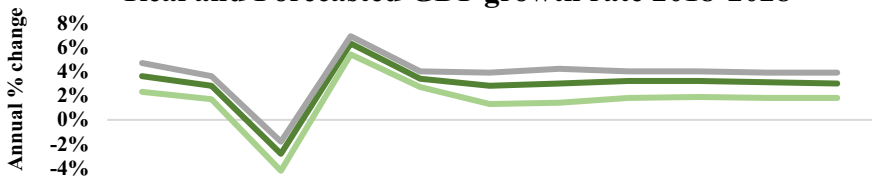
Appendix 2: Global Overview

Macroeconomic Conditions

The covid-19 pandemic and Russia's invasion of Ukraine are two recent negative shocks that have combined to have unpredictable repercussions on today's world economy. Commodity prices that spiked after Russia invaded Ukraine have leveled off, but the war rages on and geopolitical tensions are still high. In addition, debt levels continue at high proportions, which makes it difficult for fiscal authorities to address fresh problems. Moreover, economies that were the most impacted by the covid-19, such as China, appear to be rebounding, with decreases in supply-chain problems (IMF, 2023c).

For the forecasted period, world real GDP growth is expected to decline and stabilize, being estimated at 3%, by 2028. Moreover, from 2022-2023, is expected a decline in the real GDP growth in advanced economies and, consequently, higher unemployment (IMF, 2023b).

Real and Forecasted GDP growth rate 2018-2028

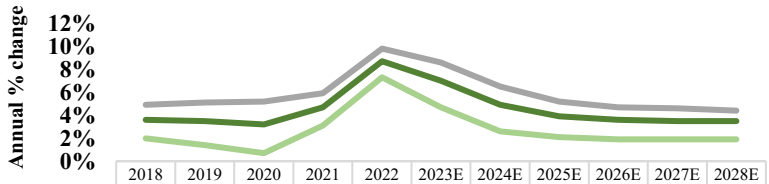


	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E
World	3,6%	2,8%	-2,8%	6,3%	3,4%	2,8%	3,0%	3,2%	3,2%	3,1%	3,0%
Advanced Economies	2,3%	1,7%	-4,2%	5,4%	2,7%	1,3%	1,4%	1,8%	1,9%	1,8%	1,8%
Emerging Markets and Developing Economies	4,7%	3,6%	-1,8%	6,9%	4,0%	3,9%	4,2%	4,0%	4,0%	3,9%	3,9%

In several economies, in 2022, inflation reached very high levels, in comparison to past decades, due to excess demand, commodity price increases, and persisting supply disruptions. As a result, central banks strengthened policy aggressively, increasing interest rates. This action and predicted slowdown in economic growth to bring inflation down have contributed to pressures in certain areas of the financial system, raising questions about financial stability. Despite lower food and energy costs and a fall in inflation, in the beginning of 2023, many economies are experiencing tight labor markets, which is contributing to persistent pricing pressures. (IMF, 2023c).

Although more slowly than expected, world inflation will continue to decrease and then stabilize, being estimated at 3.5%, by 2028 (IMF, 2023a).

Historical and Forecasted Inflation rate 2018-2028



	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E
World	3,6%	3,5%	3,2%	4,7%	8,7%	7,0%	4,9%	3,9%	3,6%	3,5%	3,5%
Advanced Economies	2,0%	1,4%	0,7%	3,1%	7,3%	4,7%	2,6%	2,1%	1,9%	1,9%	1,9%
Emerging Markets and Developing Economies	4,9%	5,1%	5,2%	5,9%	9,8%	8,6%	6,5%	5,2%	4,7%	4,6%	4,4%

Appendix 3: Geographical Overview

European Market

In the coming years, market's growth is forecasted to increase in the European Beer and cider market. Consumer preference for non-alcoholic beverages is being influenced by growing health consciousness, which has slowed the expansion of the beer and cider in Europe. Moreover, in terms of volume, in 2021, Heineken was the company with the highest one, followed by the Carlsberg group (second place), Asahi Group (third place) and A-BlnBev (fourth place). Heineken is expected to continue to occupy the first position, in the coming years (MarketLine, 2022c).

Americas Market

The main countries in the Americas Beer & Cider market are the United States, Canada, Mexico (North America group) and Brazil. In both markets, growth is forecasted to increase in the coming years. North American consumers are making the decision to live better lifestyles and avoid non-alcoholic beverages more frequently. The market's expansion is being impacted by escalating health issues like obesity and overweight. In Brazil, the prospects for the beer and cider market's expansion are improved by factors including the middle class's increased spending and marketing campaigns launched by big importers. In 2021, in the North America, in terms of volume, A-BlnBev had the biggest market share (44.5%), followed by Molson Coors (18%) and Heineken (12.8%). In Brazil, A-BlnBev also had the biggest market share (60%), followed by Heineken (27%) and Cervejaria Petropolis (8.2%). In the coming years, is expected that A-BlnBev continue in the first position, both in North America and in Brazil (MarketLine, 2022e; MarketLine, 2022f).

AMEE Market

The main players in the AMEE market are South Africa and Russia. In the coming years, in South Africa, market growth is estimated to decelerate, while in Russia is expected to increase (MarketLine, 2022a; MarketLine, 2022g). Due to substantial inflation, currency devaluation, social instability in some regions, and limited access to hard money, the AMEE segment is the one with the highest level of macroeconomic volatility and uncertainty (Heineken N.V., 2022a).

In South Africa, market's expansion for beer and cider is estimated to increase, due to the rising demand for imported craft beer and premium lager. In Russia, is anticipated that rising demand for novel variations and increasing disposable income will speed up growth over the forecasted period. Moreover, in 2021, in terms of volume's market share, in South Africa, A-BlnBev was the player with the biggest one (78.9%), followed by Heineken (11.2%), Distell (6.3%) and Namibia Breweries (3.2%). In Russia, Carlsberg Group was in first place (20.6%), followed by Heineken (10.9%), Efes Beverage Group (8.3%) and A-BlnBev (8.1%). In the coming years, A-BlnBev is expected to continue with the first position in South Africa, and Carlsberg in Russia (MarketLine, 2022a; MarketLine, 2022g).

Asia-Pacific

This segment was very impacted by the covid-19 pandemic, causing supply chains constraints in the Asia-Pacific economy. Nevertheless, for the coming years, market growth is estimated to increase. In fact, the world's demand for beer and cider has been dominated by this market, making it a very promising one in the coming years. In 2021, in terms of volume, China Resources Enterprises was the company with the biggest market share (17.1%), followed by A-BlnBev (13.4%) and Tsingtao (11.8%). China Resources Enterprises is expected to continue to retain the first place, in the next years (MarketLine, 2022d).

Appendix 4: Porter's five forces

In order to analyze the Industry as a whole, Porter's five forces methodology is used, as it is a useful framework to understand the five variables that affect the Global Beer & Cider Industry.

Bargaining Power of Suppliers

Suppliers have power in the extent that the products they sell have a crucial role in the quality of beer and cider's final products. As such, suppliers have the power of raising the prices of their raw materials. Moreover, supplier power is increased in the way that not all of them are primarily dependent on the beer industry. On the other hand, due to the size of the market's major multinational firms, some breweries now use some form of vertical integration, which reduces supplier power. In addition, because there are so many independent hop farmers, many of them running relatively tiny businesses, supplier power is further diminished (MarketLine, 2022b).

With all factors combined, there is a moderate supplier power.

Bargaining Power of Buyers

Buyer power is increased due to many buyers' large size and low switching costs. As a result, these purchasers occasionally have the ability to negotiate advantageous conditions on pricing with beer manufacturers, greatly increasing their power. On the other side, buyer power is reduced since, in order to satisfy consumer tastes, major buyers typically need to offer a wide selection of beers. As such, buyers are dependent on producers. Producers of beer and cider have a wide range of possibilities for differentiating their goods, including style, ingredients and brand, and a variety of other factors. Moreover, there is a relatively low probability of

forward or backward integration between producers and retailers, as they operate in separate industries (MarketLine, 2022b).

With all factors combined, buyer power is moderate.

Threat of new Entrants

It is conceivable to enter the market on a small scale, as a "microbrewery," therefore following the path of get into a more premium sector. However, the market is already in control of large multinational players, such as A-BlnBev and Heineken, which enjoy considerable influence and gain from powerful brands and a wide variety of goods. In fact, the threat of new entrants is reduced because of the barriers to entry. Those include the need of investment in large-scale production equipment (economies of scales are fundamental), requirement to build trustworthy supply chains from numerous third-parties and strict government control of beer and other types of alcoholic beverages, which are present in several markets (MarketLine, 2022b).

With all factors combined, there is a low threat of new entrants.

Threat of Substitute products

The threat of substitute products is increased as switching costs are not high as well as because, for both distributers and consumers, beer has higher per-unit-volume prices, in comparison with wine our spirits. In fact, wine, spirits or even non-alcoholic beverages are the major beer & cider's substitutes. Moreover, the importance of each type of beverages depends on the space in question. For example, in a restaurant, wine may be crucial and beer may be dispensable, as oppose with a pub. In addition, and in comparison with spirits and wines, beer has a higher storage and distribution costs, as it usually needs, before sale, to be refrigerated, and is more bulky and heavy. As such, other substitutes, such as wines and spirits, may be more appealing on a practical level (MarketLine, 2022b).

Hence, the threat from substitutes is moderate.

Rivalry among existing competitors

This industry is already very concentrated. Just by itself, and in terms of total market volume, in 2021, A-BlnBev accounted, in 25.81%. Moreover, as buyers have low switching costs, rivalry has increased since several major beer and cider makers have been using brand management techniques, so that the public can recognize and buy their products. Moreover, despite the fact that major players sell premium beers, a large portion of their revenue comes from mass-market goods. High fixed costs are implied by the requirement to run sizable brewing facilities. Large retail chains may, at the same time, drive down the prices that can be paid for these goods, all of this encouraging rivalry (MarketLine, 2022b).

Therefore, the degree of rivalry is strong.

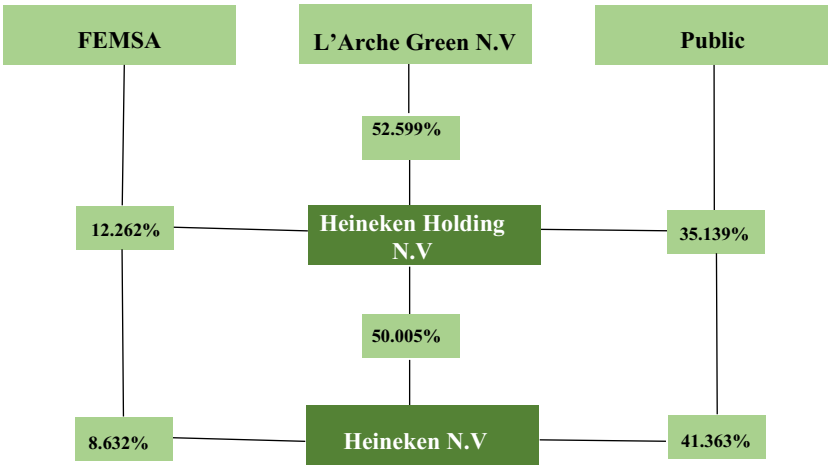
Appendix 5: Breakdown of Heineken's global volume

(in million hectolitres)	2018	2019	2020	2021	2022	Average (2018-2022)
Consolidated beer volume	**233,8**	**241,4**	**221,6**	**231,2**	**256,9**	**237**
%Growth	*7,2%*	*3,3%*	*-8,2%*	*4,3%*	*11,1%*	
Consolidated cider volume	**5,6**	**5,6**	**4,6**	**4,9**	**5,0**	**5,1**
%Growth	*14,3%*	*0,0%*	*-17,9%*	*6,5%*	*2,0%*	
Consolidated low- and no-alcohol volume	**13,1**	**14,1**	**14,0**	**15,4**	**15,5**	**14,4**
%Growth	*4,8%*	*7,6%*	*-0,7%*	*10,0%*	*0,6%*	
Total global volume	**252,5**	**261,1**	**240,2**	**251,5**	**277,4**	**256,54**
%Growth	*7,3%*	*3,4%*	*-8,0%*	*4,7%*	*10,3%*	
% Consolidated beer volume	**93%**	**92%**	**92%**	**92%**	**93%**	**92%**
% Consolidated cider volume	**2%**	**2%**	**2%**	**2%**	**2%**	**2%**
%Consolidated low- and no-alcohol volume	**5%**	**5%**	**6%**	**6%**	**6%**	**6%**
Total global volume	**100%**	**100%**	**100%**	**100%**	**100%**	

Appendix 6: Ownership Structure

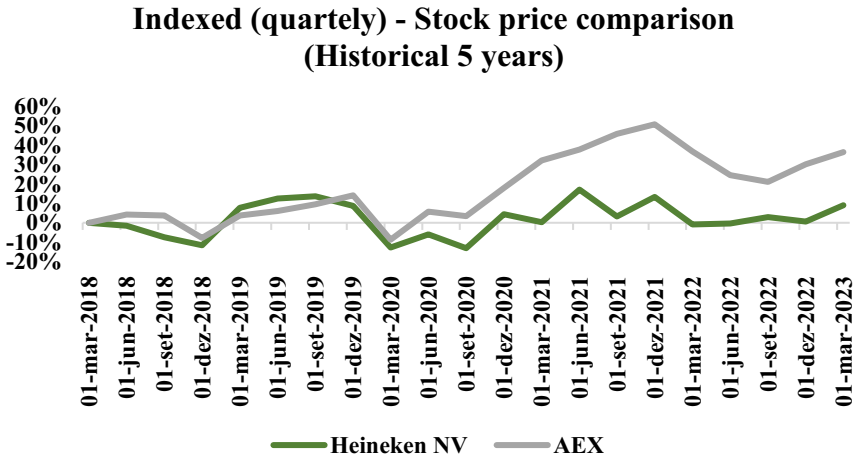
Heineken Holding N.V., which leads the Heineken Group since 1952, was established with the purpose of offering services to Heineken N.V and supervising the management of the Heineken Group. Heineken Holding N.V. does not conduct business operations, as those have been delegated to Heineken N.V. In addition, dividends on its stake in Heineken N.V. are the only source of income for Heineken Holding N.V. A share that Heineken Holding N.V. has issued matches each share of Heineken N.V. that Heineken Holding N.V. owns (Heineken N.V., 2022a; Heineken Holding N.V., 2022b).

As of 31 December 2022, 50.005% of the Heineken N.V issued shares are hold by Heineken Holding N.V. In addition, owned by the Hoyer family and the Heineken family, L'Arche Green N.V holds 52.599% of the Heineken Holding N.V shares. Subsequently, 11.14% of L'Arche Green N.V issued share capital is hold by the Hoyer Family and the rest, 88.86%, is hold by the Heineken Family. In addition, with its affiliates CB Equity LLP and CSC AP SA de CV, FEMSA is the holder of a 12.262% interest in Heineken Holding N.V.'s issued share capital. Together with its ownership of Heineken N.V. shares, this amounts to a 14.76% Heineken's economic interest. Finally, public shareholders hold, of the Heineken Holding N.V's issued share capital, 35.139%. Of this amount, Mrs C.L de Carvalho-Heineken directly owns a 0.03% stake (Heineken Holding N.V., 2022b).



Appendix 7: Heineken's Share Price Evolution

Heineken N.V. shares are traded on Euronext Amsterdam (AEX-Index). Heineken N.V is included in the main AEX Index. At of 31 December 2022, Heineken N.V. had 575,318,212 shares outstanding. Moreover, in 2022, Heineken N.V had an average daily trading volume of 634,735 shares (Heineken N.V., 2022a). The figure below, whose data was retrieved from TRE, demonstrates the indexed development of Heineken shares in comparison with the AEX index. Considering the last 5 years, on a quarterly basis, overall, the stock followed the movements of the Index. However, the index outperformed the stock, most of the times.



Appendix 8: SWOT Analysis

Strengths

- Geographic and Portfolio Diversification: Heineken is able to serve a diverse customer base, increase revenues and reduce risk (for example market risk), by having a large global footprint. Heineken also has a diverse product portfolio made of 300 local, regional, international, and specialized brands, which are marketed and sold in Europe, the Americas, AMEE and Asia-Pacific (MarketLine, 2023b).

- Financial Performance: Heineken has been able to increase its gross revenue over the last years (excluding the year 2020, where it decreases due to the Covid-19 pandemic). Gross revenue, in 2022, was €34,676 Million, an increase of €8,093 Million (+30.4%) from the previous year. An improvement in financial performance increases Heineken's capacity to allocate enough money for expansion projects and to provide its shareholders larger compensations (MarketLine, 2023b).

- Segmentation, Targeting and Brand Innovation: Heineken is able to offer a diverse product category in accordance with the preferences of its customers in each market (Beer, craft beer, Low & no-alcohol, cider and Other Flavoured beverages). In addition, Heineken also takes into consideration the ages and culture of its customer in each operating segment. This is the case of what happens in Europe, with the creating and distribution of what Heineken calls "Next Generation Brands" (Targeted to Gen Y and Z), as well as with the creation of regional and local brands in specific regions.

Heineken also allocates many efforts in innovation, at it is the example of the opening of the Innovator Brewhouse. Moreover, Heineken intends to develop energy drinks made with malt and further low- and no-alcohol beers (MarketLine, 2023b).

- Sponsorships and Partnerships: Heineken has been able to gain exposure and advertise its brands by being the sponsor of several events, such as Formula 1, UEFA Champions League and UEFA Europe League.

Weaknesses

- Low Market Share in some regions: Particular true in the Asia Pacific Segment, although in the last year Heineken has gained a bigger market share there.

- Fluctuations in exchange rates: The Profitability of Heineken is impacted by the currency exchange rate.

- Dependency in Europe: Heineken depends heavily on the European market to obtain the majority of its revenues, even though this is a market with few growth opportunities since it is very saturated.

- Liquidity Position: In 2022, Heineken had a lower current ratio (0.78), in comparison with the Industry mean (1.44). As such, Heineken may be at a disadvantage while funding any prospective market possibilities due to low liquidity (MarketLine, 2023b and Thomson Reuters).

Opportunities

- Made acquisitions: For example, the ongoing acquisition of Distell and Namibia Breweries, a decision made public in 2021. Another example was in Poland, with the acquisition of 28.2% of Grupa Zywiec's (GZ) shares, so that Heineken could take full ownership of the company. Finally, by assuming complete ownership of London's largest brewery, in September 2022, Heineken UK purchased the remaining shares in Beavertown Brewery.

- Europe's Cider and Beer Market: The rising demand for beer and cider presents an opportunity for Heineken. By 2025, the beer and cider market in Europe is anticipated to generate US$206,504.9 million and, by 2023, the market is anticipated to reach 51,503.2 million liters in volume (MarketLine, 2023b).

- Global Market of Soft Drinks: As a producer of soft drinks, Heineken will profit from the rising demand. The worldwide soft drink market is anticipated to reach US$994,611.5 million and 803,745.8 million liters in volume, by 2024, according to a Marketline Study (2023b). According to Marketline (2023b), Asia-Pacific is responsible for 35.8%, as of May 2023, of the market value for soft drinks worldwide. In addition, this market has potential to growth given the rising of disposable income, expansion of middle class and improved purchasing power (Marketline, 2023b).

Threats

- Strong Competition: In the beer and cider market, Heineken faces an intense competition from companies such as Diageo Plc, Kirin Holdings Co Ltd and AB InBev. In addition, many of Heineken's rivals have a longer history of operations, more well-known brands and more financial resources, all of which could foster the development of new products and growth through acquisitions (Marketline, 2023b).

- Economic and Political Environment: Local or regional economic and political unrest could affect Heineken's operations. Particular risks that could have a negative impact on Heineken's revenues and profits include economic downturns, legal changes, trade restrictions, inflation and rate fluctuations (Heineken N.V., 2022a).

- Government Legislation: Health concerns surrounding alcohol are a hot topic in many markets. This could lead regulators to impose additional limits on Heineken's ability to conduct business, which can result in a decline in the overall consumption or a change in the product categories that customers choose. Examples of these limits include limitations or outright prohibitions on sponsorship, addition of health warnings to labels, higher taxes and duties (in 2022, the Excise tax expense was equal to €5,957 Million and, in 2021, it increased by €1,315 Million, corresponding to +28.33%), product availability or the imposition of minimum unit pricing (Heineken N.V., 2022a).

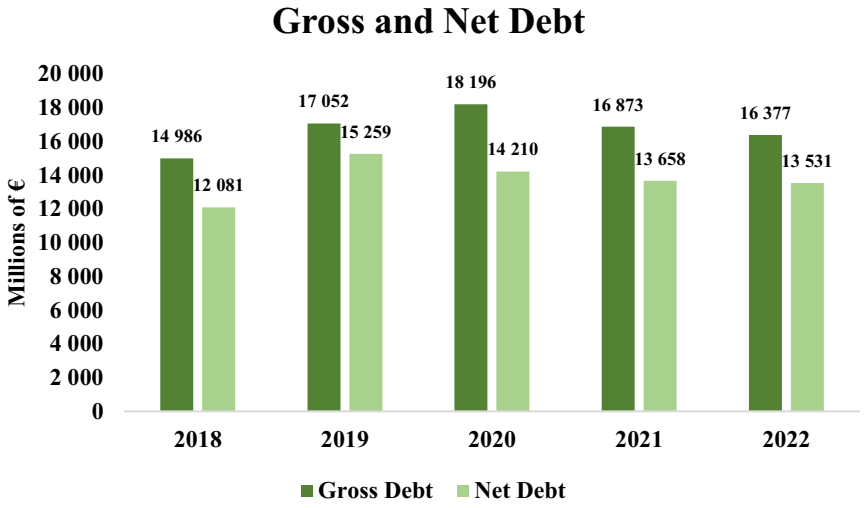
- Climate Risks: Carbon tax will have an effect on Heineken. In addition, the availability of natural resources like water and agricultural products could be significantly impacted by climate change (Heineken N.V., 2022a).

- Issues in the Supply Chain: Supply shortages or higher prices will come from significant changes in the cost or availability of raw materials, water, transportation, energy and commodities (Heineken N.V., 2022a).

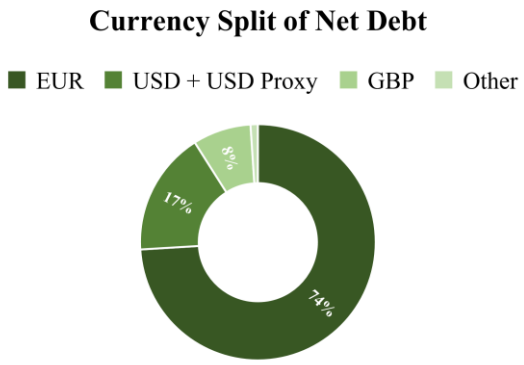
Appendix 9: Other Historical Data

Debt Structure

Heineken's Debt is constitute by bank overdrafts, deposits from third parties, unsecured bond issues, bank Loans, lease Liabilities and other interest-bearing liabilities. Gross and Net Debt have overall changed, with a decrease tendency, since 2021. In 2022, and compared to 2021, Gross debt had a decreased of 3% and net debt decreased by 1%. This decline in borrowings, in 2022, was mostly due to bank loans and bonds repayments, which surpassed the proceeds from other interest-bearing liabilities and bank loans accrued. In addition, and as of 31 December 2022, the average Bonds' maturity was 7 years (2021: 8 years) and the average effective net debt position's interest rate was 2.8% (2021: 2.7%). Moody's Investor Service rated Heineken, on 7 November 2022, as an A3/P-2 with stable outlook. Moreover, Standard & Poor's rated Heineken as BBB+/A-2, on 31 March 2022, with stable outlook as well (Heineken N.V., 2022a).

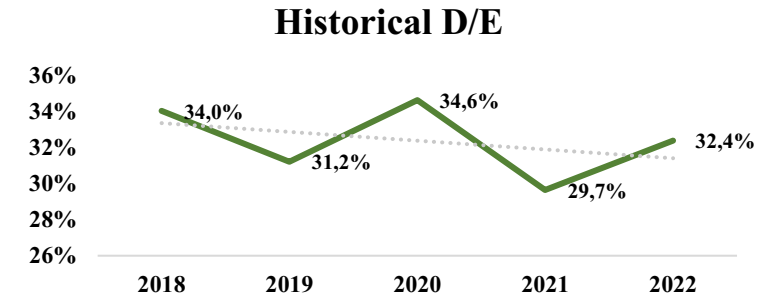


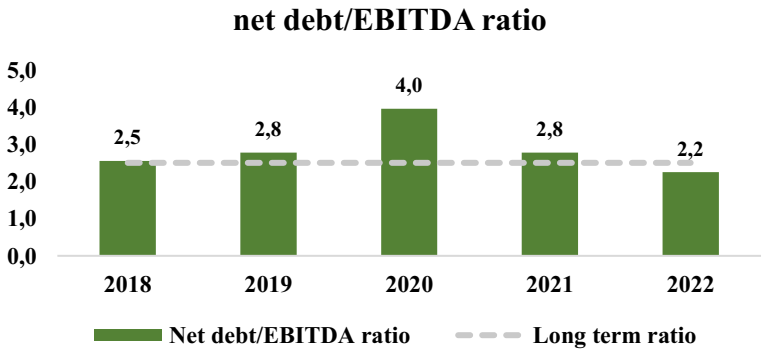
Of total net-interest-bearing debt, 74% is Euro-denominated, 17% is US dollar and US dollar proxy currencies and 8% is British Pound. 1% is in the "other" category (Heineken N.V., 2022a).



D/E at book values and net debt/EBITDA ratios

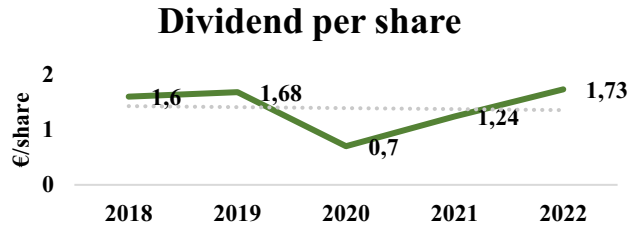
Heineken's historical debt/equity ratio at book values has been changing in the last years, although always being between a range of 29.7%-34.6%. According to Heineken's strategy, its capital structure in terms of book values is aimed to decrease in the coming years, as Heineken aims to reduce the use of net debt. This is supported by Heineken's long-term target of maintaining a net debt/EBITDA ratio below 2.5x. In accordance with its operational performance, Heineken's predicts that this ratio will continue to decrease in the future. As of 31 December 2022, Heineken's net debt/EBITDA ratio was 2.2x (2021:2.8x), therefore complying with this target (Heineken N.V., 2022a).





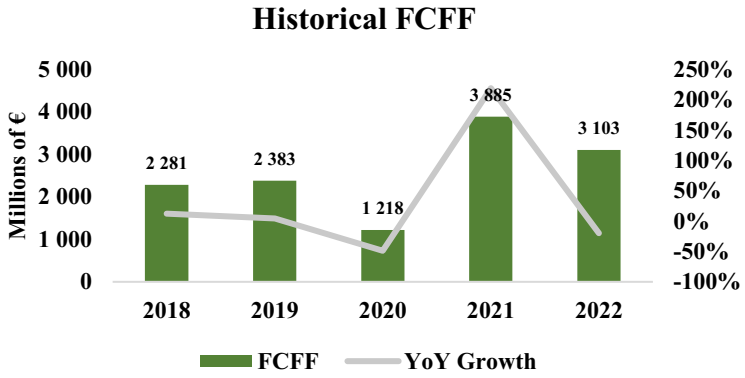
Dividends

In the last years, Heineken's dividend per share has been increasing (with exception of year 2020). In 2022, dividend per share was equal to €1.73 (representing a payout ratio equal to 35.1%). In the last 5 years, the CAGR of dividends was 2%. Moreover, Heineken's dividend payout ratio is around the 30-40% and is dependent of the net profit before exceptional items and amortization of brands (net profit beia) (Heineken N.V., 2022a).



Historical FCFF

Historical FCFF has been increasing in the last years (excluding 2020). In 2021, Historical FCFF reached a very high level, in comparison with the other years, due to lower CapEx and a very high negative change in operating WC. In 2022, FCFF decrease by 20.13%, versus 2021. In the last 5 years, the CAGR of FCFF was equal to 8%.



Appendix 10: Revenues Forecast by operating segment

Europe	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Volume (Million HL)	80	81	75	78	81	83	84	86	87	89	90	91
Growth (%)	*1,3%*	*1,5%*	*-7,7%*	*3,6%*	*4,8%*	*1,8%*	*2,0%*	*1,9%*	*1,6%*	*1,5%*	*1,4%*	*1,4%*
Average Revenue per Hl (€)	130	131	115	123	140	143	146	149	151	153	155	156
Growth (%)	*2,8%*	*1,0%*	*-12,1%*	*6,6%*	*13,8%*	*2,1%*	*2,1%*	*2,0%*	*1,5%*	*1,5%*	*1,0%*	*1,0%*
Net Revenue (€ Millions)	**10 366**	**10 631**	**8 631**	**9 530**	**11 362**	**11 809**	**12 299**	**12 783**	**13 182**	**13 581**	**13 908**	**14 244**
Growth (%)	4,1%	2,6%	-18,8%	10,4%	19,2%	3,9%	4,1%	3,9%	3,1%	3,0%	2,4%	2,4%

Americas	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Volume (Million HL)	83	86	79	85	89	90	91	93	94	95	96	97
Growth (%)	*15,5%*	*2,8%*	*-7,6%*	*8,0%*	*3,6%*	*1,3%*	*1,8%*	*1,6%*	*1,3%*	*1,3%*	*1,2%*	*1,2%*
Average Revenue per HL (€)	81	88	80	85	106	111	115	117	120	122	124	126
Growth (%)	*-7,0%*	*7,7%*	*-8,9%*	*5,9%*	*25,8%*	*4,0%*	*3,5%*	*2,5%*	*2,0%*	*2,0%*	*1,5%*	*1,5%*
Net Revenue (€ Millions)	**6 781**	**7 507**	**6 319**	**7 226**	**9 421**	**9 926**	**10 463**	**10 898**	**11 258**	**11 630**	**11 946**	**12 271**
Growth (%)	*7,4%*	*10,7%*	*-15,8%*	*14,4%*	*30,4%*	*5,4%*	*5,4%*	*4,2%*	*3,3%*	*3,3%*	*2,7%*	*2,7%*

AMEE	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Volume (Million HL)	42	44	40	39	39	41	41	42	43	43	44	44
Growth (%)	*4,0%*	*4,8%*	*-9,4%*	*-1,8%*	*0,8%*	*3,6%*	*1,7%*	*1,5%*	*1,4%*	*1,4%*	*1,3%*	*1,3%*
Average Revenue per Hl (€)	73	77	70	81	103	108	113	119	124	129	133	138
Growth (%)	*-3,1%*	*5,4%*	*-9,1%*	*16,1%*	*26,4%*	*5,0%*	*5,0%*	*5,0%*	*4,0%*	*4,0%*	*3,5%*	*3,5%*
Net Revenue (€ Millions)	**3 051**	**3 369**	**2 774**	**3 164**	**4 030**	**4 384**	**4 681**	**4 989**	**5 261**	**5 548**	**5 817**	**6 099**
Growth (%)	*0,8%*	*10,4%*	*-17,7%*	*14,1%*	*27,4%*	*8,8%*	*6,8%*	*6,6%*	*5,5%*	*5,5%*	*4,8%*	*4,8%*

Asia Pacific	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Volume (Million HL)	29	31	28	29	48	50	51	53	54	55	56	57
Growth (%)	*7,4%*	*7,2%*	*-9,6%*	*4,6%*	*63,3%*	*3,6%*	*3,3%*	*2,4%*	*2,3%*	*2,3%*	*2,0%*	*2,0%*
Average Revenue per HL (€)	101	103	96	94	97	100	103	107	110	113	115	117
Growth (%)	*-7,3%*	*2,3%*	*-6,4%*	*-2,4%*	*3,1%*	*3,3%*	*3,3%*	*3,3%*	*3,0%*	*2,5%*	*2,0%*	*2,0%*
Net Revenue (€ Millions)	**2 919**	**3 202**	**2 707**	**2 765**	**4 652**	**4 979**	**5 313**	**5 620**	**5 921**	**6 209**	**6 460**	**6 721**
Growth (%)	*-0,4%*	*9,7%*	*-15,5%*	*2,1%*	*68,2%*	*7,0%*	*6,7%*	*5,8%*	*5,4%*	*4,9%*	*4,0%*	*4,0%*

	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Head Office & Other Eliminations	-628	-740	-716	-744	-746	-768	-791	-815	-831	-848	-861	-874
Growth(%)	*0,8%*	*17,8%*	*-3,2%*	*3,9%*	*0,3%*	*3,0%*	*3,0%*	*3,0%*	*2,0%*	*2,0%*	*1,5%*	*1,5%*

	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Total Consolidated Beer volume (Million HL)	**234**	**241**	**222**	**231**	**257**	**263**	**268**	**273**	**278**	**282**	**286**	**290**
Growth (%)	*7,2%*	*3,3%*	*-8,2%*	*4,3%*	*11,1%*	*2,2%*	*2,1%*	*1,8%*	*1,6%*	*1,6%*	*1,4%*	*1,4%*
Consolidated Net Revenue (€ Millions)	**22 489**	**23 969**	**19 715**	**21 941**	**28 719**	**30 330**	**31 964**	**33 474**	**34 791**	**36 120**	**37 271**	**38 461**
Growth (%)	*4,1%*	*6,6%*	*-17,7%*	*11,3%*	*30,9%*	*5,6%*	*5,4%*	*4,7%*	*3,9%*	*3,8%*	*3,2%*	*3,2%*

Appendix 11: Operating Expenses Forecast

Millions of €	**2018**	**2019**	**2020**	**2021**	**2022**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**
Raw materials	1 897	2 068	1 811	1 925	2 843	2 725	2 872	3 007	3 126	3 245	3 349	3 456
% Net revenues	*8,4%*	*8,6%*	*9,2%*	*8,8%*	*9,9%*	*9,0%*	*9,0%*	*9,0%*	*9,0%*	*9,0%*	*9,0%*	*9,0%*
Non-returnable packaging	3 624	4 058	3 691	4 031	5 624	5 442	5 736	6 007	6 243	6 481	6 688	6 902
% Net Revenues	*16,1%*	*16,9%*	*18,7%*	*18,4%*	*19,6%*	*17,9%*	*17,9%*	*17,9%*	*17,9%*	*17,9%*	*17,9%*	*17,9%*
Goods for resale	1 533	1 501	920	1 217	1 766	1 786	1 882	1 971	2 049	2 127	2 195	2 265
% Net Revenues	*6,8%*	*6,3%*	*4,7%*	*5,5%*	*6,1%*	*5,9%*	*5,9%*	*5,9%*	*5,9%*	*5,9%*	*5,9%*	*5,9%*
Inventory movements	-43	-75	17	96	5	55	58	60	63	65	67	69
% Net revenues	*-0,19%*	*-0,31%*	*0,09%*	*0,44%*	*0,02%*	*0,18%*	*0,18%*	*0,18%*	*0,18%*	*0,18%*	*0,18%*	*0,18%*
Marketing and selling expenses	2 494	2 632	2 044	2 091	2 692	2 873	3 060	3 238	3 400	3 458	3 568	3 682
% Net revenues	*11,1%*	*11,0%*	*10,4%*	*9,5%*	*9,4%*	*9,5%*	*9,6%*	*9,7%*	*9,8%*	*9,6%*	*9,6%*	*9,6%*
Transport expenses	1 266	1 325	1 080	1 222	1 922	1 999	2 075	2 140	2 224	2 309	2 383	2 459
% Net revenues	*5,6%*	*5,5%*	*5,5%*	*5,6%*	*6,7%*	*6,6%*	*6,5%*	*6,4%*	*6,4%*	*6,4%*	*6,4%*	*6,4%*
Energy and water	529	572	476	529	834	850	864	872	906	941	971	1 002
% Net revenues	*2,4%*	*2,4%*	*2,4%*	*2,4%*	*2,9%*	*2,8%*	*2,7%*	*2,6%*	*2,6%*	*2,6%*	*2,6%*	*2,6%*
Repair and maintenance	527	519	474	503	585	682	719	753	782	812	838	865
% Net revenues	*2,3%*	*2,2%*	*2,4%*	*2,3%*	*2,0%*	*2,2%*	*2,2%*	*2,2%*	*2,2%*	*2,2%*	*2,2%*	*2,2%*
Other expenses	2 174	1 992	1 937	1 921	2 347	2 448	2 548	2 635	2 704	2 807	2 897	2 989
% Net revenues	*9,7%*	*8,3%*	*9,8%*	*8,8%*	*8,2%*	*8,1%*	*8,0%*	*7,9%*	*7,8%*	*7,8%*	*7,8%*	*7,8%*
Total RMC&S	**14 001**	**14 592**	**12 450**	**13 535**	**18 618**	**18 861**	**19 814**	**20 683**	**21 497**	**22 246**	**22 954**	**23 688**
% Net revenues	***62,3%***	***60,9%***	***63,1%***	***61,7%***	***64,8%***	***62,2%***	***62,0%***	***61,8%***	***61,8%***	***61,6%***	***61,6%***	***61,6%***
YoY%	*5,6%*	*4,2%*	*-14,7%*	*8,7%*	*37,6%*	*1,3%*	*5,0%*	*4,4%*	*3,9%*	*3,5%*	*3,2%*	*3,2%*

FTE employees during the year	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Europe	28 345	29 045	28 566	26 776	27 427	28 625	29 934	31 113	32 084	33 054	33 852	34 669
% Revenues Europe	*273%*	*273%*	*331%*	*281%*	*241%*	*242%*	*243%*	*243%*	*243%*	*243%*	*243%*	*243%*
Americas	33 081	32 694	32 601	33 162	35 552	37 558	39 692	41 343	42 710	44 122	45 321	46 553
% Revenues Americas	*488%*	*436%*	*516%*	*459%*	*377%*	*378%*	*379%*	*379%*	*379%*	*379%*	*379%*	*379%*
Africa, Middle East and Eastern Europe	13 974	14 375	14 142	12 662	11 842	12 926	13 849	14 760	15 565	16 415	17 210	18 044
% Revenues Africa, Middle East and Eastern Europe	*458%*	*427%*	*510%*	*400%*	*294%*	*295%*	*296%*	*296%*	*296%*	*296%*	*296%*	*296%*
Asia Pacific	10 210	9 739	9 085	9 657	11 569	12 431	13 318	14 088	14 844	15 565	16 194	16 848
% Revenues Asia Pacific	*350%*	*304%*	*336%*	*349%*	*249%*	*250%*	*251%*	*251%*	*251%*	*251%*	*251%*	*251%*
Total	**85 610**	**85 853**	**84 394**	**82 257**	**86 390**	**91 539**	**96 793**	**101 304**	**105 204**	**109 156**	**112 577**	**116 114**
YoY%	*6,4%*	*0,3%*	*-1,7%*	*-2,5%*	*5,0%*	*6,0%*	*5,7%*	*4,7%*	*3,9%*	*3,8%*	*3,1%*	*3,1%*

Millions of €	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Wages and salaries	2 444	2 536	2 228	2 382	2 757	2 921	3 089	3 233	3 357	3 484	3 593	3 706
% Number of Employees	*2,9%*	*3,0%*	*2,6%*	*2,9%*	*3,2%*	*3,2%*	*3,2%*	*3,2%*	*3,2%*	*3,2%*	*3,2%*	*3,2%*
Compulsory social security contributions	386	386	367	365	412	437	462	483	502	521	537	554
% Number of Employees	*0,5%*	*0,4%*	*0,4%*	*0,4%*	*0,5%*	*0,5%*	*0,5%*	*0,5%*	*0,5%*	*0,5%*	*0,5%*	*0,5%*
Contributions to defined contribution plans	51	58	51	53	57	60	64	67	69	72	74	77
% Number of Employees	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*
Expenses related to defined benefit plans	105	78	104	102	115	122	129	135	140	145	150	155
% Number of Employees	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*
Expenses related to other long-term employee benefits	-9	12	7	3	5	5	6	6	6	6	7	7
% Number of Employees	*-0,011%*	*0,014%*	*0,008%*	*0,004%*	*0,006%*	*0,006%*	*0,006%*	*0,006%*	*0,006%*	*0,006%*	*0,006%*	*0,006%*
Equity-settled share-based payment plan	48	31	-1	51	57	60	64	67	69	72	74	77
% Number of Employees	*0,1%*	*0,0%*	*0,0%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*	*0,1%*
Other personnel expenses	724	779	913	529	676	716	757	793	823	854	881	909
% Number of Employees	*0,8%*	*0,9%*	*1,1%*	*0,6%*	*0,8%*	*0,8%*	*0,8%*	*0,8%*	*0,8%*	*0,8%*	*0,8%*	*0,8%*
Total Personnel Expenses	**3 749**	**3 880**	**3 669**	**3 485**	**4 079**	**4 322**	**4 570**	**4 783**	**4 967**	**5 154**	**5 315**	**5 482**
% Number of Employees	*4,4%*	*4,5%*	*4,3%*	*4,2%*	*4,7%*	*4,7%*	*4,7%*	*4,7%*	*4,7%*	*4,7%*	*4,7%*	*4,7%*
YoY%	*6%*	*3%*	*-5%*	*-5%*	*17%*	*6%*	*6%*	*5%*	*4%*	*4%*	*3%*	*3%*

(Millions of €)	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Raw materials, consumables & Services (RMC&S)	14 001	14 592	12 450	13 535	18 618	18 861	19 814	20 683	21 497	22 246	22 954	23 688
Personnel Expenses	3 749	3 880	3 669	3 485	4 079	4 322	4 570	4 783	4 967	5 154	5 315	5 482
Total	**17 750**	**18 472**	**16 119**	**17 020**	**22 697**	**23 184**	**24 384**	**25 466**	**26 464**	**27 400**	**28 270**	**29 170**
YoY%	*5,6%*	*4,1%*	*-12,7%*	*5,6%*	*33,4%*	*2,1%*	*5,2%*	*4,4%*	*3,9%*	*3,5%*	*3,2%*	*3,2%*

Appendix 12: CAPEX Forecast

(Millions of €)	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Purchase of property, plant & equipment	1 888	1 915	1 501	1 324	1 791	1 922	2 057	2 188	2 274	2 361	2 436	2 514
% Net Revenues	*8,40%*	*7,99%*	*7,61%*	*6,03%*	*6,24%*	*6,34%*	*6,44%*	*6,54%*	*6,54%*	*6,54%*	*6,54%*	*6,54%*
Purchase of intangible assets	167	186	139	273	220	263	309	357	371	385	397	410
% Net Revenues	0,74%	0,78%	0,71%	1,24%	0,77%	0,87%	0,97%	1,07%	1,07%	1,07%	1,07%	1,07%
Total	**2 055**	**2 101**	**1 640**	**1 597**	**2 011**	**2 184**	**2 366**	**2 545**	**2 645**	**2 746**	**2 833**	**2 924**
% Net Revenues	9,14%	8,77%	8,32%	7,28%	7,00%	7,20%	7,40%	7,60%	7,60%	7,60%	7,60%	7,60%

Appendix 13: Forecast of D&A and Impairments

Millions of EUR	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
PPE	11 359	13 269	11 551	12 401	13 623	14 417	15 226	15 979	16 608	17 242	17 791	18 360
% Net Revenues	*50,5%*	*55,4%*	*58,6%*	*56,5%*	*47,4%*	*47,5%*	*47,6%*	*47,7%*	*47,7%*	*47,7%*	*47,7%*	*47,7%*
Depreciation	1 155	1 250	1 238	1 195	1 310	1 401	1 495	1 585	1 647	1 710	1 764	1 821
% PPE	*10,2%*	*9,4%*	*10,7%*	*9,6%*	*9,6%*	*9,7%*	*9,8%*	*9,9%*	*9,9%*	*9,9%*	*9,9%*	*9,9%*
Impairment Losses	133	290	743	292	227	240	254	266	277	287	296	306
% PPE	*1,2%*	*2,2%*	*6,4%*	*2,4%*	*1,7%*	*1,7%*	*1,7%*	*1,7%*	*1,7%*	*1,7%*	*1,7%*	*1,7%*
Intangible Assets	17 459	17 769	15 767	20 762	21 408	22 639	23 891	25 053	26 039	27 033	27 895	28 786
% Net Revenues	*77,6%*	*74,1%*	*80,0%*	*94,6%*	*74,5%*	*74,6%*	*74,7%*	*74,8%*	*74,8%*	*74,8%*	*74,8%*	*74,8%*
Amortization	384	399	389	389	445	493	544	596	619	643	664	685
% Intangible Assets	*2,2%*	*2,2%*	*2,5%*	*1,9%*	*2,1%*	*2,2%*	*2,3%*	*2,4%*	*2,4%*	*2,4%*	*2,4%*	*2,4%*
Impairment Losses	21	20	466	72	-189	79	83	87	90	94	97	100
% Intangible Assets	*0,1%*	*0,1%*	*3,0%*	*0,3%*	*-0,9%*	*0,3%*	*0,3%*	*0,3%*	*0,3%*	*0,3%*	*0,3%*	*0,3%*
Other	-	-	38	11	5	5	6	6	6	6	6	7
% Net Revenues	*-*	*-*	*0,19%*	*0,05%*	*0,02%*	*0,02%*	*0,02%*	*0,02%*	*0,02%*	*0,02%*	*0,02%*	*0,02%*
Assets Classified as held for Sale (impairment)	-	-	-	-	88	0	0	0	0	0	0	0
% Assets classified as held for sale	*-*	*-*	*-*	*-*	*27,9%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*
Total D&A	**1 539**	**1 649**	**1 665**	**1 595**	**1 760**	**1 899**	**2 045**	**2 186**	**2 272**	**2 359**	**2 434**	**2 512**
Total Impairment Loss	**154**	**310**	**1 209**	**364**	**126**	**319**	**337**	**353**	**367**	**381**	**393**	**406**
Total D&A and Impairment Losses	**1 693**	**1 959**	**2 874**	**1 959**	**1 886**	**2 218**	**2 381**	**2 539**	**2 639**	**2 740**	**2 827**	**2 918**
YoY%	*-*	*15,7%*	*46,7%*	*-31,8%*	*-3,7%*	*17,6%*	*7,4%*	*6,6%*	*3,9%*	*3,8%*	*3,2%*	*3,2%*

Appendix 14: Forecast of Operating Working Capital

Millions of €	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Total Receivables	3 795	4 123	2 807	3 662	4 531	4 785	5 043	5 281	5 489	5 699	5 880	6 068
Loans and advances to customers	341	277	194	209	216	272	286	300	312	324	334	345
Current tax assets	71	123	154	97	84	89	93	98	102	106	109	112
% Net Revenues	*0,32%*	*0,51%*	*0,78%*	*0,44%*	*0,29%*	*0,29%*	*0,29%*	*0,29%*	*0,29%*	*0,29%*	*0,29%*	*0,29%*
Deferred tax assets	626	647	779	682	618	653	688	720	749	777	802	828
% Net Revenues	*2,78%*	*2,70%*	*3,95%*	*3,11%*	*2,15%*	*2,15%*	*2,15%*	*2,15%*	*2,15%*	*2,15%*	*2,15%*	*2,15%*
Inventory	1 920	2 213	1 958	2 438	3 250	3 292	3 459	3 610	3 753	3 883	4 007	4 135
Total Payables	-7 277	-7 926	-6 361	-8 026	-9 631	-9 757	-10 249	-10 699	-11 120	-11 508	-11 874	-12 253
Current tax liabilities	-245	-283	-259	-268	-352	-372	-392	-410	-426	-443	-457	-471
% Net Revenues	*1,09%*	*1,18%*	*1,31%*	*1,22%*	*1,23%*	*1,23%*	*1,23%*	*1,23%*	*1,23%*	*1,23%*	*1,23%*	*1,23%*
Deferred tax liabilities	-1 431	-1 422	-999	-1 971	-2 138	-2 258	-2 380	-2 492	-2 590	-2 689	-2 775	-2 863
% Net Revenues	*6,36%*	*5,93%*	*5,07%*	*8,98%*	*7,44%*	*7,44%*	*7,44%*	*7,44%*	*7,44%*	*7,44%*	*7,44%*	*7,44%*
Operating Working capital	**-2 200**	**-2 248**	**-1 727**	**-3 177**	**-3 422**	**-3 296**	**-3 451**	**-3 592**	**-3 733**	**-3 851**	**-3 973**	**-4 100**
Δ Operating WC	**-511**	**-48**	**521**	**-1 450**	**-245**	**126**	**-156**	**-140**	**-141**	**-118**	**-123**	**-127**

Millions of €	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Net Revenues	22 489	23 969	19 715	21 941	28 719	30 330	31 964	33 474	34 791	36 120	37 271	38 461
Net Revenue per day	*62*	*66*	*54*	*60*	*79*	*83*	*88*	*92*	*95*	*99*	*102*	*105*
COGS (Raw materials, consumbables and services)	14 001	14 592	12 450	13 535	18 618	18 861	19 814	20 683	21 497	22 246	22 954	23 688
COGS per day	*38*	*40*	*34*	*37*	*51*	*52*	*54*	*57*	*59*	*61*	*63*	*65*
Receivables	3 795	4 123	2 807	3 662	4 531	4 785	5 043	5 281	5 489	5 699	5 880	6 068
DSO (Accounts Receivable / Sales per day)	*62*	*63*	*52*	*61*	*58*	*58*	*58*	*58*	*58*	*58*	*58*	*58*
Inventories	1 920	2 213	1 958	2 438	3 250	3 292	3 459	3 610	3 753	3 883	4 007	4 135
DCI (Inventory / Cost of Goods sold per day)	*50*	*55*	*57*	*66*	*64*	*64*	*64*	*64*	*64*	*64*	*64*	*64*
Payables	7 277	7 926	6 361	8 026	9 631	9 757	10 249	10 699	11 120	11 508	11 874	12 253
DPO (Accounts Payable / Costs of Goods Sold per day)	*190*	*198*	*186*	*216*	*189*	*189*	*189*	*189*	*189*	*189*	*189*	*189*
Operating Cycle (OC = DSO + DCI)	112	118	109	127	121	121	121	121	121	121	121	121
Cash Conversion Cycle (CCC = OC - DPO)	-78	-80	-77	-90	-68	-68	-68	-68	-68	-68	-68	-68

Appendix 15: Rearranged Historical and Forecasted Income Statement

The historical and forecasted income statement was rearraged, in comparision with the ones published by Heineken, in order to better reflect key figures and elements, at the operational level.

Since the biggest portion of forecasts were done previously, such as net revenues, cogs and personnel expenses, there were not too many elements left that needed extra assumptions. However, the ones that had to will be mentioned next.

In order to arrive at the value of revenue of the forecast period, an average of the excise tax expense, from 2018-2022, was performed and assumed to be constant over the explicit period (€4,627 Million). Hence, revenues were computed by summing the net revenues, of the respective year, with the average value of the excise tax expense.

Other net finance income was computed based on the average, between 2018-2022, and assumed to remain constant over the explicit period. Moreover, other income, which is related with gains on sale from transactions that don't result from contracts with consumers, such as sale of PPE, IA and joint ventures, associates and subsidiaries, are forecasted to have a value of zero, over the forecast period. The reason for such is because is not viable to predict Heineken's fixed assets' disposals evolution over the explicit period. Moreover, share of profit/loss of associates and joint ventures was assumed to remain constant at the 2022 level.

Finnally, income tax expense was computed based on the percentage of the effective tax rate (30%) and non-controlling interests were assumed to remain constant, over the explicit period, at the 2022 level.

Millions of €	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Revenue	**26 811**	**28 521**	**23 770**	**26 583**	**34 676**	**34 957**	**36 591**	**38 101**	**39 418**	**40 747**	**41 898**	**43 088**
Excise Tax expense	-4 322	-4 552	-4 055	-4 642	-5 957	-4 627	-4 627	-4 627	-4 627	-4 627	-4 627	-4 627
Net Revenue	**22 489**	**23 969**	**19 715**	**21 941**	**28 719**	**30 330**	**31 964**	**33 474**	**34 791**	**36 120**	**37 271**	**38 461**
Raw materials, consumables and services	-14 001	-14 592	-12 450	-13 535	-18 618	-18 861	-19 814	-20 683	-21 497	-22 246	-22 954	-23 688
Personnel expenses	-3 749	-3 880	-3 669	-3 485	-4 079	-4 322	-4 570	-4 783	-4 967	-5 154	-5 315	-5 482
EBITDA (adjusted)	**4 739**	**5 497**	**3 596**	**4 921**	**6 022**	**7 146**	**7 580**	**8 008**	**8 327**	**8 721**	**9 001**	**9 291**
Total Amortisation, depreciation and impairments:	-1 693	-1 959	-2 874	-1 959	-1 886	-2 218	-2 381	-2 539	-2 639	-2 740	-2 827	-2 918
Property, Plant and equipment	1 288	1 540	1 981	1 487	1 537	1 641	1 748	1 851	1 924	1 997	2 061	2 126
Intangible Assets	405	419	855	461	256	572	627	683	710	737	760	785
Other	-	-	38	11	5	5	6	6	6	6	6	7
Assets Classified as held for sale	-	-	-	-	88	0	0	0	0	0	0	0
Total expenses	**-19 443**	**-20 431**	**-18 993**	**-18 979**	**-24 583**	**-25 402**	**-26 765**	**-28 006**	**-29 104**	**-30 140**	**-31 097**	**-32 088**
EBIT (adjusted)	**3 046**	**3 538**	**722**	**2 962**	**4 136**	**4 928**	**5 199**	**5 469**	**5 688**	**5 980**	**6 174**	**6 374**
Interest Income	71	75	50	49	74	74	74	74	74	74	74	74
Interest expenses	-492	-529	-497	-462	-458	-458	-458	-458	-458	-458	-458	-458
Other net finance income/(expenses)	-64	-59	-143	14	48	-41	-41	-41	-41	-41	-41	-41
Other Income	75	95	56	1 521	147	0	0	0	0	0	0	0
Profit before Income tax & Profit of Associates	**2 636**	**3 120**	**188**	**4 084**	**3 947**	**4 503**	**4 774**	**5 044**	**5 263**	**5 556**	**5 749**	**5 949**
Share of profit/(loss) of associates and joint ventures	210	164	-31	250	223	223	223	223	223	223	223	223
Income tax expense	-741	-910	-245	-799	-1 131	-1 351	-1 432	-1 513	-1 579	-1 667	-1 725	-1 785
Profit/(Loss)	**2 105**	**2 374**	**-88**	**3 535**	**3 039**	**3 375**	**3 565**	**3 754**	**3 907**	**4 112**	**4 247**	**4 387**
Attributable to:												
Shareholders of the Company (net profit/loss)	**1 913**	**2 166**	**-204**	**3 324**	**2 682**	**3 018**	**3 208**	**3 397**	**3 550**	**3 755**	**3 890**	**4 030**
Non-controlling interests	192	208	116	211	357	357	357	357	357	357	357	357
Profit/(Loss)	**2 105**	**2 374**	**-88**	**3 535**	**3 039**	**3 375**	**3 565**	**3 754**	**3 907**	**4 112**	**4 247**	**4 387**

Appendix 16: Rearranged Historical and Forecasted Balance Sheet

Data from Heineken's annual reports between 2018 and 2022 was used in order to display the historical balance sheet, and the forecast of the same was done for the period of 2023-2029. As previously mentioned in the section of the Working capital's forecast, the balance sheet was rearranged in terms of operational and non-operational trade payables.

The majority of items, such as PPE, IA, deffered taxes, inventories, and others related with working capital computations, were already forecasted previously and, therefore, their values were only inserted in the balance sheet. However, other items had to be forecasted in separate, and with different assumptions, in order to "close" the balance sheet. Those will be mentioned next.

Forecasts of the non-current assets will be mentioned first. Investment in A&JV and other non-current assets were forecasted to continue at the 2022 levels. Next, on the current assets side,

derivative assets were also assumed to stay constant, over the forecasted period, at the 2022 levels.

On the non-current liabilities side, post retirement obligations were computed by assuming that they increase as the number of full-time equivalent employees (FTEE) per year also increase. Therefore, the average of the ratio of post retirement obligations by the total number of FTEE, from 2021-2022, was considered to remain constant over the forecast period. Hence, by multiplying this constant ratio by the respective estimated number of FTEE per year, one can obtain the post retirement obligations of each year, over the explicit period. Moreover, borrowings, provisions and other non-current liabilities were assumed to remain constant, over the explicit period, at the 2022 levels.

Regarding current liabilities, bank overdrafts were estimated based on the historical average percentage, from 2018-2022, of its value divided by the sum of current and non-current borrowings. The ratio was 5.24% and was assumed to remain constant over the explicit period. Therefore, by multiplying this ratio by the sum the forecasted values of current and non-current borrowings, one can obtained the respective value of bank overdrafts. Borrowings, other non-operating payables and provisions were assumed to remain constant, over the explicit period, at the 2022 levels. Liabilities associated with assets classified as held for sale were assumed to stay constant, over the explicit period, at the 2021 level, as the one from 2022 was exceptional higher due to the recognition of the Russia disposal group, classified as held for sale as of December 2022.

On the equity side, share capital, share premium, reserves and non-controlling interests were assumed to remain constant, over the explicit period, at the 2022 ratio. Moreover, retained earnings of each year were computed based on the following equation:

$$Retained\ Earnings_t = Retained\ Earnings_{t-1} + Net\ Profit_t - Dividends_t$$

In order to estimate the dividends, the historical average payout ratio was analyzed. This was done by dividing the dividends paid in a specific year by the respective profit. The payout ratio, in 2022, was 36% and was assumed to stay constant over the explicit period. Hence, dividends paid over the forecast period were computed by multiplying the 36% by the forecasted profit of each year, from the income statement.

Therefore, it was now possible to compute the values of total equity and liabilities, of each forecasted year. Besides that, since the value of non-current assets was also already estimated, the value of current assets is derived. Finally, by having the value of current assets of each year, the missing variable can be computed that is, the value of cash and cash equivalents of each year over the explicit period.

In the next page, all forecasts are displayed.

Millions of €	2 018	2 019	2 020	2 021	2 022	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Intangible assets	17 459	17 769	15 767	20 762	21 408	22 639	23 891	25 053	26 039	27 033	27 895	28 786
Property, plant and equipment	11 359	13 269	11 551	12 401	13 623	14 417	15 226	15 979	16 608	17 242	17 791	18 360
Investments in associates and joint ventures	2 021	4 868	4 437	4 148	4 296	4 296	4 296	4 296	4 296	4 296	4 296	4 296
Loans and advances to customers	341	277	194	209	216	272	286	300	312	324	334	345
Deferred tax assets	626	647	779	682	618	653	688	720	749	777	802	828
Other non-current assets	1 220	1 255	884	1 070	1 230	1 230	1 230	1 230	1 230	1 230	1 230	1230
Total non-current assets	**33 026**	**38 085**	**33 612**	**39 272**	**41 391**	**43 507**	**45 617**	**47 579**	**49 233**	**50 902**	**52 348**	**53 844**
Inventories	1 920	2 213	1 958	2 438	3 250	3 292	3 459	3 610	3 753	3 883	4 007	4 135
Other investment	-	-	-	-	-	-	-	-	-	-	-	-
Trade and other receivables	3 795	4 123	2 807	3 662	4 531	4 785	5 043	5 281	5 489	5 699	5 880	6 068
Derivative Assets	35	28	77	96	70	70	70	70	70	70	70	70
Current tax assets	71	123	154	97	84	89	93	98	102	106	109	112
Cash and cash equivalents	2 903	1 821	4 000	3 248	2 765	2 684	3 099	3 759	4 815	5 965	7 420	8 922
Assets classified as held for sale	401	111	24	37	315	0	0	0	0	0	0	0
Total current assets	**9 125**	**8 419**	**9 020**	**9 578**	**11 015**	**10 920**	**11 764**	**12 819**	**14 229**	**15 723**	**17 487**	**19 307**
Total Assets	**42 151**	**46 504**	**42 632**	**48 850**	**52 406**	**54 427**	**57 381**	**60 397**	**63 462**	**66 625**	**69 835**	**73 151**
Share Capital	922	922	922	922	922	922	922	922	922	922	922	922
Share Premium	2 701	2 701	2 701	2 701	2 701	2 701	2 701	2 701	2 701	2 701	2 701	2 701
Reserves	-2 294	-1 648	-3 714	-2 808	-2 423	-2 423	-2 423	-2 423	-2 423	-2 423	-2 423	-2423
Retained Earnings	13 196	14 172	13 483	16 541	18 351	20 511	22 793	25 195	27 695	30 327	33 045	35 853
Equity Attributable to equity holders of the company	**14 525**	**16 147**	**13 392**	**17 356**	**19 551**	**21 711**	**23 993**	**26 395**	**28 895**	**31 527**	**34 245**	**37 053**
Non-controlling interests	1 183	1 164	1 000	2 344	2 369	2 369	2 369	2 369	2 369	2 369	2 369	2 369
Total Equity	**15 708**	**17 311**	**14 392**	**19 700**	**21 920**	**24 080**	**26 362**	**28 764**	**31 264**	**33 896**	**36 614**	**39 422**
Borrowings, non-current	12 628	13 366	14 616	13 640	12 893	12 893	12 893	12 893	12 893	12 893	12 893	12893
Tax liabilities	-	-	-	-	-	-	-	-	-	-	-	-
Post-retirement obligations	954	1 189	938	668	568	673	711	744	773	802	827	853
Provisions	833	756	688	636	572	572	572	572	572	572	572	572
Deferred tax liabilities	1 431	1 422	999	1 971	2 138	2 258	2 380	2 492	2 590	2 689	2 775	2 863
Other non-current liabilities	168	153	131	141	125	125	125	125	125	125	125	125
Total non-current liabilities	**16 014**	**16 886**	**17 372**	**17 056**	**16 296**	**16 521**	**16 681**	**16 826**	**16 953**	**17 081**	**17 192**	**17 306**
Bank overdrafts	655	1 134	481	692	1 147	799	799	799	799	799	799	799
Borrowings, current	1 703	2 552	3 099	2 541	2 337	2 337	2 337	2 337	2 337	2 337	2 337	2337
Trade and other payables	7 277	7 926	6 361	8 026	9 631	9 757	10 249	10 699	11 120	11 508	11 874	12 253
Other Non-operating payables (Interest, Dividends and Derivative Liabilities)	253	228	252	246	316	316	316	316	316	316	316	316
Provisions	164	184	416	301	226	226	226	226	226	226	226	226
Current tax liabilities	245	283	259	268	352	372	392	410	426	443	457	471
Liabilities associated with assets classified as held for sale	132	-	-	20	181	20	20	20	20	20	20	20
Total Current Liabilities	**10 429**	**12 307**	**10 868**	**12 094**	**14 190**	**13 826**	**14 339**	**14 807**	**15 244**	**15 648**	**16 029**	**16 422**
Total Equity and liabilities	**42 151**	**46 504**	**42 632**	**48 850**	**52 406**	**54 427**	**57 381**	**60 397**	**63 462**	**66 625**	**69 835**	**73 151**

Appendix 17: Heineken's Issued Bonds

Maturity Date	Amount Outstanding (Million)	YTM	Currency	Cost of Debt	Last Price	Market Value
24-mai-2023	135	3,23%	Euro		99,853	135
24-mai-2023	150	3,23%	Euro		99,853	150
08-jun-2023	300	3,29%	Euro		99,709	299
23-out-2023	140	4,43%	Euro		98,686	138
19-mar-2024	500	3,37%	Euro		100,177	501
23-set-2024	500	3,61%	Euro		100,572	503
07-dez-2024	460	3,82%	Euro		96,795	445
30-mar-2025	600	3,48%	Euro		97,09	583
04-ago-2025	750	3,38%	Euro		99,326	745
20-out-2025	225	4,00%	Euro		95,817	216
04-mai-2026	1000	3,59%	Euro		93,501	935
29-jan-2027	500	3,69%	Euro		92,877	464
17-mar-2027	600	3,63%	Euro		92,431	555
29-jan-2028	1001	3,28%	U.S. Dollar	**3,70%**	97,372	975
30-jul-2029	200	4,30%	Euro		96,39	193
03-out-2029	800	3,61%	Euro		89,408	715
30-mar-2030	800	3,61%	Euro		92,863	743
23-set-2030	750	3,71%	Euro		101,952	765
17-mar-2031	750	3,73%	Euro		87,956	660
12-mai-2032	500	3,77%	Euro		87,99	440
15-abr-2033	180	4,53%	Euro		91,139	164
19-abr-2033	100	4,26%	Euro		86,77	87
07-mai-2033	650	3,76%	Euro		80,699	525
23-mar-2035	750	3,97%	Euro		101,376	760
07-mai-2040	850	4,07%	Euro		72,258	614
01-out-2042	455	3,92%	U.S. Dollar		85,1238	387
02-jul-2043	75	4,37%	Euro		88,887	67
29-mar-2047	591	4,14%	U.S. Dollar		86,5666	512
Total	**14 312**					**13 273**

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