

MASTER IN FINANCE

MASTER'S FINAL WORK PROJECT

EQUITY RESEARCH: DIAGEO PLC

ANDRÉ MIGUEL BRITO DUARTE

OCTOBER 2019

MASTER IN FINANCE

MASTER'S FINAL WORK PROJECT

EQUITY RESEARCH: DIAGEO PLC

ANDRÉ MIGUEL BRITO DUARTE

SUPERVISOR:

PROFESSORA DOUTORA ANA ISABEL ORTEGA VENÂNCIO

OCTOBER 2019

Acknowledgements

Since this project represents the end of one of the most important stages of my life, I would like to express my sincere gratitude, to all the persons that had a relevant role along this journey.

First, to Professor Ana Venâncio for the guidance, time and patience that had for me during the realization of this project.

Second, to my parents and girlfriend, for making all this possible.

And last but not least, to all my friends and colleagues for all the support and guidance given during this journey.

Index

Abstract	8
Resumo	9
Index of Figures	10
Index of Tables	12
1. Diageo Plc: The road to premiumisation	13
2. Business Description	14
Business units	14
Key Brands	15
Company strategies	16
3. Management and Corporate Governance	17
Ownership structure	17
Corporate Governance	17
Company's key members	18
Social Responsibility	19
Historical Financial Analysis	20
4. Core Countries Outlook	23
Global Economic Outlook	23
Europe's Economic Outlook	23
North America's Economic Outlook	23
Africa's Economic Outlook	24
Latin America and Caribbean Economic Outlook	25
United Kingdom Economic Outlook	25
Brexit	25
5. Industry Outlook	27
Beverage Industry Outlook	27
Alcoholic Beverages Industry Outlook	28
Peer Group	30
Competitive Position	31
Porter's Five Forces	31
6. Investment Summary	33
7. Valuation	34
Valuation Methodology	34
Key Valuation Drivers	34
Discounted Cash Flow Valuation	36
Cost of Capital Assumptions	36

Market Multiples Approach.....	37
Financial Statements Forecast Analysis.....	38
8. Investment Risks	40
Economic and Market Risks.....	40
Political and Regulatory Risks.....	41
Operational Risks.....	42
Risks to Price Target.....	42
Appendix 1 – Income Statement.....	45
Appendix 2 – Balance Sheet	46
Appendix 3 – Common Size Income Statement.....	47
Appendix 4 – Common Size Balance Sheet	48
Appendix 5 – Assumptions for Income Statement.....	49
Appendix 6 – Assumptions for Balance Sheet	50
Appendix 7 – Sales Forecast Assumptions.....	51
Appendix 8 – Net Working Capital	52
Appendix 9 – CapEx.....	53
Appendix 10 – Key Financial Ratios	54
Appendix 11 – Risk Free Rate	55
Appendix 12 – Cost of Debt.....	56
Appendix 13 – Discounted Cash Flow Valuation Method.....	57
Appendix 14 – Peers Selection.....	58
Appendix 15 – Risks to Price Target.....	59
Appendix 16 – Business Units Constitution.....	61
Appendix 17 – Countries by Geographical Area	62
Appendix 18 – Key Brands Portfolio Description.....	63
Appendix 19 – Expressions	65
9. Abbreviations.....	66
10. References	68

Abstract

This report contains a detailed estimation and the respective valuation of Diageo's intrinsic share value for June 2018, according to ISEG's Master in Finance final work project. This project follows the recommended format by the CFA Institute. Diageo Plc was chosen due to the interest in the alcoholic beverages industry and due to the firm's good reputation. The price target was computed through an absolute valuation method, more specifically the Flow to Equity (FTE) method. Additionally, a relative valuation method was used, the Comparable Multiples method. A Monte Carlo simulation and sensitivity analysis were also performed in order to complement the analysis. With a price target of £30.65 for June 2018, representing an upside potential of 12.59% from June 30th, 2018, current price of £27.22, our final recommendation for Diageo Plc is to HOLD, considering the risks that may affect the firm's performance. Our risk assessment estimates a medium risk for the firm.

Keywords: Diageo; Equity Research; Flow to Equity; Valuation; Discounted Cash Flow method; Relative Valuation method; Beverage Industry; Alcoholic Beverage Industry

Resumo

Este relatório contém uma estimativa detalhada e respetiva avaliação do valor intrínseco das acções da Diageo, relativamente a junho de 2018, de acordo com o projeto final do Mestrado de Finanças do ISEG. Este projeto segue o formato recomendado pelo Instituto CFA. Diageo foi escolhida devido ao interesse pela indústria das bebidas alcoólicas assim como pela boa reputação da empresa. O preço-alvo foi calculado através de um método de avaliação absoluto, mais especificamente o método do Flow to Equity (FTE). Adicionalmente, foi utilizado um método de avaliação relativo, o método dos Múltiplos Comparáveis. Uma simulação de Monte Carlo e uma análise de sensibilidade foram também realizadas de modo a complementar a análise. Com um preço-alvo de £30.65 para junho de 2018, representando um potencial de valorização de 12.59%, face ao preço atual de £27.22, do dia 30 de junho de 2018, a nossa recomendação final para a Diageo é MANTER, tendo em conta os riscos que poderão afetar o desempenho da empresa. A nossa avaliação do risco estima um risco médio para a empresa.

Palavras-chave: Diageo; Equity Research; Flow to Equity; Valuation; Discounted Cash Flow method; Relative Valuation method; Indústria de Bebidas alcoólicas

Index of Figures

Figure 1 – DGE Share Price	13
Figure 2 – Diageo's Logo.....	14
Figure 3 – Grand Metropolitan's Logo.....	14
Figure 4 – Guinness's Logo	14
Figure 5 – Proportion of sales by region	14
Figure 6 – Johnnie Walker's Logo	15
Figure 7 – Weight of each BU in Total Sales	15
Figure 8 – Smirnoff's Logo.....	15
Figure 9 – Baileys' Logo	15
Figure 10 – Tanqueray's Logo	15
Figure 11 – Captain Morgan's Logo.....	15
Figure 12 – Guinness Draught's Logo	15
Figure 13 – Dividends per Share	17
Figure 14 – Sales Growth by BU	20
Figure 15 – Sales per Region	20
Figure 16 – EBITDA Bridge FY2017	20
Figure 17 – Historical Total sales, Excise duties, Cost of sales and Gross Profit margin	20
Figure 18 – EBITDA Bridge FY2018.....	21
Figure 19 – Historical Net Working Capital's Growth (£M)	21
Figure 20 – Gross Tangible and Intangible Assets and CAPEX (£M).....	21
Figure 21 – Long-Term Debt and Cash and cash equivalents (£M)	22
Figure 22 – DGE's Capital structure	22
Figure 23 – World's GDP Growth and Inflation Rate.....	23
Figure 24 – Europe's GDP Growth and Inflation Rate.....	23
Figure 25 – North America's GDP Growth and Inflation Rate.....	23
Figure 26 – Africa's GDP Growth and Inflation Rate	24
Figure 27 – Africa's Population (M).....	24
Figure 28 – Asia Pacific's GDP Growth and Inflation Rate.....	24
Figure 29 – Asia Pacific's Population (M).....	24
Figure 30 – Latin America and Caribbean's GDP Growth and Inflation	25
Figure 31 – United Kingdom's GDP Growth and Inflation Rate	25
Figure 32 – Negative impact of Brexit voting on Stock Exchanges	25
Figure 33 – Number of companies reallocated after Brexit, by country of allocation	26
Figure 34 – Monthly Exchange Rate EUR/GBP	26
Figure 35 – Global beverage market volume growth from 2010 to 2018 (%).....	27
Figure 36 – Leading beverage companies worldwide in 2018, based on net sales (in million U.S. dollars)	27
Figure 37 – Share of consumption of packed beverages worldwide in 2018, by beverage type (%)	27
Figure 38 – Share of Alcoholic Beverages by Type in 2018 (%)	28
Figure 39 – Leading Alcohol Consumption by Country in 2018 (billion liters)	28
Figure 40 – Worldwide share of Spirits from 2006 to 2014 (%)	28
Figure 41 – Beer production worldwide from 1998 to 2016 (in billion hectoliters)	29
Figure 42 – Wine production worldwide from 2010 to 2018 (in million hectoliters)	29
Figure 43 – Wine consumption worldwide from 2010 to 2018 (in million hectoliters)	29
Figure 44 – Share of Alcoholic Beverages by Type in the UK in 2018 (%)	29
Figure 45 – Alcoholic Beverage Consumption, in the UK (% of volume growth)	29

Figure 46 – Porter’s Five Forces.....	31
Figure 47 – Proportion of Sales by region, in 2018 (%).....	33
Figure 48 – Monte Carlo Price Distribution	33
Figure 49 – Forecasted Total Sales (£M).....	34
Figure 50 – Historical average sales proportion per region	34
Figure 51 – Net Working Capital, 2014-2018.....	35
Figure 52 – CapEx, 2014-2018 (% of Sales).....	35
Figure 53 – Operating expense proportion over sales	35
Figure 54 – Effective Tax Rate	37
Figure 55 – EBITDA, EBIT and Net Income Margins (%).....	38
Figure 56 – ROA and ROE (%).....	39
Figure 57 – Interest Coverage Ratio.....	39
Figure 58 – Net Debt to EBITDA Ratio (years)	39
Figure 59 – Risk Matrix.....	41
Figure 60 – Monte Carlo Price Distribution	44

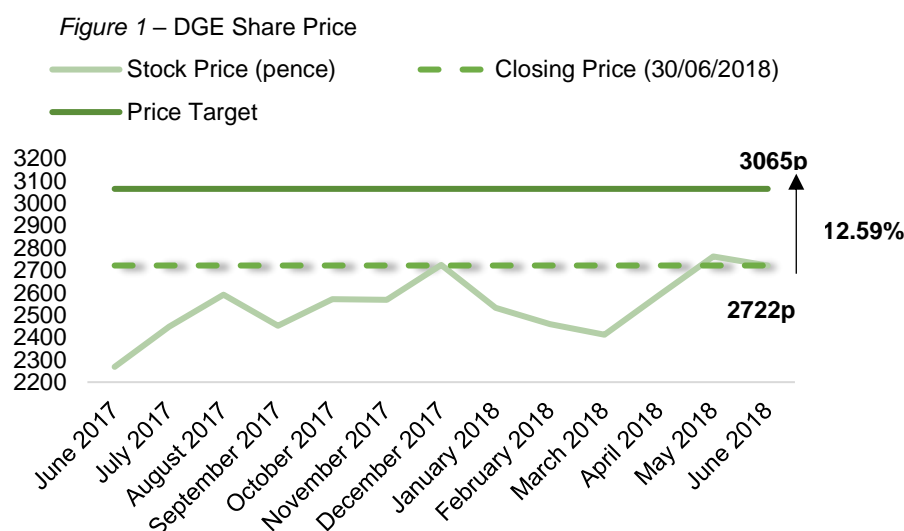
Index of Tables

Table 1 – Risk Assessment	13
Table 2 – Investment Grade and Risk Classification Matrix	13
Table 3 – Market Profile.....	13
Table 4 – Valuation Output	13
Table 5 – Financial Highlights (£M)	13
Table 6 – Shareholder Structure.....	17
Table 7 – Dividend Distributions	17
Table 8 – Key Management Compensation	18
Table 9 – Gender diversity.....	19
Table 10 – Environmental Indicators.....	19
Table 11 – Sales per Region	20
Table 12 – Debt Structure (£M)	21
Table 13 – Historical Net Debt (£M).....	22
Table 14 – SWOT Analysis.....	31
Table 15 – Valuation Summary.....	33
Table 16 – Total Sales Growth per growth variable (all regions)	35
Table 17 – Net Working Capital, 2014-2018 (% of Sales)	35
Table 18 – CAPEX (£M)	35
Table 19 – DCF Output.....	36
Table 20 – UK Bond details	36
Table 21 – Free Cash Flow Calculation (£M).....	36
Table 22 – Risk Free Rate.....	36
Table 23 – Historical Beta.....	36
Table 24 – Bottom-up Beta.....	36
Table 25 – Cost of Debt.....	37
Table 26 – Equity Risk Premium.....	37
Table 27 – Cost of Equity	37
Table 28 – PER Multiple	37
Table 29 – Peers Multiples 2018F	37
Table 30 – Forecasted sales per region (£M)	38
Table 31 – Effects of changes in Terminal Growth (g) and Cost of Equity (Re).....	43
Table 32 – Effects of changes in Effective Tax Rate and Cost of Sales/Sales proportion	43
Table 33 – Monte Carlo Statistics	44

1. Diageo Plc: The road to premiumisation

(YE2018 Price Target of **£30.65**; **12.59% Upside Potential**; **Medium Risk**;
Final Recommendation: **HOLD**).

Diageo Plc (DGE) is a British company, listed in the London Stock Exchange, whose core business is the production, distribution and commercialization of alcoholic beverages. The company is organized into **four business units (BU's)**: spirits, beer, wine and ready to drink beverages.



Source: Bloomberg, Author

Our **recommendation** for DGE, based on our risk assessment (Table 1), and using the Discounted Cash Flow method, stands for **HOLD**, with a price target of **£30.65** at mid-2018, and an **upside potential** of 12.59%, in comparison with the closing price of £27.22 on June 30th, 2018 (Figure 1).

According to our relative valuation through market multiples (Table 4), our **HOLD** recommendation is not supported, since we reached a price target of **£27.54**, representing an **upside potential** of **1.19%**. However, we do not consider this to be an appropriate method to compute the company's price target.

In terms of **risk assessment**, we concluded that DGE has a **medium risk** of investment (Table 2), since the company faces large competition within the alcoholic beverages industry.

We expect that DGE's total sales grow in the upcoming years (Table 5), from £19,781 million in 2018 to £24,389 million in 2022F. Moreover, we do not forecast any decrease in the firm's profitability, expecting the EBITDA to increase from £5,318 million in 2018 to £7,669 million in 2022F (Table 5).

Table 5 – Financial Highlights (£M)

Years	2016	2017	2018	2019	2020	2021	2022
Sales	15641	18114	18432	19781	21244	22764	24389
Gross profit	6234	7370	7529	9293	10354	11457	12636
EBITDA	3322	3920	4184	5318	6064	6839	7669
Net Income	2362	2772	3144	4261	4915	5593	6320

Source: Company data, Author

Diageo Plc

Hold

Medium Risk

October 2019

United Kingdom

Table 1 – Risk Assessment

Low	Medium	High
-----	--------	------

Source: Author

Table 2 – Investment Grade and Risk Classification Matrix

	Low Risk	Medium Risk	High Risk
Buy	>15%	>20%	>30%
Hold	>5% and <15%	>10% and <20%	>15% and <30%
Reduce	>-10% and <5%	>-10% and <10%	>-10% and <15%
Sell	<-10%	<-10%	<-10%

Source: BPI Rating Scheme

Table 3 – Market Profile

Market Profile	
Ticker Bloomberg	DGE:LN
Shares outstanding (M)	2,695
Previous close price (p)	2,736
Open price (p)	2,747
Close price (p)	2,722
52-wk High (p)	2,817.5
52-wk Low (p)	2,234
Market capitalization (£M)	73,375.9

Source: Bloomberg, Author

Table 4 – Valuation Output

Valuation Method	Price Target	Upside/Downside Potential
DCF	£ 30.65	12.59%
Multiples	£ 27.54	1.19%

Source: Company data, Author

2. Business Description

Diageo plc (DGE) is a British alcoholic beverages enterprise, listed on the London Stock Exchange (LSE). Its main business is the production, distribution and commercialization of spirits, beer, wine and ready to drink beverages. DGE was born on 1997, as the product of a merger between Grand Metropolitan plc and Guinness plc, two of the largest distillers in the world. This merger was the fifth largest merger ever at that time. DGE comprises about 30.000 employees in over than 180 countries. It operates in several regions across the world such as North America, Latin America and the Caribbean, Africa, Asia Pacific and Europe and Turkey, where its more than fifty brands are available.

Grand Metropolitan plc (GM) was an international conglomerate specialised in leisure, manufacturing and property. It was founded in 1934 and operated on the hotel business under the name of MRMA Ltd (Mount Royal Metropolitan Association). The company diversified its portfolio throughout the years by acquiring several catering businesses in the 1960s, as well as some food chains and bingo halls. In the 1970s, the company entered in the brewing industry by merging with Truman, Hanbury & Buxton and Watney Mann.

Guinness plc (GUI) was founded in 1759 in Dublin, Ireland. It is still one of the largest stout brewers in the world. Its main product is the Guinness Draught, a dark Irish dry stout. GUI is well known for their innovative method of using nitrogen on their pouring process. Due to some controversy during the 1997 merger, GUI was set to be a separate entity within DGE.

Business units

DGE operates in the **alcoholic beverage industry**, counting with a diversified spectrum of products sold across several regions: Europe and Turkey, North America, Latin America and Caribbean, Africa and Asia Pacific.

Historically, the proportion of sales per region has been higher in North America, accounting for more than 30% of the company's total sales. There have been some changes within the years, more specifically on Africa and Asia Pacific's sales. These registered an 8% decrease and 8% increase, respectively. Europe and Turkey are the second largest region, representing 24% of DGE's total sales (Figure 5). The sales proportion of Latin America and Caribbean region has historically been the smallest, registering around 10% of the company's sales.

The company's portfolio can be divided into four business units (BU's): **spirits, beer, wine** and **ready to drink**. Historically, the largest business unit in terms of sales has been the **spirits**, accounting for an average 67% of DGE's sales (Figure 6). The proportion of sales across BU's has remained stable on the past 5 years. **Beer** is the second largest BU accounting for 17% of the sales. **Wine** and **ready to drink** only account for around 16% of the company's sales.

Figure 2 – Diageo's Logo



Source: Company data, Author

Figure 3 – Grand Metropolitan's Logo



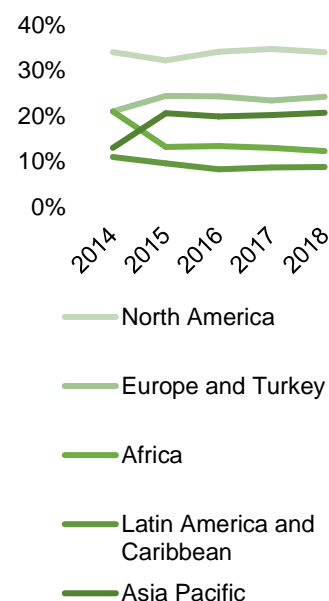
Source: Company data, Author

Figure 4 – Guinness's Logo



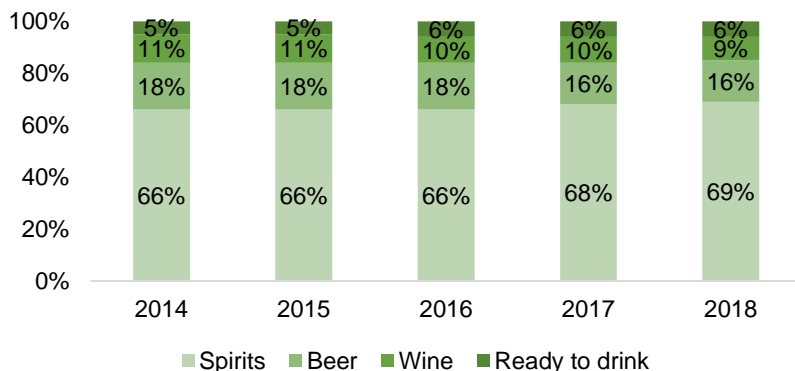
Source: Company data, Author

Figure 5 – Proportion of sales by region



Source: Company data, Author

Figure 7 – Weight of each BU in Total Sales



Source: Company data, Author

Key Brands

Johnnie Walker (JW): established in 1867 with its current name, JW was born in the small town of Kilmarnock, Scotland. It quickly became popular due to its innovative way of production, where John Walker blended several whiskies to ensure continuous quality and flavour. At the time only single malts were commercialized but their quality was volatile to weather and crops conditions, giving JW a competitive advantage that turned out to be critical. With the help of the recently built British railways, and the engagement of ships' captains as its agents, before long JW unique blend was made available around the world.

Smirnoff (SMI): founded in 1864 by Pyotr Smirnov, was one of the first vodka distilleries in Moscow pioneering charcoal filtration. Due to the October Revolution, the brand had to re-established in other locations such as Istanbul, Lviv and Paris. SMI was a very popular vodka within the Soviet Forces.

Baileys Irish Cream (BIC): it was introduced in the market in 1974, as the first Irish cream ever sold. Created by a small division of a larger distiller, BIC is known for its singularity and innovation of flavours, by blending two Irish ingredients: dairy cream and whisky.

Tanqueray (TAQ): was first distilled by Charles Tanqueray in 1830, in the region of Bloomsbury, London. Labelled as a London Dry gin due to its distillation process, composed by a double distillation of grain and the addition of 4 key botanicals: angelica root, liquorice, coriander and juniper. TAQ became in 2016 the world's highest selling gin.

Captain Morgan (CM): created by the Seagram Company in 1944 under the name of Captain Morgan Rum Company, the rum brand started to grow on the Commonwealth territory established between the US and Puerto Rico in the 1950s, where tax benefits were given to local producers. CM distinguishes itself due to the Caribbean flavours and spices added in the final stage of the distillation process.

Guinness (GNS): created by Arthur Guinness (AG) in 1759, its origin can be traced back to the signing of a 9000 years lease on St. James' Brewery, in Dublin. In a time where black (stout) beers were non existing, AG took a leap of faith into brewing and distributing its beer all around the world. GNS is also known for being the first brewer ever employing scientists to help on the production process.

Figure 6 – Johnnie Walker's Logo



Source: Company data, Author

Figure 8 – Smirnoff's Logo



Source: Company data, Author

Figure 9 – Baileys' Logo



Source: Company data, Author

Figure 10 – Tanqueray's Logo



Source: Company data, Author

Figure 11 – Captain Morgan's Logo



Source: Company data, Author

Figure 12 – Guinness Draught's Logo



Source: Company data, Author

Company strategies

Geographical diversification: DGE is currently making a large effort into exploring new markets, more specifically emergent markets. The firm has already made quite reasonable investments in order to establish itself, being now present in 16 African countries. Moreover, DGE own 21 facilities across the continent, aiming to satisfy the customers' needs. Focus is to participate in mainstream spirits so customers can access the firm's products at affordable prices. Long term strategy will be to unify the develop and emerging markets strategy, by focus on growing its participation in premium spirits.

Premiumisation support: DGE is aiming to bet on premium/reserve products, mainly on developed markets. This is where consumers are willing and able to trade up into these luxury categories. The firm's strategy is to build these brand's reputation with the bartenders and consumers who set trends.

Build an advantaged route to consumer: As consumers are the key player on the DGE's success, the company will invest as many resources as possible, so their brands are constantly present within the market.

Vertical integration: DGE intends to take considerable control of its supply chain, directly participating in seeding, brewing, distilling, bottling, packaging, distributing and marketing. The firm already owns facilities to develop the above activities. Additionally, DGE plans to be able to also participate in activities such as malting, maturation and bottle manufacturing. This is possible in emerging markets whereas in some developed countries like the US, supply chain is regulated and subject to bounding laws.

Innovation on specific markets: In order to retain its clients, mainly the younger ones, DGE bets on innovation in what regards its brands portfolio. For example, the launching of Gordon's Pink in Iberia, denotes that the company is pushing to constantly have entirely new products capable of appealing their consumers. Another example would be the launch of Johnnie Walker My Edition, designed to offer its clients a brand new online whisky personalization experience.

3. Management and Corporate Governance

Ownership structure

At 30/06/2018, DGE had a share capital of £780 million represented on 2,695 million outstanding shares (Table 6). Own shares were composed by 4 million ordinary shares held by employee post-employment share trusts, 222 million of repurchased ordinary shares held as treasury shares and 12 million ordinary shares held for hedging share scheme grants. In total, DGE held 238 million of its own shares, representing around 9% of the total outstanding. At June 2018, the company purchased 58 million ordinary shares through a share buyback programme. These shares were automatically eliminated.

The company has only two holders with an interest of 3% or more. These are **BlackRock Investment Management (UK) Limited** with nearly 6% of the ordinary shares, and **Capital Research and Management Company** with 5%. These are however indirect holdings. Apart from these holders, it is known that the **Guinness Ireland Group Pension Scheme** holds 22,807 ordinary shares of the company. Free float represents then 81% of the firm's total shares.

It is possible that at the end of the fiscal year ending in June 2019 DGE will launch another share buyback programme although it hasn't been approved by the relevant committee within the firm.

Dividend distribution amounts have historically been increasing until 2018, where a £101 million decrease was registered (Table 7). This reduction was due to the purchase done under the share buyback programme, which affected the firm's retained earnings for the year. The company spent £1,507 million on this programme.

Despite the decrease on the total shares outstanding, dividends per share also registered a reduction in 2018. These were also affected by the firm's share programme (Figure 13).

Table 7 – Dividend Distributions

Dividend Distribution	2014	2015	2016	2017	2018
Dividends (£million)	1413	1544	1598	1682	1581
Shares outstanding (million)	2759	2753	2753	2753	2695

Source: Company data, Author

Corporate Governance

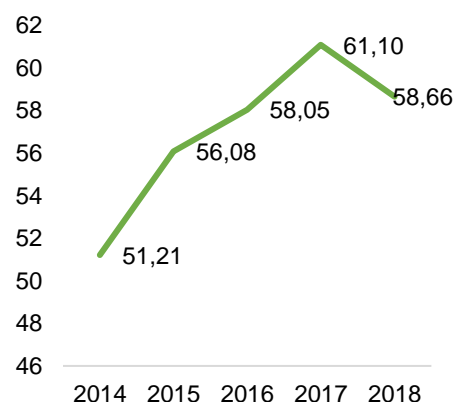
DGE corporate governance system takes form in a **Latin Model (or Unitary system)**, generally composed by a Board of Directors and an Audit Committee. The firm's corporate governance system also includes an Executive Committee, a Remuneration Committee, a Nomination Committee and an External Statutory Auditor.

Table 6 – Shareholder Structure

Investor	Position	%
BlackRock Investment Management (UK) Limited	147,296,928	5.466%
Capital Research and Management Company	124,653,096	4.625%
Guinness Ireland Group Pension Scheme	22,807	0.001%
Own shares (DGE)	238,000,000	8.831%
Free float	2,185,027,169	81.077%
Total	2,695,000,000	100%

Source: Company data, Author

Figure 13 – Dividends per Share



Source: Company data, Author

The **Board of Directors** is constituted by eleven members (eight non-executive). The non-executive members are Javier Ferrán (the Chairman), Peggy B Bruzelius, Nicola S Mendelsohn, Ho KwonPing, Ala JH Stewart, Betsy D Holsen, Lord Davies of Abersoch and Susan Kilsby. The executive members are Ivan Menezes (Chief Executive), Kathryn Mikells and David Harlock. They manage overall control of the firm's affairs.

The **Audit Committee** is composed by six members. It is chaired by Alan Stewart and its remaining members are Lord Davies of Abersoch, Debra Crew, Ho KwonPing, Susan Kilsby and Nicola S Mendelsohn. Their duties are mainly to supervise the functioning of the company.

The **Executive Committee** is composed by 13 members: David Cutter, John Kennedy, Siobhan Moriarty, Sam Fischer, Anand Kripalu, Mairéad Nayager, Victoria Frame, Deirdre Mahlan, John O'Keeffe, Brian Franz, Alberto Gavazzi, Daniel Mobley and Syl Saller. They are responsible for the current management of the company.

The **Remuneration Committee** is composed by six members: Lord Davies of Abersoch (Chairman of the committee), Debra Crew, Ho KwonPing, Nicola S Mendelsohn, Susan Kilsby and Alan Stewart. Its duty is to decide on the corporate members remuneration.

The **Nomination Committee** is constituted by seven members: Javier Ferrán, Lord Davies of Abersoch, Debra Crew, Ho KwonPing, Susan Kilsby and Nicola S Mendelsohn. This committee is responsible for deciding the composition of the board and its succession.

The **External Statutory Auditor**, upon the Board decision in 2015, is PwC (PricewaterhouseCoopers) which was appointed as auditor of the company. Its current audit partner is Ian Chambers.

Company's key members

Javier Ferrán is the current Chairman of the Board of Directors. He was the former President and CEO of Bacardi Limited. He graduated from the University of Barcelona and was granted an MBA from ESADE, in Barcelona.

Ivan Menezes serves as Chief Executive Officer. He is the former COO of the company. He was educated at the Northwestern University's Kellogg School of Management.

Alan Stewart chairs the Audit Committee. He is also the Director and CFO for Tesco Plc. He received his undergraduate and master's degree from the University of Cape Town.

Lord Davies of Abersoch is the Chairman of the Remuneration Committee. He is the former CEO and Chairman of Standard Chartered Plc. He was educated at Rydal Penrhos in North Wales.

Table 8 – Key Management Compensation

Compensation '000£	2017	2018
Base Salary	2,621	2,674

Source: Company data, Author

Social Responsibility

Nowadays, sustainability takes a very important role on a company's strategy. Whether due to reputational matters or to self-awareness, social responsibility is one the major concerns of large firms operating on the alcoholic beverages industry. DGE is of course inserted in these group of concerned firms aiming for a sustainable growth. Thus, DGE has defined three pillars: creating a positive role for alcohol in society, building thriving communities and reducing its environmental impact.

Creating a positive role for alcohol in society:

Introducing the concept of “drink better, not more”, DGE has taken several actions in order to reduce harmful drinking, promote moderation and improve laws and industry standards. Through their “#JoinThePact” programme, the company has raised awareness to millions of people, developing partnerships with police and local authorities. Additionally, a theatre-based programme called “Smashed” was launched in order to address underage drinking, by reaching millions of school children in the UK. DGE also cooperates with governments and regulators aiming to improve standards and combat illicit alcohol.

Building thriving communities:

DGE keeps on promoting diversity and inclusion, by hiring capable people, irrespective of their gender, race, religion, disability, age or sexual orientation (Table 9). This policy has blossomed already, with DGE being first in the FTSE 100 for female executive directors in the Female FTSE Board Report for 2018. More than that, health and safety has been a major concern, leading the company to create their “Zero Harm” programme, to ensure all people go home safe every day.

Table 9 – Gender diversity

Nº of employees by gender	Men	Women
Senior manager	66.33%	33.67%
Line manager	69.23%	30.77%
Supervised employee	67.81%	32.19%

Source: Company data, Author

Reducing its environmental impact:

Being faced with the risks of climate change, water scarcity, soil degradation and the loss of biodiversity, DGE has taken steps in order to avoid these environmental impacts such as commit to procuring 100% of their electricity from renewable sources by 2030. Another commitment was to address the impact of the usage of plastic, aiming for a target of only using recyclable plastic by 2025. Water consumption has also been identified as a critical point, leading the company to establish partnerships with local authorities and a German development agency (GIZ). Their goal is to provide safe water and support responsible management of the water catchment (Table 10).

Table 10 – Environmental Indicators

Environmental Indicators	Unit	2007	2016	2017	2018
Water efficiency by region	(l/l)	8.27	5.16	4.98	4.94
Carbon emissions by weight	1,000 ton CO2	1,060	672	633	627
Total waste to landfill by region	ton	106,247	10,928	6,813	16,721
Wastewater polluting power	BOD/t	32,896	20,375	18,138	23,845

Source: Company data, Author

Historical Financial Analysis

DGE's historical data was analysed for the period between 2014 and 2018.

Beginning with **total sales** (Appendix 7), there has been some historical volatility in sales growth. 2014 and 2016 registered a decrease in total sales (8.48% and 2.04%, respectively) however the average increase for the relevant period was 4.25%. This reduction can be explained by the decline in RTDs sales in South Africa and the weaker performance of J&B and Bell's. DGE's sales went from £13,980 million in 2014 to £18,432 million in 2018, representing a total growth of 31.85%. There have been some changes on the sales per BU throughout the years (Figure 14), having as major changes the 19.32% increase in **Spirits** in 2017 and the 10.94% decrease in **Wine** in 2016.

In terms of geographical area, 2015 registered a major decrease in Africa's sales (28.21%) but this was partially offset at the same period with an impressive 80.97% increase on Asia's sales (Table 11).

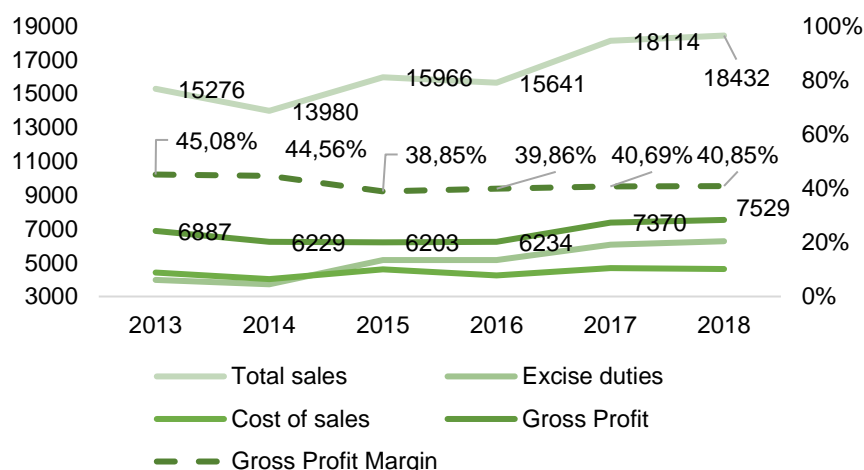
Table 11 – Sales per Region

Sales per Region	2014	2015	2016	2017	2018
North America	4,753.20	5,141.05	5,333.58	6,285.56	6,266.88
Europe and Turkey	2,935.80	3,895.70	3,800.76	4,238.68	4,460.54
Africa	2,935.80	2,107.51	2,095.89	2,354.82	2,267.14
Latin America and Caribbean	1,537.80	1,532.74	1,298.20	1,575.92	1,622.02
Asia Pacific	1,817.40	3,289.00	3,112.56	3,659.03	3,815.42

Source: Company data, Author

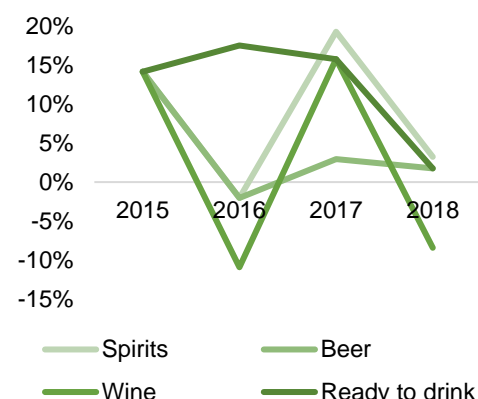
Whilst Sales had a positive movement during this period, the **gross profit margin** suffered an 8.32% decrease during these four years, mainly explained by a major increase on excise duties to be paid (from £3,722 to £5,153 million in 2015). These excise duties arise from a production tax incurred at manufacturing, applied worldwide to all producers of alcoholic beverages (Figure 16).

Figure 17 – Historical Total sales, Excise duties, Cost of sales and Gross Profit margin



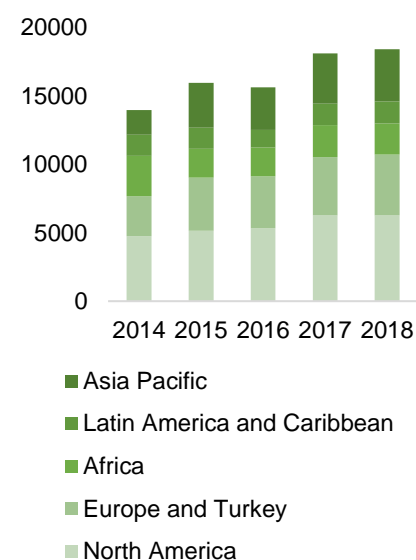
Source: Company data, Author

Figure 14 – Sales Growth by BU



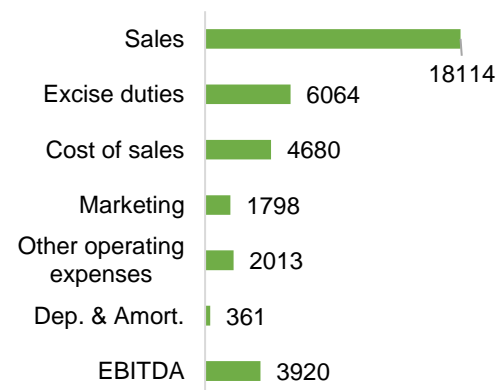
Source: Company data, Author

Figure 15 – Sales per Region



Source: Company data, Author

Figure 16 – EBITDA Bridge FY2017



Source: Company data, Author

Operating expenses have grown along the years due to the increase in volume of the company (around 9%). Marketing expenses represent a large part of this increase, as expected in this industry (Figure 16).

Regarding the firm's **EBITDA**, after some small decreases in 2014 and 2015, it has been increasing fast reaching a very strong growth rate in 2017 (18%). This sudden increase was due to the low amounts of depreciation and amortisation recognized by the firm on that year. Historically, it has shown an overall increase of 25.42% through the last four fiscal years.

DGE's **net working capital** has been decreasing, having as the most significant reduction in 2015 (13.62%). This decrease can mainly be explained by the decrease of the firm's investments in associates and joint ventures, moving from £3,201 million in 2014 to £2,076 million in 2015 (Figure 19). However, this decrease was partially offset by an increase on the company's inventories.

The firm's **tangible assets**, composed by the firm's buildings, hardware, machinery and other equipment, have presented a slight increase throughout the years (17.96% from 2014 to 2018). This movement was in line with the sales growth. No strong investment was done during the last four years.

The firm's **intangible assets**, composed by the fair value of the DGE's several brands, have been showing a fast increase, going from £7,891 million in 2014 to £12,572 million in 2018, representing a 59.32% increase. No significant amount of CapEx was invested here, being this increase the product of the brand's growing intrinsic value.

Capital Expenditure has been reducing throughout these years, reinforcing the company's goal of maintenance and substitution of the company's fixed assets (9% decrease on the four-year period). Of course, CapEx is still higher than the asset's depreciations and amortizations, in line with the firm's sales increase (Figure 20).

In what regards **Net Debt**, there has been some volatility during this period, without showing a clear trend. Nevertheless, there was a large decrease in 2017 (from £12,119 million in 2016 to £10,864 million in 2017). This is mainly explained by the significant drop on the firm's long-term debt, showing a reduction of £1,860 million between these two years (Table 13).

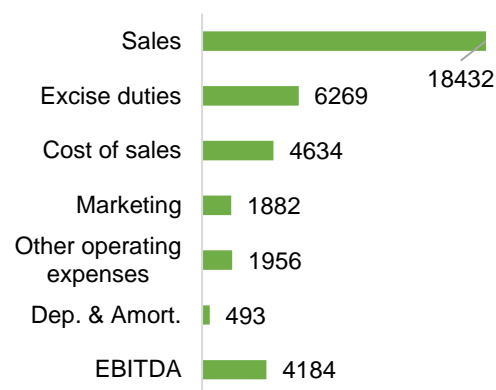
Regarding DGE's capital structure, it is mainly financed by Equity rather than Debt (Figure 22). Debt only represents around 13% of the company's structure, where Equity accounts for the remaining 87%.

Table 12 – Debt Structure (£M)

Debt Structure	2014	2015	2016	2017	2018
Short Term Debt	1793	2053	2180	2887	2177
Long Term Debt	9429	10034	11028	9168	9906

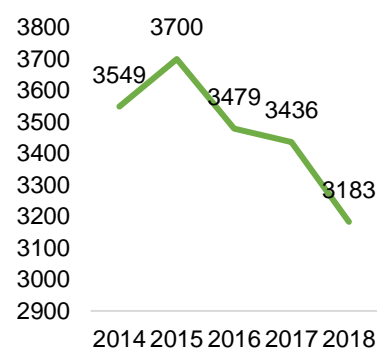
Source: Company data, Author

Figure 18 – EBITDA Bridge FY2018



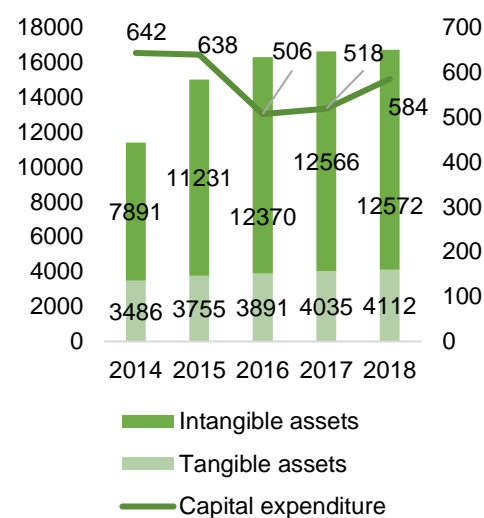
Source: Company data, Author

Figure 19 – Historical Net Working Capital's Growth (£M)



Source: Company data, Author

Figure 20 – Gross Tangible and Intangible Assets and CAPEX (£M)



Source: Company data, Author

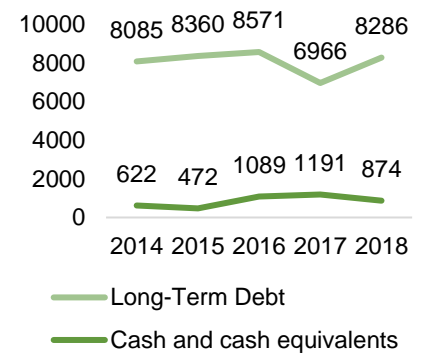
Table 13 – Historical Net Debt (£M)

Net Debt	2014	2015	2016	2017	2018
Borrowings and bank overdrafts	1576	1921	2058	2459	1828
Long-term borrowings	7638	7917	8071	6583	8074
Other net financial liabilities	225	261	-135	250	225
Net corporate tax payable	197	162	340	294	178
Net liabilities held for sale	-8	-140	-3	0	-24
Net deferred liabilities	1119	1707	1684	1978	1865
Net post-employment benefit liabilities	475	259	1193	491	-63
Cash and cash equivalents	622	472	1089	1191	874
Total Net Debt	10600	11615	12119	10864	11209

Source: Company data, Author

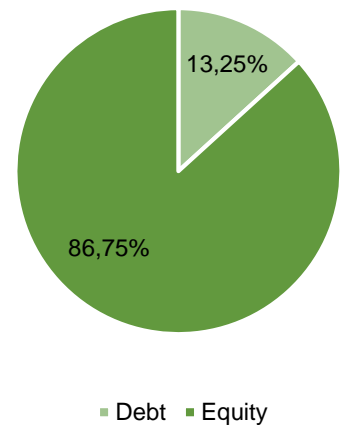
Concerning **dividends**, DGE's distribution has been quite constant throughout the last 4 years. The lowest amount paid within this period were the £1,413 million distributed in 2014, whereas the largest distribution was done on 2017, with the payment of £1,682 million (Figure 22). Although, we cannot affirm that DGE has a strict dividend payment policy. The amounts made available to shareholders are highly dependent on the company's performance.

Figure 21 – Long-Term Debt and Cash and cash equivalents (£M)



Source: Company data, Author

Figure 22 – DGE's Capital structure



Source: Company data, Author

4. Core Countries Outlook

Global Economic Outlook

DGE intends to keep its international business, which is now present all around the world. The focus is the African region, where the company has recently established itself.

In the last years (2014-2018), the World GDP growth has maintained a stable level, remaining at 3.6%, after a 0.2% drop in 2015 and 2016. According to the International Monetary Fund (IMF), the GDP growth is expected to remain at the same levels until 2022, after a drop of 0.3% in 2019 (Figure 23).

In what regards the World Inflation rate, it appears to follow the GDP's trend. After a significant decrease in 2015 and 2016 of 0.4%, and an increase in 2017 of 0.4%, the inflation rate went back to its 2014 level of 3.6%. IMF forecasts this indicator to remain stable in the next 2 years, showing 0.1% decrease upon 2021.

These macroeconomic indicators can be a key factor for the company. Assuming the unemployment rate will move in an opposite direction, there will be an increase in the consumer's purchasing power around the world.

Europe's Economic Outlook

European economic growth is expected to continue, yet at a slower pace. Following a drop in the Inflation rate, from 3% to 1.5% in 2015 and 2016 respectively, this indicator has stabilized and is expected to remain stable (2.2%), a close value to what the ECB planned for the upcoming years (2%) (Figure 24). This sudden drop can be mainly explained by the deflation in oil and gas prices.

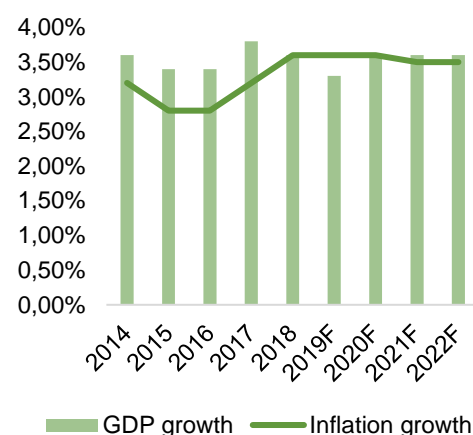
According to the IMF, Europe's GDP Growth will slow down in the next years, stabilizing at around 1.7% YoY. Despite the recovery in employment and the increasing consumer spending, the GDP Growth will decrease after reaching 2.5% in 2017.

North America's Economic Outlook

North America's economy has historically been one of the strongest economies in the world. However, the financial crisis in 2008 damaged numerous sectors, leading to higher unemployment rates and a slight decrease in private consumption. Nonetheless, the economy has been slowly recovering.

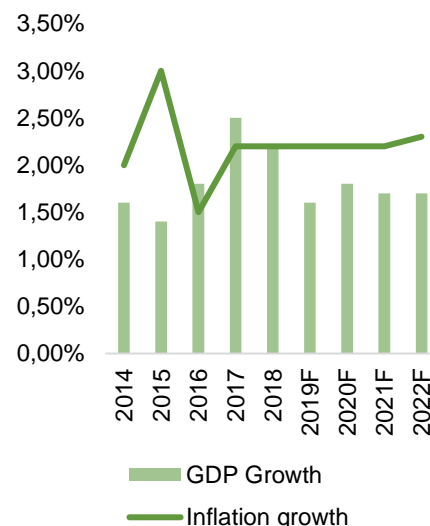
According to the IMF, GDP growth reached 2.7% and is expected to maintain levels between 1% and 2%. IMF forecasts it to be at 1.7% in 2022 (Figure 25). Regarding the inflation rate growth, it has been increasing following a drop in 2015, reaching 2.7% in 2018. It is expected to maintain levels above 2% in the following years.

Figure 23 – World's GDP Growth and Inflation Rate



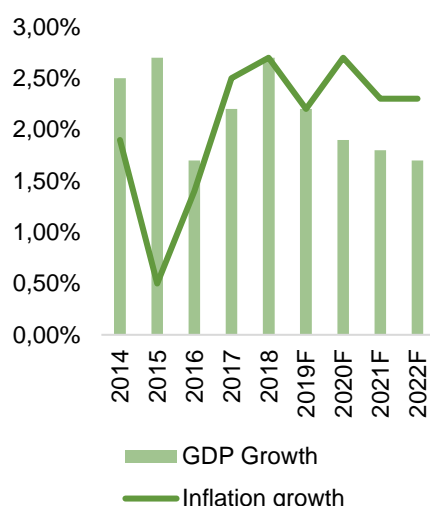
Source: IMF, World Economic Database, Author

Figure 24 – Europe's GDP Growth and Inflation Rate



Source: IMF, World Economic Database, Author

Figure 25 – North America's GDP Growth and Inflation Rate



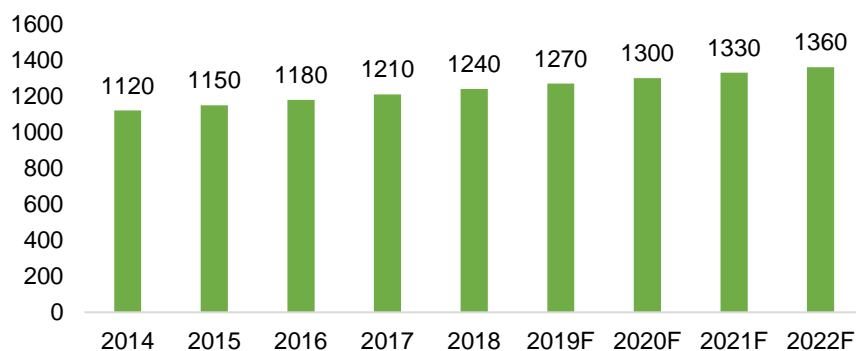
Source: IMF, World Economic Database, Author

Africa's Economic Outlook

Africa is a region where the economy has historically not been as developed as in rest of the world, mainly due to political instability. It is important to denote that the economies of African countries are very different amongst them. There are already a few developed economies (South Africa) whereas the majority are still maturing (Angola, Congo, Ethiopia, etc). There is a long path for Africa to turn itself into a developed region. Economic indicators expect Africa to perform very well, reaching GDP growths YoY of around 4%, the highest across all regions in the world (Figure 26). Moreover, Inflation rate growth is forecasted to slowly decrease in the upcoming years and bring some stability to these emerging markets.

Another key factor of the African region is the large increase on the population. It represents the second highest growth in the world, reaching a 30 million people growth YoY (Figure 27).

Figure 27 – Africa's Population (M)



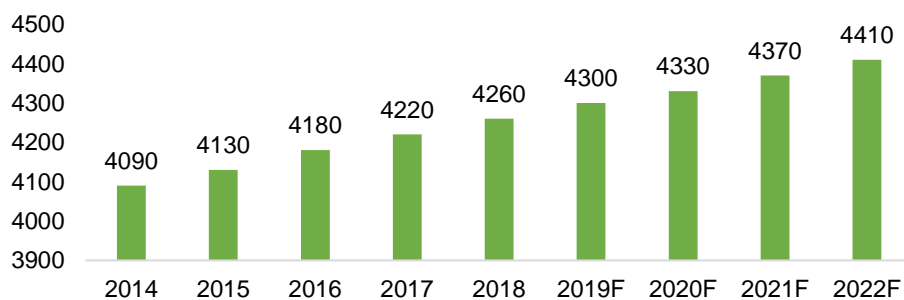
Source: IMF, World Economic Database, Author

Asia Pacific's Economic Outlook

Asia Pacific's has also been showing an instable political outlook, specifically in countries like North Korea and China. Nevertheless, its economies are growing at a fast pace, with Asia's GDP growth reaching 5.8% in 2017. These are expected to remain between 5% and 6% in the upcoming years. According to the IMF, the Inflation rate growth is expected to slowly increase, reaching a YoY value of 3.4% in 2022.

In what regards population growth, Asia Pacific is the region registering the highest increase, across all regions in the world. The IMF expects this region to reach the 4,410 million people in 2022F (Figure 29).

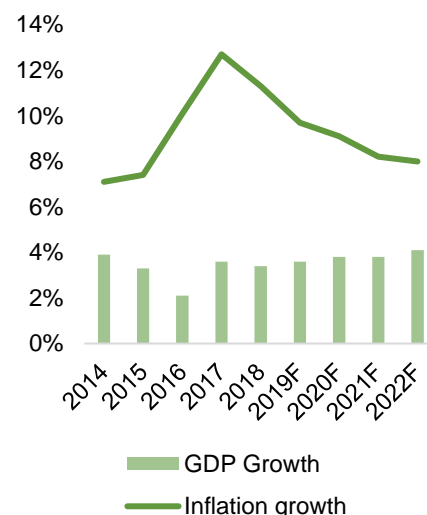
Figure 29 – Asia Pacific's Population (M)



24

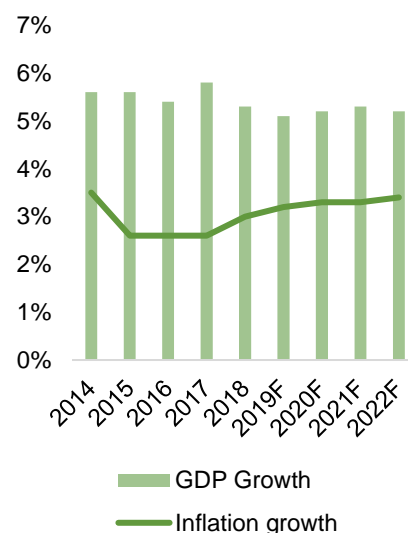
Source: IMF, World Economic Database, Author

Figure 26 – Africa's GDP Growth and Inflation Rate



Source: IMF, World Economic Database, Author

Figure 28 – Asia Pacific's GDP Growth and Inflation Rate



Source: IMF, World Economic Database, Author

Latin America and Caribbean Economic Outlook

Similarly to Africa, the Latin America and Caribbean region is still behind the other regions in what regards economic development. After a drop in 2018 of the GDP growth, it is expected to slowly grow in the upcoming years, reaching a 3.7% YoY growth in 2021. Moreover, according to what the IMF forecast, the Inflation rate will keep its increasing trend, stabilizing at 3% in 2020 (Figure 30).

United Kingdom Economic Outlook

Even though the United Kingdom (UK) is one of the largest economies in Europe, it was deeply affected by the financial crisis in 2008. As its financial sector is quite important, the increase in consumers' debt and the stagnation of the real estate market, led the economy to an intensive recession. This period came to an end after an austerity program launched in 2010 by the government, having as main target the reduction of public debt.

Regarding the UK's GDP growth, a constant decrease was verified since 2014 until 2018, being expected to continue at least until 2019. According to the IMF, after the decrease from 2.9% to 1.4% in the last five years, a new lowest is expected in 2019 with a GDP growth of 1.2%. However, a significant increase is forecasted in 2022, where it's expected a GDP growth rate of 1.6% (Figure 31).

After a significant decrease on the inflation rate, from 1.5% to around 0% in 2014 and 2015 respectively, caused again by the deflation in oil and gas prices, this indicator has reached 2.5% in 2018. The IMF expects it to decrease in the following years, presenting a 2% constant rate from 2020 to 2022.

Despite the current favourable economic conditions, the country's economy can suffer a negative impact if the UK decides to leave the European Union (EU). The so called Brexit can jeopardize its trade relationships with the EU and other European countries.

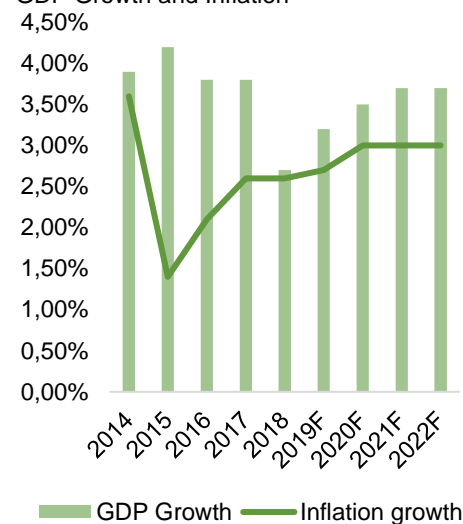
Balancing the above factors, the UK's economic outlook sustain a positive growth for DGE.

Brexit

The United Kingdom's proposal to exit the EU has set out one of the largest uncertainty periods of its economy. Without being able to reach an agreement with Brussels so far, the UK has yet to learn and quantify what will be the consequences and the returns of leaving the European Union.

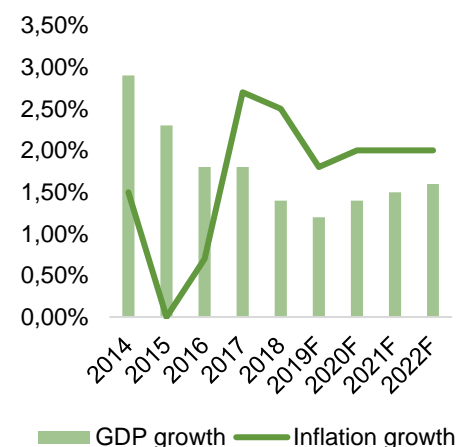
Amongst those consequences are the change on trade barriers. By reducing tariffs or removing non-tariff trade barriers, the country will have the chance to access markets which were previously unreachable. This will bring a positive impact on trading since several academics studies support the premise that barriers tend to reduce trading and its economic output. Similarly, new trade barriers can be established

Figure 30 – Latin America and Caribbean's GDP Growth and Inflation



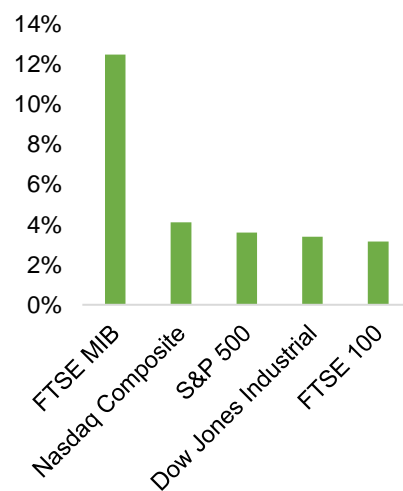
Source: IMF, World Economic Database, Author

Figure 31 – United Kingdom's GDP Growth and Inflation Rate



Source: IMF, World Economic Database, Author

Figure 32 – Negative impact of Brexit voting on Stock Exchanges



Source: Financial Times. Author

towards trading with European countries. This outcome would damage several British companies. Nonetheless, it is not certain how these changes would affect growth.

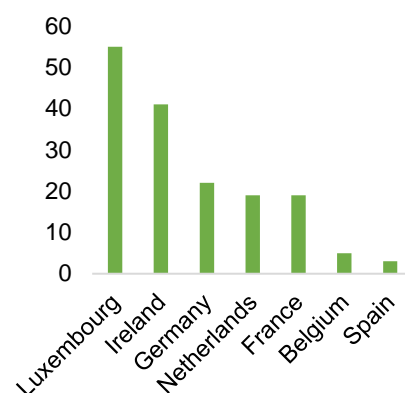
Another consequence of the Brexit would likely be the decrease in foreign investment. Since the majority of this investment comes from EU members, and are highly related to trading, the UK's attractiveness to outside investors would tend to reduce.

Migration is also a factor to be considered. The assumptions made on this topic forecast a change in the government's migration policy. These would directly affect the number of workers currently in the UK, change the existent skills mix and perhaps affect the overall economic output of the country.

Even though regulations have a clear purpose around topics as competitiveness, safety, climate protection, it takes a negative impact on how companies are able to use their resources to produce as many as possible. Thus, abandoning EU's regulations could drive a positive result on the economy.

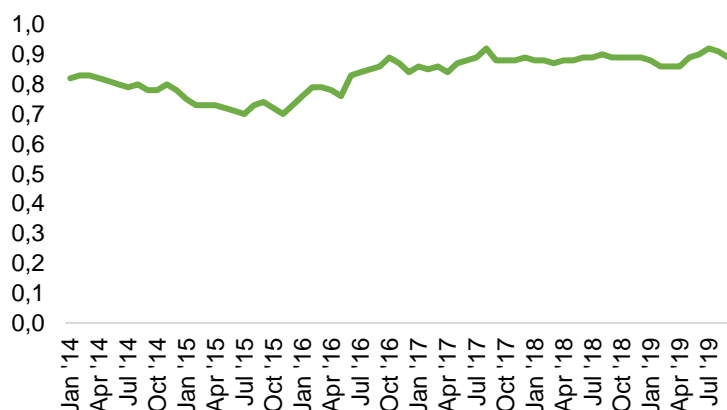
All the above are key factor to ensure productivity and a long-term growth of the economy. However, as stated before, no prediction can currently be made to assess what will be the impact of this decision, nor for the UK economy nor for the EU members. We can observe though that, due to this uncertainty, many companies and financial institutions have been preparing for the Brexit. This preparation has taken several forms such as moving its businesses to continental Europe and suspending their current investments in UK's territory.

Figure 33 – Number of companies reallocated after Brexit, by country of allocation



Source: Statista, Author

Figure 34 – Monthly Exchange Rate EUR/GBP



Source: European Central Bank, Author

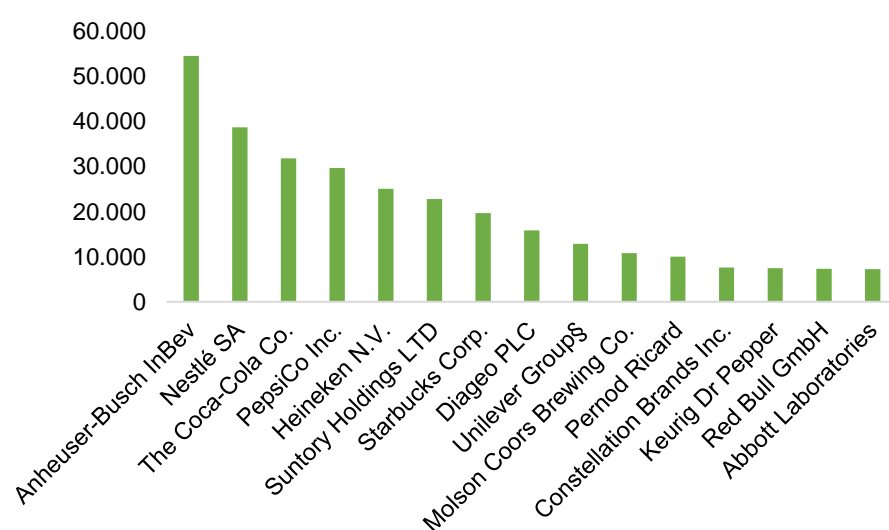
5. Industry Outlook

Beverage Industry Outlook

Beverage industry can be decomposed into non-alcoholic and alcoholic markets, where only a few large players are able to operate. According to Statista, the worldwide market volume has been constantly increasing since 2010 up to 2018, reaching a growth rate of 43% over these nine years (Figure 35).

The major contributors for this growth are Anheuser-Busch InBev, Nestlé SA and The Coca-Cola Co., registering net sales above than \$30,000 million (Figure 36) in 2018, making them the worldwide leaders of the beverage industry.

Figure 36 – Leading beverage companies worldwide in 2018, based on net sales (in million U.S. dollars)



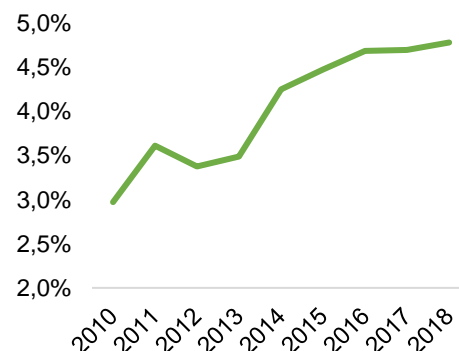
Source: Statista, Author

Regarding the share of consumption on packed beverages, water represents a third of the total consumption, being followed by the alcoholic beverages that account for 21.6% of the grand total (Figure 37).

The beverage industry has lately shown an increased focus on health and wellness, mainly in developed countries. Particularly, young consumers are now more willing to try new healthier alternatives rather than the traditional soft drinks. Low calorie and sugar products like sparkling water are an example of the consumer behaviour, where these types of beverages substituted the old fashioned sodas. Companies try to keep up with these new trends, innovating to bring added value to its customers.

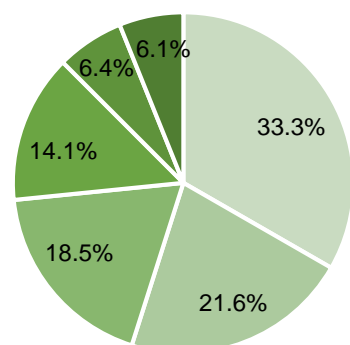
In terms of new opportunities to expand to other markets, globalization has started many years ago. Companies are expanding its business across all around the world, turning local brands into major global ones. Moreover, expansion to emerging markets is seen as a big opportunity to increase revenue, taking advantage of their fast growing and willingness in evolving.

Figure 35 – Global beverage market volume growth from 2010 to 2018 (%)



Source: Statista, Author

Figure 37 – Share of consumption of packed beverages worldwide in 2018, by beverage type (%)



- Water
- Alcoholic beverages
- Carbonated soft drinks
- Milk and dairy drinks
- Other drinks
- Fruit and vegetable juices

Source: Statista, Author

This industry is recognized by all the merger and acquisitions events that consecutively happen. Firms see great advantages in these kinds of operations such as economies of scale, market share improvement and know-how and technologies absorption. It also allows companies to be able to simultaneously eliminate part of the competition, gain its market share and diversify its own brand portfolio. Even though it a costly event, key players are willing to make the trade-off.

The largest consumers of this industry are a key factor for the industry's growth. Economic crisis from countries like China, the United States and Brazil can have a negative impact on the worldwide industry. Nevertheless, the positive growing of home consumption and the increasing customers' confidence level are positive indicators for the industry.

Alcoholic Beverages Industry Outlook

Alcoholic beverage industry can be decomposed into spirits, beers, wine and ready to drink. Historically, beers have been representing the majority of the worldwide alcoholic beverage consumption followed by wine and spirits, respectively. Although, with the increasing trend on premiumisation, spirits represent now 45% of the worldwide alcoholic beverage consumption, followed by beers (34%) (Figure 38). Main consumers are China, the United States and Brazil with an annual consumption of 54.29, 30.5 and 14.04 billion liters, respectively (Figure 39).

Nowadays, spirits are becoming the most popular alcoholic beverage, mainly due to the brand innovation and communication companies have been building in the last few years. They are composed by many differentiated products, able to adapt to the consumer's needs. Spirits are seen as a type of beverage which suits many occasions across cultures. In regions as Asia, spirits are very common in business events, being a sign of respect and commitment. Comparing the global spirits consumption, it has increased 7% from 2006 to 2014 (Figure 40).

Figure 38 – Share of Alcoholic Beverages by Type in 2018 (%)

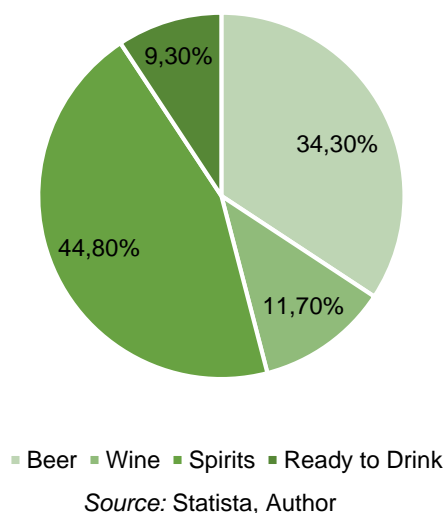


Figure 39 – Leading Alcohol Consumption by Country in 2018 (billion liters)

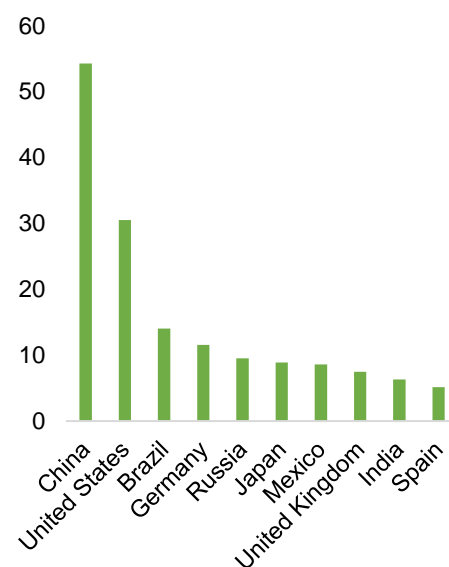
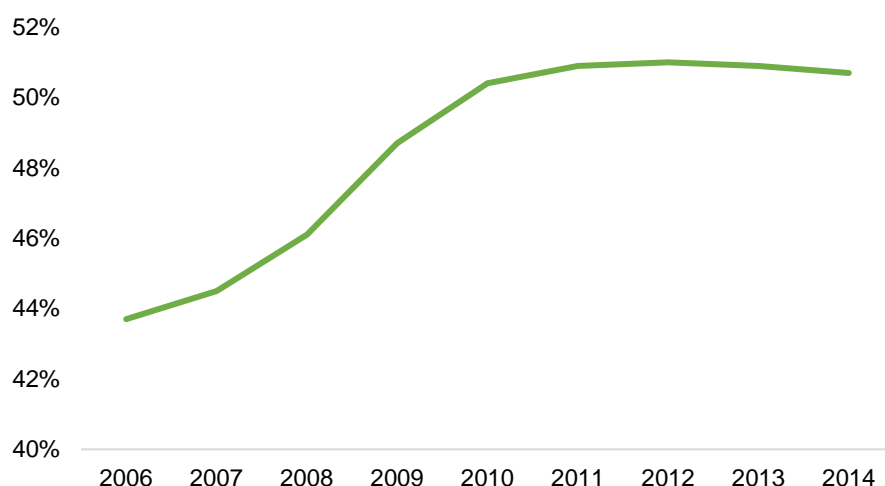
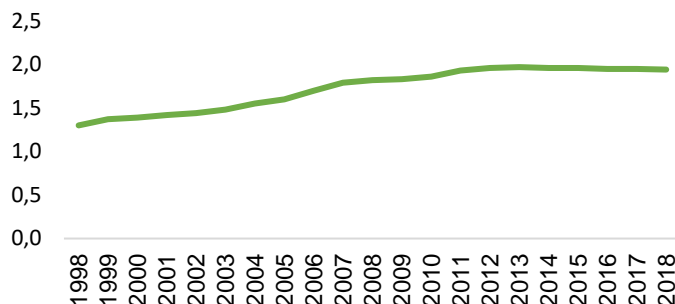


Figure 40 – Worldwide share of Spirits from 2006 to 2014 (%)



Beer still remains a popular drink within the world. Focusing on the growing of artisanal beers, they have substituted many worldwide famous brands due to their innovative flavours and unique quality. According to Statista, beer consumption has decreased 4.4% from 2006 to 2014, still presenting though a worldwide production of 1.96 billion hectolitres in the latter year (Figure 42).

Figure 41 – Beer production worldwide from 1998 to 2016 (in billion hectoliters)



Source: Statista, Author

In what regards to wine, its production has historically been concentrated in Europe, mainly due to climatic reasons. Countries like Italy and France are known for producing the best wines in the world and exporting them across all regions. Wine's production reached an historical high of 292.3 million hectolitres in 2018. Its consumption was on a positive trend until the economic crisis come into the picture, leading to a slight decrease, from 250 to 244 million hectolitres in 2008 and 2009, respectively (Figure 41). Nevertheless, from 2000 to 2018, global wine consumption has shown an increase of nearly 8% (Figure 43).

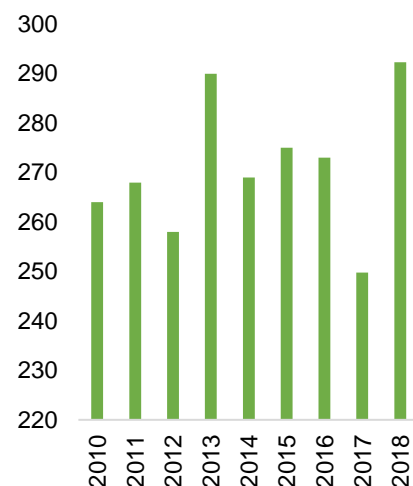
In the UK, beer is still the most popular alcoholic beverage (35.3%), immediately followed by wine (32.3%) (Figure 44). Against the world's trend, spirits' consumption is quite below the other main beverages' one. In fact, beer is a part of the British culture, where consumers drink in various ways such as temperatures, sizes and types. It is not expected that this trend changes since spirits' companies are mainly focused on growing in emerging markets.

Figure 45 – Alcoholic Beverage Consumption, in the UK (% of volume growth)



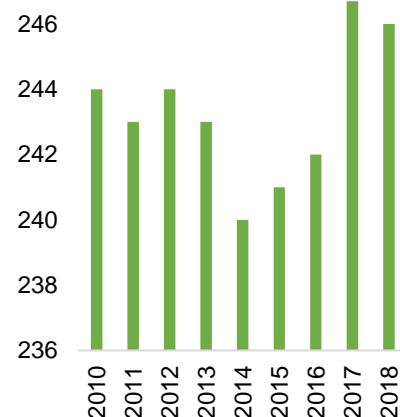
Source: Statista, Author

Figure 42 – Wine production worldwide from 2010 to 2018 (in million hectoliters)



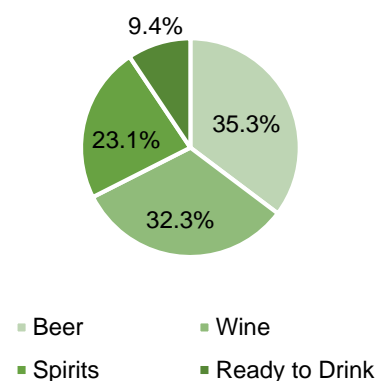
Source: Statista, Author

Figure 43 – Wine consumption worldwide from 2010 to 2018 (in million hectoliters)



Source: Statista, Author

Figure 44 – Share of Alcoholic Beverages by Type in the UK in 2018 (%)



Source: Statista, Author

Peer Group

This Peers selection will be used on our Relative Valuation (chapter 7).

It is important to note that DGE is a multinational company which operates across the entire world. Moreover, DGE's portfolio counts with a lot of diversity, whereas many of the companies in the alcoholic beverages industry focus only on a few segments.

By applying a selection process, a peer group was obtained: Pernord Ricard Groupe, Anheuser-Busch InBev NV, Asahi Group Holdings Ltd, Kirin Co Ltd, Thai Beverage PCL and Suntory Beverage Ltd. This selection process is available on detail on Appendix 14.

Pernord Ricard Groupe

Pernord Ricard Groupe's portfolio counts with wine, ready to drink and spirits. They are a French enterprise founded in 1975. The company owns brands as Absolut Vodka and Chivas Regal. In 2018, they reached \$8,987 million in revenue.

Anheuser-Busch InBev NV

Anheuser-Busch InBev NV is a Brazilian-Belgian multinational beverages company. It is the product of multiple mergers of brewing companies. Their portfolio counts with beer as their main product and wine. Their 2018 revenue surpassed the barrier of \$50,000 million.

Asahi Group Holdings Ltd

Asahi Group Holdings Ltd is a Japanese beer and soft drink enterprise. Worldwide, it has the largest market share in beer (38%). Similarly to Anheuser-Busch InBev NV, it resulted from several mergers amongst brewers. On their portfolio, along with beer, they also count with ready to drink beverages.

Kirin Co Ltd

Kirin Co Ltd has portfolio mainly composed by beer and ready to drink products. It is based in Japan but has a strong presence on foreign markets like Europe and North America. Like other Japanese beverage companies, its strongest segment is the beer.

Thai Beverage PCL

Thai Beverage PCL is Thailand's largest beverage company, with distilleries in China, Scotland and Thailand. Its main product focus is on beer and spirits. One of their most successful activities comes from a 50/50 joint venture with Carlsberg to launch Chang, the Carlsberg Asia.

Suntory Beverage Ltd

Suntory Beverage Ltd is a Japanese beverage company which counts with spirits and ready to drink products on their portfolio. They own brands like Jim Beam, Hibiki and Maker's Mark, three of the most famous whiskies in the world. Suntory is the third largest spirits maker in the world.

Competitive Position

Table 14 – SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> Owner of some of the best-selling brands in the world (brand awareness) Very diversified portfolio of brands Proactive in innovating to follow new trends and preferences Counts with the loyalty of its clients Low levels of debt Well established in international markets 	<ul style="list-style-type: none"> High level of dependency on big customers like retailers and wholesalers Only operates in the alcohol industry Exposure to emergent markets with political instability
Opportunities	Threats
<ul style="list-style-type: none"> World economic recovery Consumer's increasing concern in premiumisation Increasing consumption of alcoholic beverages 	<ul style="list-style-type: none"> Foreign exchange risk Strong competition in the industry Instability within some African and ME countries Increasing concern for healthy lifestyles

Porter's Five Forces

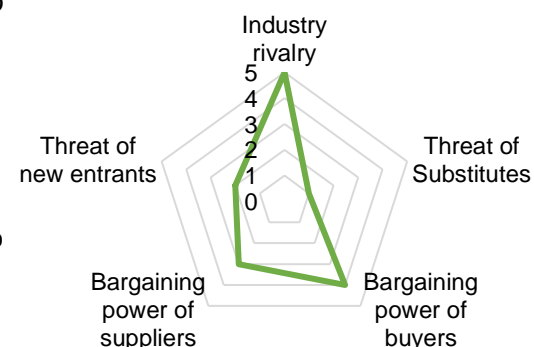
Threat of new entrants (Medium/Low)

Mergers and acquisitions are very common in the beverage industry. In order to gain market share and to reach economies of scale, this larger agglomeration of firms make it difficult for any competitor to entry in this industry. Additionally, high initial investments specifically on fixed costs as machinery and warehousing are expected in the beverages industry. Achieving economies of scale is a key factor for a company to be able to have competitive prices. Therefore, we consider this a medium/low threat for DGE.

Bargaining power of suppliers (Medium)

There are many suppliers in this industry, specially on what regards machinery and warehousing. A change of supplier wouldn't be difficult to achieve. Although, raw materials are at the core of the business. DGE has many partners on their supply chain, being in many cases their largest buyer. However, raw materials are always exposed to environmental risks as weather conditions and natural disasters. Thus, this industry always faces the threat of increasing prices of raw materials. Therefore, we consider this a medium threat for DGE.

Figure 46 – Porter's Five Forces



Source: Company data, Author

Bargaining power of buyers (Moderate)

DGE's main buyers are hypermarkets, supermarkets and large grocery stores. These are players with a high bargaining power, able to achieve larger payment periods and a reduced unitary price, due to the bigger quantities they acquire. These buyers stand for a significant share of DGE's sales. Nonetheless, as DGE is well established within the industry, customer's force these large grocers to negotiate with DGE in order to achieve a profitable arrangement for all parties. Therefore, we consider this a moderate threat for DGE.

Threat of Substitutes (Low)

DGE's portfolio counts with all the existing segments within the alcoholic beverages industry: spirits, beer, wine and ready to drink. A possible threat for DGE would be for consumers to switch to a product within the non-alcoholic beverages range, due to increasing health concerns. Although, these are products used on different contexts and that suit different needs. Therefore, we consider this a low threat for DGE.

Industry rivalry (High)

The few companies already established in the beverages industry are in general large firms with a significant market share. Brand loyalty is very common, but competitors are constantly innovating and exploring new segments within the industry to keep their customers and attract new ones. This diversification is essential for succeeding in this industry, by avoiding segments where larger companies are already operating. Therefore, we consider this a high threat for DGE.

6. Investment Summary

With a **price target** of **£30.65** for 2018, an **upside potential** of **12.59%** from the current price of **£27.22**, using a **medium risk** assessment, and the **Discounted Cash Flow** method, our recommendation stands for **HOLD**. Moreover, the **Relative Valuation** through multiples does not support our recommendation (Table 15), since we reached a price target of **£27.54**, representing an **upside potential** of **1.19%**. However, we do not consider this to be an appropriate method to compute the company's price target, since the firm's peers present different capital structures. Using the **Market Multiples approach**, our recommendation would change to **REDUCE**.

DGE has a strong presence in several regions across the world, being one of the **market leaders** in **alcoholic beverages**. The most relevant region in terms of sales proportion is North America (Figure 47). However, the firm intends to expand its current business on emerging markets such as Africa and Latin America and Caribbean.

Valuation Methods

In order to reach a price target for DGE, two different valuation methods were used, a relative and an absolute valuation method. Concerning the absolute method, we used the **Discounted Cash Flow (DCF)**, more specifically the **Flow to Equity (FTE)**. Regarding the relative valuation method, we used the **Market Multiples** approach, where a peer group was selected according to its similarity degree towards DGE. However, this approach did not support the conclusions obtained through the absolute valuation method.

Financial Position

In the last years, the firm's profitability ratios have remained quite stable. The gross profit margin presents values around 40%, whereas the EBITDA margin reached 22.7% in 2018. The EBIT margin has been slowly increasing, reaching 20% also in 2018. It is important to denote that these ratios performance is directly linked to the company's sales performance. Similarly, the Net Profit margin has achieved a value of 20% in 2018.

Risks to Price Target

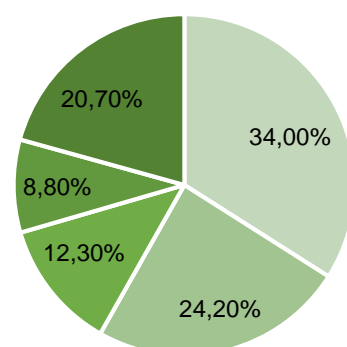
DGE operates in an industry which is dominated by only a few, large key players. Thus, entry into new markets is quite difficult. Moreover, due to the growing influence of the social media, the company has invested into growing its reputation, as customer's loyalty is a key factor of the industry. In order to calculate the impact of the main company's drivers in our price target, we performed a **sensitivity analysis** and a **Monte Carlo simulation** (Figure 48). According to the last, Cost of Equity (64%) and Cost of Sales/Sales proportion (31.3%) are the main risks to our price target. Through this simulation, we reach a **mean price** of **£31.47**, representing an **upside potential** of **15.61%** and support our final recommendation of **HOLD**.

Table 15 – Valuation Summary

DCF Valuation Method	
Total Value of Equity	82596.91
Target price	£30.65
Multiples Valuation Method	
PER	£27.54
Difference	
£3.11	11.40%

Source: Company data, Author

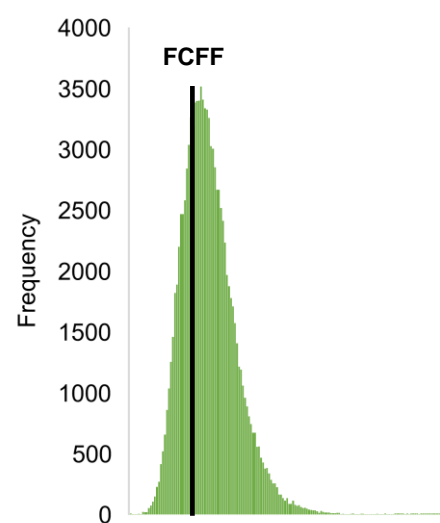
Figure 47 – Proportion of Sales by region, in 2018 (%)



- North America
- Europe and Turkey
- Africa
- Latin America and Caribbean
- Asia Pacific

Source: Company data, Author

Figure 48 – Monte Carlo Price Distribution



Source: Oracle Crystal Ball, Author

7. Valuation

This valuation was done using DGE's consolidated statements for the period between 2014 and 2018, along with industry and economic data. DGE's Balance Sheet and Income Statement are available for consulting in Appendix 2 and Appendix 1, respectively.

Valuation Methodology

For our intrinsic valuation, the method used was the **Discounted Cash Flow (DCF)** approach, particularly the **Flow to Equity method**. This model was chosen since the firm's capital structure is mainly composed by Equity. Even though DGE's dividends have been constant throughout the years, we decided not to apply the Dividend Discount Model. Since there is no strict policy on dividend's payment, the values historically applied by DGE may not be a good variable to forecast the company's cost of capital. Thus, to reach to DGE's enterprise value we have used as discount rate the **Re (Cost of Equity)** applied to the company's forecasted **FCFE (Free Cash Flow to Equity)**. We have preferred this method since DGE's aims to achieve capital efficiency by accessing short-term attractive debt markets, nevertheless we expect that the capital structure of the company will remain stable in the following years.

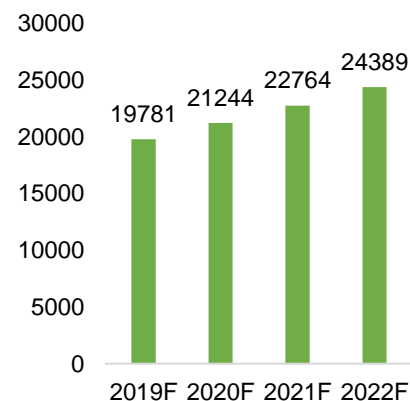
In what regards the relative valuation, we used the **Market Multiples Approach**. In order to do so, a **Peer Group** was selected within the beverage industry. These peers were chosen according to their business units, allowing us to reach a price target using one multiple. The multiple used was the **Price to Earnings Ratio**. Other multiples were also tested but, due to some critical differences on the peers' structure (capital structure), these were not considered suitable to forecast our price target. The remaining multiples tested were: **Enterprise Value to EBITDA (EV/EBITDA)**, **Enterprise Value to EBIT (EV/EBIT)** and **Enterprise Value to Sales (EV/Sales)**.

Key Valuation Drivers

Total Sales

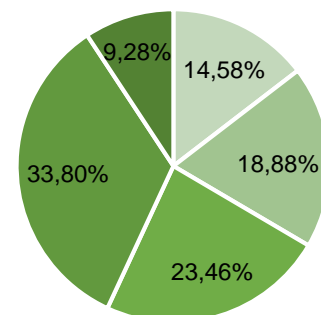
Total Sales forecasts were based on three key variables: GDP growth, Inflation Rate growth and Population growth (Table 16). These were identified as the main drivers for a company operating in the Beverages Industry. Also, due to the unavailability of information regarding volumes and prices of each BU, these were not included in our forecasts. Total Sales growth rate was obtained by adding the three variables. Each of them was computed using a weighted average of the historical average sales proportion related to each region where the company operates (Figure 50). The geographical areas used were Europe, Asia Pacific, Africa, North America and Latin America and the Caribbean. An historical average was used since no changes are forecasted in the upcoming years. Even though the company's strategy is to continuously grow on the emerging markets (increasing the volumes), the premiumisation strategy in developed countries will lead to a price increase, which will offset the total sales proportion on both markets. The detailed calculations can be consulted in Appendix 7.

Figure 49 – Forecasted Total Sales (£M)



Source: Company data, Author

Figure 50 – Historical average sales proportion per region



- Africa
- Asia Pacific
- Europe and Turkey
- North America
- Latin America and Caribbean

Source: Company data, Author

Table 16 – Total Sales Growth per growth variable (all regions)

Key Variable	2019F	2020F	2021F	2022F
GDP growth	2.90%	2.93%	2.91%	2.90%
Population growth	0.89%	0.81%	0.86%	0.84%
Inflation Rate growth	3.53%	3.66%	3.39%	3.40%
Total Sales Growth	7.32%	7.39%	7.16%	7.14%

Source: Company data, Author

Net Working Capital (NWC)

In what regards the NWC, our perspective shows that **Inventories** and **Trade and other receivables** should vary along with the company's sales, showing this way a stable proportion over the years. On **current liabilities** as **Trade and other payables**, the same rationale was used. These are amounts which highly depend on the business size (Figure 17). Regarding Provisions, we expect them to remain stable. Thus, we don't expect the NWC of the firm to suffer a relevant change.

Table 17 – Net Working Capital, 2014-2018 (% of Sales)

Net Working Capital	2014	2015	2016	2017	2018
Inventories	30.20%	28.65%	29.28%	26.43%	27.21%
Trade and other receivables	17.88%	15.25%	17.17%	14.31%	14.53%
Trade and other payables	20.03%	18.43%	21.56%	19.67%	21.43%

Source: Company data, Author

Capital Expenditure (CapEx)

DGE has no plans to make investments on CapEx. It is expected that the CapEx for the next years to be directly linked to the company's sales (Figure 52). Thus, we forecast a maintenance and substitution of the assets owned as of today. Similarly, we aim for a depreciation and amortisation rate around the annual historical values based on sales.

Table 18 – CAPEX (£M)

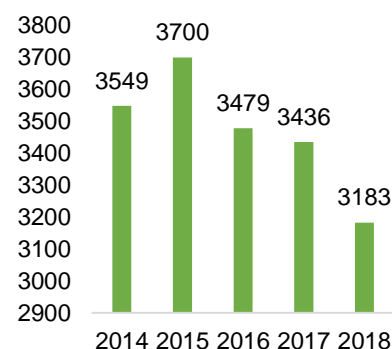
CAPEX	2019F	2020F	2021F	2022F
Intangible assets	12841.61	13119.15	13432.02	13782.29
Property, plant and equipment	4176.69	4266.96	4368.72	4482.64
Biological assets	23.49	24.00	24.57	25.21
Depreciation and amortization	411.14	420.03	430.04	441.26
Capital expenditure	725.79	779.46	835.23	894.88

Source: Company data, Author

Main Costs

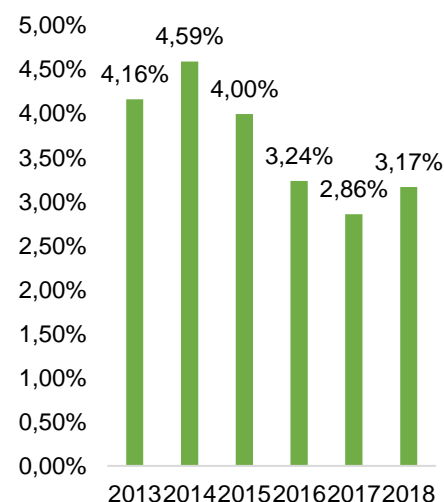
As in the past years, operating expenses – **cost of sales** - should remain as a constant proportion of the company's revenue. Excise duties are a production tax applied at manufacturing due to the firm's products nature (alcoholic). Therefore, these do not depend on the sales volume. For other costs like **Marketing**, we expect these to follow the trend of the firm's total sales (Figure 53).

Figure 51 – Net Working Capital, 2014-2018



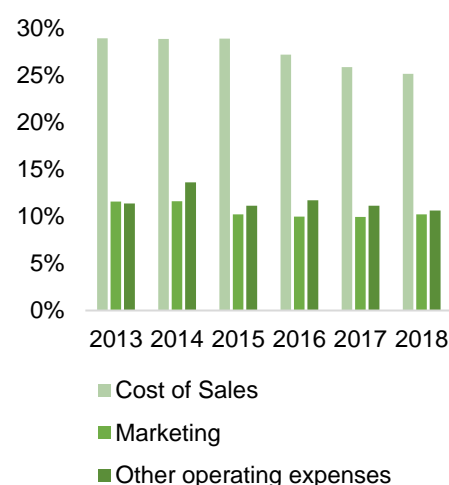
Source: Company data, Author

Figure 52 – CapEx, 2014-2018 (% of Sales)



Source: Company data, Author

Figure 53 – Operating expense proportion over sales



Source: Company data, Author

Discounted Cash Flow Valuation

Considering a **valuation period** between June 30, 2018 and June 30, 2022, and a terminal value at the end of this period, we have applied the Discounted Cash Flow method aiming to achieve a price target (Appendix 13).

Following our forecasting assumptions, we were able to compute the **FCFE** and discount it at the **Re**, reaching a price target of **30.65£** on June 2018. This represents an **upside potential of 12.59%** above the current price of 27.22£. The estimated Total Value of Equity was £82,596.91 million, representing 2,695 million of shares (Table 19).

Table 21 – Free Cash Flow Calculation

Years	2019F	2020F	2021F	2022F
Net Income	4261.13	4914.52	5593.48	6319.67
Total Depreciation and amortization	411.14	420.03	430.04	441.26
Change in NWC	1107.92	342.18	355.57	380.30
Capital expenditure	725.79	779.46	835.23	894.88
Net increase in Debt	563.19	140.59	146.09	156.25
Free Cash Flow to Equity	3401.75	4353.49	4978.81	5641.99

Source: Company data, Author

Cost of Capital Assumptions

The **Risk-free rate (Rf)** is the **YTM (Yield to Maturity)** of a UK 10Y Sovereign bond (GILT) at mid-2018 (2.205%), deducing the default spread according to Damodaran in January 2018. This YTM was computed by taking the average of the YTM deduced of the British credit default spread, along with the YTM deduced of the Rating-Based default spread (S&P500 and Moody's). Thus, counting with a credit default spread of 0.05% (after adjusting with the US one) and Rating-Based default spread of 0.51%, we have reached a final **Rf** of **1.925%**.

For the company's **Beta (β)** we decided to use two different methods. The first one was to compute an historical Beta, using the FTSE 100 Index as a representative of market returns. By calculating the covariance of the two and the standard deviation of the index, we were able to achieve an **historical β** of 0.84 (Table 23).

The second approach was to compute a bottom-up Beta, considering the firm's Peer group. Using Bloomberg's data, we calculated the average of the firm's peers Beta, achieving a **bottom-up β** of 0.78 (Table 24).

The Beta used on our valuation was an average of these two methods, **0.8094**.

Table 19 – DCF Output

DCF Output	
Value of Equity (£M)	82596.91
Nº of Shares Outstanding (M)	2695
Price target (£)	30.65
Price at 30/06/2018 (£)	27.22
Upside Potential	12.59%
Recommendation	HOLD

Source: Company data, Author

Table 20 – UK Bond details

Bond Details	
Price	109.45
Face value	£100
Coupon	1.625%
Maturity	22/10/2028
ISIN	GB00BFX0ZL78

Source: Bloomberg

Table 22 – Risk Free Rate

Risk Free Rate	
YTM 10y	2.20%
Rf CDS adjusted	2.15%
Rf Rating adjusted	1.70%
Risk free rate (Rf)	1.93%

Source: Author

Table 23 – Historical Beta

Historical Beta	
FTSE 100 average return	0.0197%
FTSE 100 variance	0.0046%
DGE average return	0.0773%
Covariance (DGE, FTSE 100)	0.0039%
Historical Beta	0.8391

Source: Author

Table 24 – Bottom-up Beta

Peers	Beta
Pernord Ricard Groupe	0.748
Anheuser-Busch InBev NV	0.456
Asahi Group Holdings Ltd	0.892
Kirin Co Ltd	1.103
Thai Beverage PCL	0.738
Suntory Beverage Ltd	0.741
Bottom-up Beta	0.7797

Source: Author

In what regards the **Cost of Debt (Rd)**, we have used a rating based cost approach, reaching to a **Rd** of 3.68%. In order to determine the rating, we have used DGE's Interest Coverage Ratio in 2018, dividing its financial costs by the company's EBIT, reaching a value of 7.34. Then, using Damodaran's rating table (Appendix 12), we extracted a default spread of 1.25% for the firm. Finally, adding the Risk Free Rate (1.925%) and the country's default spread (0.51%), we reached to a Cost of Debt of 3.68% (Table 25).

The **equity risk premium (ERP)** we considered was taken from Damodaran's database, as being the risk premium for a company within the beverages (alcoholic) industry across all regions where the company operates. A weighted average was used according to the sales proportion of each region. Thus, we reached a final Equity Risk Premium of 8.70% (Table 26).

For the **Cost of Equity (Re)**, we followed the **Capital Asset Pricing Model (CAPM)**.

Table 27 – Cost of Equity

Rf	Beta	ERP	Re
1.925%	0.8094	8.70%	8.967%

Source: Author

Therefore, we reached a **Re** of 8.697% (Table 27).

For the **Effective Tax Rate (t)**, we computed the average of the historical taxation the company has paid in the period between 2014 and 2018, achieving a rate of 17.02% (Figure 54).

On the **Terminal Value (TV)**, we have used a **Perpetual Growth Rate (g)** equal to the weighted average of the GDP growth across all regions where the company operates, reaching a value of 2.91%.

Market Multiples Approach

For 2018, we reached to an average forecast **PER** of £27.54, representing an **upside potential** of **1.19%** (Table 28). Regarding the **EV/EBITDA**, we obtained a price target of **15.90£**, representing a **downside potential** of **41.59%**. Regarding the **EV/EBIT**, we obtained a price target of **18.53£**, representing a **downside potential** of **31.91%**. Using the **EV/Sales**, we obtained a price target of **16.64£**, representing a **downside potential** of **38.85%**.

Table 29 – Peers Multiples 2018F

Peers	EV/EBITDA	EV/EBIT	EV/SALES	PER
Pernord Ricard Groupe	16.57	18.16	5.66	30.92
Anheuser-Busch InBev NV	12.63	15.80	5.54	24.55
Asahi Group Holdings Ltd	9.75	15.59	1.73	16.49
Kirin Co Ltd	10.17	12.88	1.34	28.56
Thai Beverage PCL	18.94	22.43	2.73	20.85
Suntory Beverage Ltd	9.47	14.56	1.25	20.29
Median	11.40	15.69	2.23	22.70
Average	12.92	16.57	3.04	23.61

Source: Bloomberg, Author

Table 25 – Cost of Debt

Cost of Debt	
Interest Coverage Ratio	7.34
Spread	1.250%
Risk free rate	1.93%
Country default spread	0.51%
Cost of debt (Rd)	3.68%

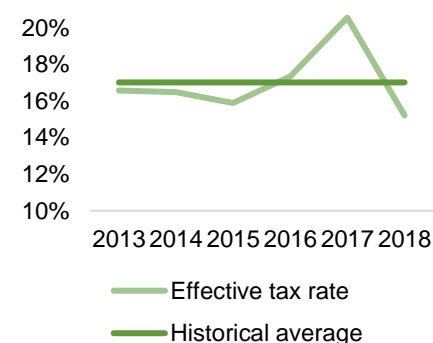
Source: Damodaran, Author

Table 26 – Equity Risk Premium

Regions	ERP
Africa	13.34%
Asia Pacific	9.94%
Europe and Turkey	7.47%
North America	5.96%
Latin America and Caribbean	11.98%

Source: Damodaran, Author

Figure 54 – Effective Tax Rate



Source: Company data, Author

Table 28 – PER Multiple

PER Average	23.61
Net Income (2018)	3144
Shares outstanding	2,695
PER Multiple	£27.54

Source: Company data, Author

Since DGE's peers do not have a similar capital structure, the ratios related to the Enterprise Value are not adequate to this type of approach. Thus, only the price target achieved through the **PER** multiple was considered. Using the **Market Multiples Approach**, our recommendation would change to **REDUCE**, regardless of the company's risk assessment.

Financial Statements Forecast Analysis

Total sales are expected to follow the increasing trend, similarly to the past 5 years, where they have been increasing quite much (21% from 2013 nominal value to 2018 nominal value). North America shows the largest increase, mainly explain by having the largest share of the firm's sales proportion. Also, since Africa has the largest expect population growth and the largest forecasted GDP growth, expected sales show an increase of £1,288.83 million from 2018 to 2022 (Table 30).

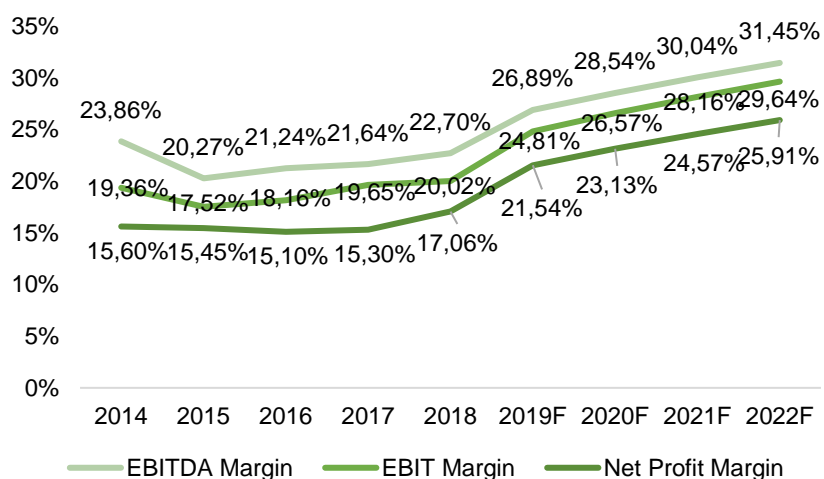
Table 30 – Forecasted sales per region (£M)

Regions	2019F	2020F	2021F	2022F
Africa	2884.06	3097.33	3318.94	3555.97
Asia Pacific	3734.64	4010.80	4297.78	4604.72
Europe and Turkey	4640.60	4983.76	5340.36	5721.75
North America	6685.95	7180.36	7694.12	8243.62
Latin America and Caribbean	1835.67	1971.41	2112.47	2263.34

Source: Company data, Author

Regarding the **EBITDA Margin**, it has historically remained quite stable across the years. However, we expect an increase in the EBITDA margin is acknowledged from 2018 to 2022 (22.70% to 31.45%, respectively) since all operating expenses and depreciations/amortisations are dependable of the company's sales. Similarly, the **EBIT Margin** and the **Net Income Margin** are expected to increase (5% increase from 2018 to 2022, reaching 29.64% and 25.91%, respectively). Again because we don't expect any relevant change on the company's annual expenses (Figure 55).

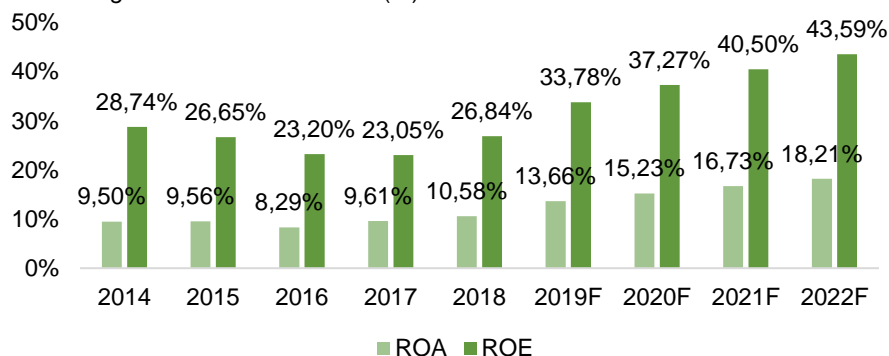
Figure 55 – EBITDA, EBIT and Net Income Margins (%)



Source: Company data, Author

The **Return on Assets (ROA)** has historically shown some slow increases (9.50% to 10.58 in 4 years). We expect this trend to continue since no significant investment is to be done on the company's assets. The increases foreseen are directly link to the sales volume. Regarding the **Return on Equity (ROE)**, we forecast a moderate increase within the years (from 28.74% to 43.59%). This is expected behaviour since net income will be growing without any share capital reinforcement on the shareholders side (Figure 56).

Figure 56 – ROA and ROE (%)

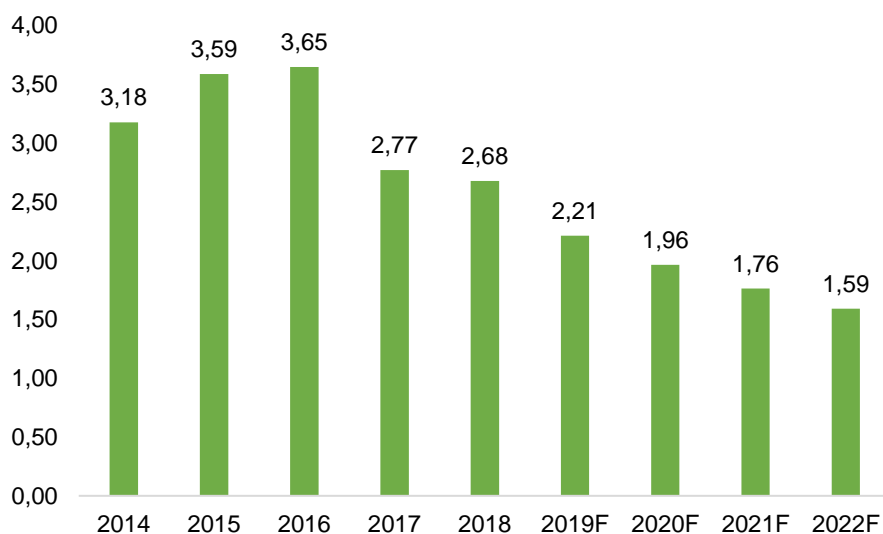


Source: Company data, Author

On the **Interest Coverage Ratio**, which represents the firm's ability to meet its debt obligations, an increase is expected on the following years. As debt is to remain stable and the increasing operating profit of the company will show a faster growth, the firm's EBIT will outperform the interest payments due to the company's debt holders. It is expected that the Interest Coverage Ratio reach 14.71 on 2022 (Figure 57).

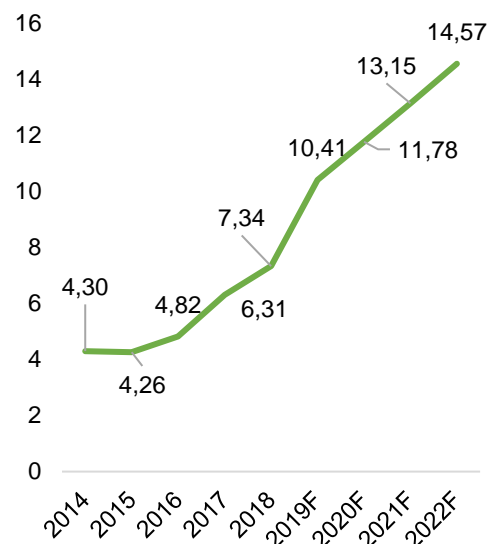
Net Debt to EBITDA Ratio, expectation is for this metric to decrease throughout the years (Figure 58). Counting with the forecasted similar amounts of debt and an increasing EBITDA, the years needed for the firm to completely fulfil its debt obligations are expected to decrease (historical minimum of 1.59).

Figure 58 – Net Debt to EBITDA Ratio (years)



Source: Company data, Author

Figure 57 – Interest Coverage Ratio



Source: Company data, Author

8. Investment Risks

Economic and Market Risks

Industry Competitiveness Risk (EMR1)

Due to the increasing merger & acquisition events in the alcoholic beverages industry, the number of competitors is continuously decreasing, emerging in their place larger key players on these segments. Even though DGE has one of the biggest market shares in the industry, synergies amongst competitors may have a negative impact on the firm's operations. Thus, we assume this to have a medium probability of occurring, but it may have a high impact on the firm since market share would be lost to a larger competitor.

Credit Risk (EMR2)

This risk arises on financial instruments and credit exposure to clients, more specifically on financial guarantees, accounts receivables and outstanding loans. A default in any of these contractual obligations will result in a loss of a financial asset previously recognized by the company. To prevent that, DGE has established a credit management policy, characterized by credit limits, ongoing credit evaluation and some monitoring procedures. Since the company does not currently carry significant amounts in these accounts, we assume this has a low impact on the firm, having a low probability of occurring.

Foreign Exchange Risk (EMR3)

Since DGE is established all around the world, it operates in many countries and in many different currencies. Thus, exchange rates are a constant concern due to the unpredictable movements and consequently losses they may cause. To hedge this risk, the company uses several financial instruments like foreign exchange spots, forwards, swaps, amongst others. Additionally, in order to hedge for its borrowings in foreign currencies, the firm uses cross currency interest rate swaps, automatically avoiding the foreign exchange volatility on their debt. Therefore, we assume this has a low impact on the firm, having a medium/low probability of occurring.

Interest Rate Risk (EMR4)

As DGE is not mainly financed by debt, interest rate volatility should not cause a major impact on the company. Nevertheless, the firm trades fixed against float interest rate swaps to mitigate this risk. Commercial paper is also used aiming to minimize the company's finance charges. Thus, we assume this has a low impact on the firm, having a medium probability of occurring.

GDP Growth Risk (EMR5)

Even though, according to the IMF, the UK's GDP is not expected to have a significant increase in the following years, many emerging markets as the African one, are to experience a large increase in its growth. Benefiting from its worldwide presence, DGE is able to adjust to the low growth expected in already developed countries. Nonetheless, Brexit assumptions forecast a decrease in the GDP growth of the UK, mainly linked to the reduction on foreign investment. Therefore, we assume this has a medium/high impact on the firm, having a medium/low probability of occurring.

Political and Regulatory Risks

Taxes and New Regulations Risk (PRR1)

Due to DGE's wide international range, it is of high difficulty to manage the various tax policies applied throughout the world. The same applies to the restrictions imposed by regulators, where several trade barriers and/or restrictions can affect the normal functioning of the firm. The failure in complying to these laws and regulations may result in significant financial penalties, damaging severely the company's financials. DGE has engaged on various training and communications like e-Learnings in order to embed employee's understanding, as well as on a Code of Business Conduct which supports the standards and policies required by compliance requirements. Brexit might bring the end for some of these policies, boosting the company's productivity. Thus, we assume this has a medium impact on the firm, having a medium/low probability of occurring.

Political Uncertainty and Terrorism Risk (PRR2)

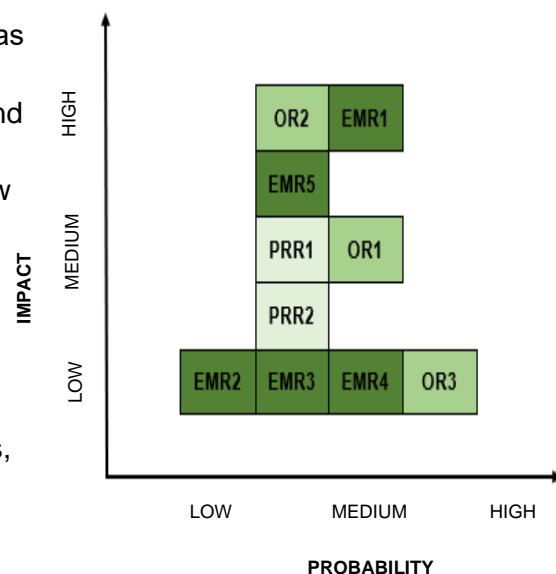
Since the company is operating in several emerging markets, the firm has to account for political instability. Focusing on the African countries, these are characterized by geopolitical tensions and a weakening of liberal democratic governance, able to threaten the firm's ability to operate in these markets.

Terrorism is also recognized as a risk for DGE. As it is capable to harm both developed and developing countries, the company has implemented several terrorism crisis simulation exercises, attempting to raise awareness on this subject.

Another risk expected by the company is the Brexit. Without a confirmed arrangement between the UK and the EU, trading policies may suffer a change on the short-term. However, DGE refers that no material impact is foreseen due to Brexit.

Therefore, we assume this has a medium/low impact on the firm, having a medium/low probability of occurring.

Figure 59 – Risk Matrix



Source: Author

Operational Risks

Supply Chain of Raw Materials Risk (OR1)

Since DGE depends on third party suppliers in many areas all over its supply chain, it might incur in the risk of disruption. Such problem can also damage the company's own reputation even if caused by an external party. In order to mitigate this risk, the company is working on getting control of their entire supply chain (vertical integration). Thus, we assume this has a medium impact on the firm, having a medium probability of occurring.

Reputational Risk (OR2)

As the consumer's loyalty is one of the key factors of this industry, it is essential to guarantee the reputation and credibility of the firm's brands. With the growing influence that social media and networks have nowadays, any undesired news can have a major impact on the company's results. In order to combat these events, DGE has focused in a responsible marketing strategy, driving more communicative and innovative dynamics into its core.

Then, we assume this has a high impact on DGE, having a medium probability of occurring.

Environmental Risk (OR3)

DGE is exposed to many environmental risks, such as natural disasters and climatic changes, which can interfere with the company's day to day operations. To avoid this risk, the firm works with a very diversified range of suppliers, either local or global. Therefore, we assume this has a high impact on the company, having a low probability of occurring.

Risks to Price Target

A sensitivity analysis was performed in order to assess the impact of key variables in the price target. Following the guidance of the BPI's Investment Rating and Risk Classification (Table 2), we were able to understand how our final recommendation would vary, according to the possible volatility in key investment risks.

The variables used on this assessment were the **Cost of Equity (Re)**, **Effective Tax Rate (T)**, **Perpetual growth rate (g)**, **Inflation rate growth** and **Profit Margin**.

Sensitivity Analysis

With this sensitivity analysis, we were able to conclude that the **Cost of Equity (Re)** and **growth rate (g)** can operate major changes in the price target. As can be seen in Table 31, the stock value can decrease by - 21.04% (21.49£) or increase by 96.70% (53.54£), in the worst and best case scenario, respectively. Moreover, in Table 32, we can see that

changes in **Effective Tax Rate (T)** and **Cost of Sales/Sales proportion** have an even greater negative impact, since on the worst case scenario the price target would drop -34.01% (17.96£) whereas in the best case scenario it would reach 45.67£, representing an increase of 67.79%. More detailed information regarding this analysis is available in Appendix 15.

Table 31 – Effects of changes in Terminal Growth (g) and Cost of Equity (Re)

	Change in Terminal growth rate (g)									
	30.65	2.31%	2.46%	2.61%	2.76%	2.91%	3.06%	3.21%	3.36%	3.51%
Change Cost of Equity (Re)	6.97%	£40.81	£42.03	£43.34	£44.73	£46.23	£47.85	£49.60	£51.49	£53.54
		49.93%	54.41%	59.21%	64.34%	69.86%	75.80%	82.21%	89.15%	96.70%
	7.47%	£36.75	£37.73	£38.77	£39.88	£41.05	£42.31	£43.66	£45.10	£46.66
		35.02%	38.62%	42.43%	46.49%	50.82%	55.45%	60.39%	65.70%	71.42%
	7.97%	£33.41	£34.21	£35.06	£35.95	£36.90	£37.90	£38.97	£40.11	£41.32
		22.75%	25.69%	28.80%	32.08%	35.56%	39.25%	43.17%	47.35%	51.81%
	8.47%	£30.62	£31.28	£31.98	£32.72	£33.49	£34.31	£35.17	£36.09	£37.06
		12.48%	14.92%	17.49%	20.19%	23.04%	26.05%	29.22%	32.59%	36.15%
	8.97%	£28.24	£28.80	£29.39	£30.00	£30.65	£31.33	£32.04	£32.79	£33.58
		3.76%	5.81%	7.97%	10.22%	12.59%	15.08%	17.70%	20.46%	23.37%
	9.47%	£26.20	£26.68	£27.18	£27.70	£28.24	£28.81	£29.41	£30.03	£30.69
		-3.75%	-1.99%	-0.16%	1.75%	3.74%	5.84%	8.03%	10.33%	12.74%
	9.97%	£24.43	£24.84	£25.26	£25.71	£26.17	£26.66	£27.16	£27.69	£28.24
		-10.27%	-8.76%	-7.19%	-5.55%	-3.85%	-2.07%	-0.21%	1.73%	3.76%
	10.47%	£22.87	£23.23	£23.60	£23.98	£24.38	£24.80	£25.23	£25.68	£26.15
		-15.98%	-14.67%	-13.31%	-11.90%	-10.43%	-8.91%	-7.31%	-5.66%	-3.93%
	10.97%	£21.49	£21.81	£22.13	£22.46	£22.81	£23.17	£23.55	£23.94	£24.34
		-21.04%	-19.89%	-18.70%	-17.47%	-16.20%	-14.87%	-13.50%	-12.07%	-10.58%

Source: Author

Table 32 – Effects of changes in Effective Tax Rate and Cost of Sales/Sales proportion

	Change in Cost of Sales/Sales proportion									
	30.65	19.46%	21.46%	23.46%	25.46%	27.46%	29.46%	31.46%	33.46%	35.46%
Change in Effective Tax Rate (T)	7.02%	£45.67	£42.96	£40.24	£37.52	£34.81	£32.09	£29.37	£26.66	£23.94
		67.79%	57.81%	47.83%	37.85%	27.87%	17.89%	7.91%	-2.07%	-12.06%
	9.52%	£44.34	£41.70	£39.05	£36.41	£33.77	£31.12	£28.48	£25.84	£23.19
		62.90%	53.19%	43.47%	33.76%	24.05%	14.34%	4.62%	-5.09%	-14.80%
	12.02%	£43.01	£40.44	£37.87	£35.30	£32.73	£30.16	£27.59	£25.01	£22.44
		58.01%	48.56%	39.12%	29.68%	20.23%	10.79%	1.34%	-8.10%	-17.54%
	14.52%	£41.68	£39.18	£36.68	£34.19	£31.69	£29.19	£26.69	£24.19	£21.70
		53.12%	43.94%	34.76%	25.59%	16.41%	7.24%	-1.94%	-11.11%	-20.29%
	17.02%	£40.35	£37.92	£35.50	£33.07	£30.65	£28.22	£25.80	£23.37	£20.95
		48.22%	39.32%	30.41%	21.50%	12.59%	3.69%	-5.22%	-14.13%	-23.03%
	19.52%	£39.01	£36.66	£34.31	£31.96	£29.61	£27.26	£24.91	£22.55	£20.20
		43.33%	34.69%	26.05%	17.42%	8.78%	0.14%	-8.50%	-17.14%	-25.78%
	22.02%	£37.68	£35.40	£33.13	£30.85	£28.57	£26.29	£24.01	£21.73	£19.46
		38.44%	30.07%	21.70%	13.33%	4.96%	-3.41%	-11.78%	-20.15%	-28.52%
	24.52%	£36.35	£34.15	£31.94	£29.74	£27.53	£25.32	£23.12	£20.91	£18.71
		33.55%	25.45%	17.34%	9.24%	1.14%	-6.96%	-15.07%	-23.17%	-31.27%
	27.02%	£35.02	£32.89	£30.76	£28.62	£26.49	£24.36	£22.23	£20.09	£17.96
		28.66%	20.82%	12.99%	5.16%	-2.68%	-10.51%	-18.35%	-26.18%	-34.01%

Source: Author

Monte Carlo Simulation

In a way to complement our sensitivity analysis, a Monte Carlo Simulation was performed using the Crystal Ball software, by executing 100,000 trials. This method allowed us to assess the price target sensitivity to variations in key variables such as **Profit Margin, Re** and **g**, which we see as having a **predominant significance** in what regards the impact on our DGE price target. The assumptions used for each variable can be consulted in Appendix 15.

With this method, we reached to a **median** for our price of **30.67£**, a **standard deviation** of **6.39£** and a **mean** of **31.47£** (Table 33), which represents an **upside potential** of **15.61%**. Even though this outcome is slightly above of the price target reached through the DCF valuation (**30.65£**), it supports the same recommendation issued by the absolute valuation of **HOLD**.

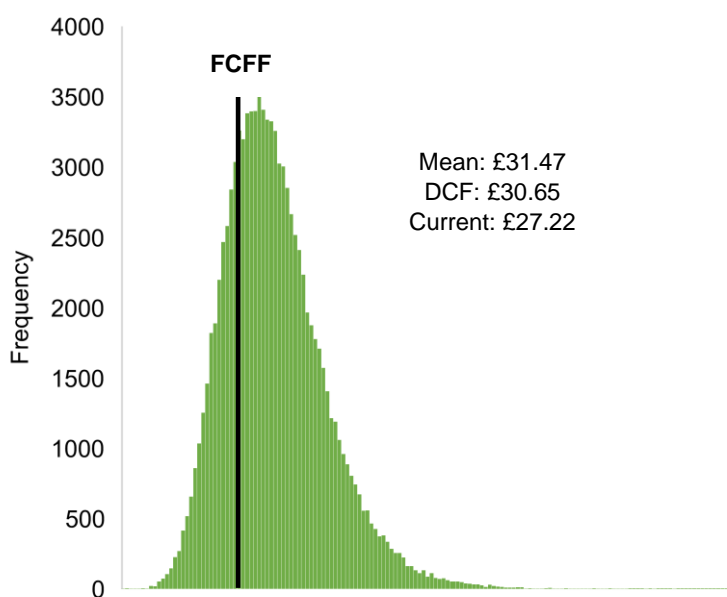
Moreover, the simulation showed that the variable Re is by far the most influent one in the price target (64%), being followed by the cost of sales to sales proportion, with an impact of (31.3%). Therefore, according to the output of this method, we observed that there is a 17.82% probability of our recommendation of **HOLD** to be sustained, and 73.55% probability of the **company being undervalued** (Figure 60).

Table 33 – Monte Carlo Statistics

Monte Carlo Statistics	
Number of trials	100,000
Base case	£30.65
Mean	£31.47
Standard deviation	£6.39
10th percentile	£24.15
90th percentile	£39.73
Upside Potential	15.61%

Source: Oracle Crystal Ball, Author

Figure 60 – Monte Carlo Price Distribution



Source: Oracle Crystal Ball, Author

Appendix 1 – Income Statement

Income Statement (£M)	2013	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Sales	15276	13980	15966	15641	18114	18432	19781	21244	22764	24389
Excise duties	-3973	-3722	-5153	-5156	-6064	-6269	-5056	-5056	-5056	-5056
Net sales	11303	10258	10813	10485	12050	12163	14725	16187	17708	19333
Cost of sales	-4416	-4029	-4610	-4251	-4680	-4634	-5432	-5833	-6251	-6697
Gross profit	6887	6229	6203	6234	7370	7529	9293	10354	11457	12636
Marketing	-1769	-1620	-1629	-1562	-1798	-1882	-2093	-2248	-2409	-2581
Other operating expenses	-1738	-1902	-1777	-1831	-2013	-1956	-2293	-2462	-2638	-2827
Operating profit	3380	2707	2797	2841	3559	3691	4907	5644	6409	7228
Non-operating items	-83	140	373	123	20	–	–	–	–	–
Finance income	259	241	244	262	235	243	390	449	510	575
Finance charges	-716	-629	-656	-589	-564	-503	-471	-479	-487	-496
Share of after tax results of associates and joint ventures	217	252	175	221	309	309	309	309	309	309
Profit before taxation	3057	2711	2933	2858	3559	3740	5135	5922	6740	7616
Taxation	-507	-447	-466	-496	-732	-569	-874	-1008	-1147	-1296
Profit from continuous operations	2550	2264	2467	2362	2827	3144	4261	4915	5593	6320
Discontinued operation	–	-83	–	–	-55	–	–	–	–	–
Profit for the year	2550	2181	2467	2362	2772	3144	4261	4915	5593	6320

Appendix 2 – Balance Sheet

Balance Sheet (£M)	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Non-current assets									
Intangible assets	7891	11231	12370	12566	12572	12842	13119	13432	13782
Property, plant and equipment	3433	3690	3881	4014	4089	4177	4267	4369	4483
Biological assets	53	65	10	21	23	23	24	25	25
Investments in associates and joint ventures	3201	2076	2528	2824	3009	3009	3009	3009	3009
Other investments	63	109	31	31	46	46	46	46	46
Other receivables	107	46	46	58	46	61	61	61	61
Other financial assets	250	292	420	267	182	182	182	182	182
Deferred tax assets	246	189	298	134	122	122	122	122	122
Post-employment benefit assets	251	436	55	281	935	935	935	935	935
Total non-current assets	15495	18134	19639	20196	21024	21396	21765	22180	22645
Current assets									
Inventories	4222	4574	4579	4788	5015	5608	6023	6454	6915
Trade and other receivables	2499	2435	2686	2592	2678	3131	3362	3603	3860
Corporate tax receivable	–	–	–	–	65	–	–	–	–
Assets held for sale	8	143	3	–	24	–	–	–	–
Other financial assets	118	46	495	81	35	35	35	35	35
Cash and cash equivalents	622	472	1089	1191	874	1016	1091	1169	1253
Total current assets	7469	7670	8852	8652	8691	9790	10512	11261	12063
Total Assets	22964	25804	28491	28848	29715	31187	32277	33441	34708
Current liabilities									
Borrowings and bank overdrafts	1576	1921	2058	2459	1828	2372	2547	2730	2925
Other financial liabilities	146	156	280	215	230	247	265	284	305
Trade and other payables	2800	2943	3372	3563	3950	4001	4296	4604	4933
Liabilities held for sale	–	3	–	–	–	–	–	–	–
Corporate tax payable	197	162	340	294	243	298	320	343	368
Provisions	132	105	137	129	109	109	109	109	109
Total current liabilities	4851	5290	6187	6660	6360	7027	7538	8070	8639
Non-current liabilities									
Borrowings	7638	7917	8071	6583	8074	8074	8074	8074	8074
Other financial liabilities	447	443	500	383	212	212	212	212	212
Other payables	94	69	70	24	209	112	120	128	137
Provisions	253	238	253	286	288	288	288	288	288
Deferred tax liabilities	1365	1896	1982	2112	1987	1987	1987	1987	1987
Post-employment benefit liabilities	726	695	1248	772	872	872	872	872	872
Total non-current liabilities	10523	11258	12124	10160	11642	11545	11553	11561	11570
Total Liabilities	15374	16548	18311	16820	18002	18571	19091	19631	20209
Net Assets	7590	9256	10180	12028	11713	12616	13185	13810	14499
Equity									
Share capital	797	797	797	797	780	780	780	780	780
Share premium	1345	1346	1347	1348	1349	1349	1349	1349	1349
Other reserves	2243	1994	2625	2693	2133	2133	2133	2133	2133
Retained earnings	2438	3634	3761	5475	5686	8354	8923	9548	10237
Total Equity	7590	9256	10180	12028	11713	12616	13185	13810	14499

Appendix 3 – Common Size Income Statement

Common Size Income Statement (%)	2013	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Sales	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Excise duties	-	-	-	-	-	-	-	-	-	-
Net sales	73.99%	73.38%	67.73%	67.04%	66.52%	65.99%	74.44%	76.20%	77.79%	79.27%
Cost of sales	-	-	-	-	-	-	-	-	-	-
Gross profit	45.08%	44.56%	38.85%	39.86%	40.69%	40.85%	46.98%	48.74%	50.33%	51.81%
Marketing	-	-	-	-	-	-	-	-	-	-
Marketing	11.58%	11.59%	10.20%	-9.99%	-9.93%	10.21%	10.58%	10.58%	10.58%	10.58%
Other operating expenses	-	-	-	-	-	-	-	-	-	-
Other operating expenses	11.38%	13.61%	11.13%	11.71%	11.11%	10.61%	11.59%	11.59%	11.59%	11.59%
Operating profit	22.13%	19.36%	17.52%	18.16%	19.65%	20.02%	24.81%	26.57%	28.16%	29.64%
Non-operating items	-	-	-	-	-	-	-	-	-	-
Non-operating items	-0.54%	1.00%	2.34%	0.79%	0.11%	-	-	-	-	-
Finance income	-	-	-	-	-	-	-	-	-	-
Finance income	1.70%	1.72%	1.53%	1.68%	1.30%	1.32%	1.97%	2.11%	2.24%	2.36%
Finance charges	-	-	-	-	-	-	-	-	-	-
Finance charges	-4.69%	-4.50%	-4.11%	-3.77%	-3.11%	-2.73%	-2.38%	-2.26%	-2.14%	-2.03%
After tax results of associates and joint ventures	-	-	-	-	-	-	-	-	-	-
After tax results of associates and joint ventures	1.42%	1.80%	1.10%	1.41%	1.71%	1.68%	1.56%	1.45%	1.36%	1.27%
Profit before taxation	20.01%	19.39%	18.37%	18.27%	19.65%	20.29%	25.96%	27.88%	29.61%	31.22%
Taxation	-	-	-	-	-	-	-	-	-	-
Taxation	-3.32%	-3.20%	-2.92%	-3.17%	-4.04%	-3.09%	-4.42%	-4.74%	-5.04%	-5.31%
Profit from continuous operations	-	-	-	-	-	-	-	-	-	-
Profit from continuous operations	16.69%	16.19%	15.45%	15.10%	15.61%	17.06%	21.54%	23.13%	24.57%	25.91%
Discontinued operation	-	-	-	-	-	-	-	-	-	-
Discontinued operation	-	-0.59%	-	-	-0.30%	-	-	-	-	-
Profit for the year	16.69%	15.60%	15.45%	15.10%	15.30%	17.06%	21.54%	23.13%	24.57%	25.91%

Appendix 4 – Common Size Balance Sheet

Common Size Balance Sheet (%)	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Non-current assets									
Intangible assets	34.36%	43.52%	43.42%	43.56%	42.31%	41.18%	40.65%	40.17%	39.71%
Property, plant and equipment	14.95%	14.30%	13.62%	13.91%	13.76%	13.39%	13.22%	13.06%	12.92%
Biological assets	0.23%	0.25%	0.04%	0.07%	0.08%	0.08%	0.07%	0.07%	0.07%
Investments in associates and joint ventures	13.94%	8.05%	8.87%	9.79%	10.13%	9.65%	9.32%	9.00%	8.67%
Other investments	0.27%	0.42%	0.11%	0.11%	0.15%	0.15%	0.14%	0.14%	0.13%
Other receivables	0.47%	0.18%	0.16%	0.20%	0.15%	0.19%	0.19%	0.18%	0.17%
Other financial assets	1.09%	1.13%	1.47%	0.93%	0.61%	0.58%	0.56%	0.54%	0.52%
Deferred tax assets	1.07%	0.73%	1.05%	0.46%	0.41%	0.39%	0.38%	0.36%	0.35%
Post-employment benefit assets	1.09%	1.69%	0.19%	0.97%	3.15%	3.00%	2.90%	2.80%	2.69%
Total non-current assets	67.48%	70.28%	68.93%	70.01%	70.75%	68.61%	67.43%	66.32%	65.24%
Current assets									
Inventories	18.39%	17.73%	16.07%	16.60%	16.88%	17.98%	18.66%	19.30%	19.92%
Trade and other receivables	10.88%	9.44%	9.43%	8.99%	9.01%	10.04%	10.42%	10.77%	11.12%
Corporate tax receivable	-	-	-	-	0.22%	-	-	-	-
Assets held for sale	0.03%	0.55%	0.01%	-	0.08%	-	-	-	-
Other financial assets	0.51%	0.18%	1.74%	0.28%	0.12%	0.11%	0.11%	0.10%	0.10%
Cash and cash equivalents	2.71%	1.83%	3.82%	4.13%	2.94%	3.26%	3.38%	3.50%	3.61%
Total current assets	32.52%	29.72%	31.07%	29.99%	29.25%	31.39%	32.57%	33.68%	34.76%
Total Assets	100%	100%	100%	100%	100%	100%	100%	100%	100%
Current liabilities									
Borrowings and bank overdrafts	6.86%	7.44%	7.22%	8.52%	6.15%	7.61%	7.89%	8.16%	8.43%
Other financial liabilities	0.64%	0.60%	0.98%	0.75%	0.77%	0.79%	0.82%	0.85%	0.88%
Trade and other payables	12.19%	11.41%	11.84%	12.35%	13.29%	12.83%	13.31%	13.77%	14.21%
Liabilities held for sale	-	0.01%	-	-	-	-	-	-	-
Corporate tax payable	0.86%	0.63%	1.19%	1.02%	0.82%	0.96%	0.99%	1.03%	1.06%
Provisions	0.57%	0.41%	0.48%	0.45%	0.37%	0.35%	0.34%	0.33%	0.31%
Total current liabilities	21.12%	20.50%	21.72%	23.09%	21.40%	22.53%	23.36%	24.13%	24.89%
Non-current liabilities									
Borrowings	33.26%	30.68%	28.33%	22.82%	27.17%	25.89%	25.02%	24.14%	23.26%
Other financial liabilities	1.95%	1.72%	1.75%	1.33%	0.71%	0.68%	0.66%	0.63%	0.61%
Other payables	0.41%	0.27%	0.25%	0.08%	0.70%	0.36%	0.37%	0.38%	0.40%
Provisions	1.10%	0.92%	0.89%	0.99%	0.97%	0.92%	0.89%	0.86%	0.83%
Deferred tax liabilities	5.94%	7.35%	6.96%	7.32%	6.69%	6.37%	6.16%	5.94%	5.72%
Post-employment benefit liabilities	3.16%	2.69%	4.38%	2.68%	2.93%	2.80%	2.70%	2.61%	2.51%
Total non-current liabilities	45.82%	43.63%	42.55%	35.22%	39.18%	37.02%	35.79%	34.57%	33.34%
Total Liabilities	66.95%	64.13%	64.27%	58.31%	60.58%	59.55%	59.15%	58.70%	58.23%
Net Assets	33.05%	35.87%	35.73%	41.69%	39.42%	40.45%	40.85%	41.30%	41.77%
Equity									
Share capital	3.47%	3.09%	2.80%	2.76%	2.62%	2.50%	2.42%	2.33%	2.25%
Share premium	5.86%	5.22%	4.73%	4.67%	4.54%	4.33%	4.18%	4.03%	3.89%
Other reserves	9.77%	7.73%	9.21%	9.34%	7.18%	6.84%	6.61%	6.38%	6.15%
Retained earnings	10.62%	14.08%	13.20%	18.98%	19.14%	26.79%	27.65%	28.55%	29.49%
Total Equity	33.05%	35.87%	35.73%	41.69%	39.42%	40.45%	40.85%	41.30%	41.77%

Appendix 5 – Assumptions for Income Statement

Income Statement (%)	Unit	2019F	2020F	2021F	2022F	Assumption
Sales	%					Refer to Appendix 7 - Sales Forecast Assumptions
Excise duties	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Cost of sales	%	27.46%	27.46%	27.46%	27.46%	Percentage of Sales
Marketing	%	10.58%	10.58%	10.58%	10.58%	Percentage of Sales
Other operating expenses	%	11.59%	11.59%	11.59%	11.59%	Percentage of Sales
Finance income	%	7.95%	7.95%	7.95%	7.95%	Percentage of Operating profit
Finance charges	%	3.68%	3.68%	3.68%	3.68%	Equal to Cost of Debt (Rd)
After tax results of associates and joint ventures	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Taxation	%	17.02%	17.02%	17.02%	17.02%	Refer to valuation section - Cost of Capital assumptions

Appendix 6 – Assumptions for Balance Sheet

Balance Sheet (%)	Unit	2019F	2020F	2021F	2022F	Assumptions
Intangible assets	%					Refer to Appendix 9 - CapEx
Property, plant and equipment	%					Refer to Appendix 9 - CapEx
Biological assets	%					Refer to Appendix 9 - CapEx
Investments in associates and joint ventures	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Other investments	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Other receivables	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Other financial assets	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Deferred tax assets	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Post-employment benefit assets	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Inventories	%	28.35%	28.35%	28.35%	28.35%	Percentage of Sales
Trade and other receivables	%	15.83%	15.83%	15.83%	15.83%	Percentage of Sales
Other financial assets	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Cash and cash equivalents	%	5.14%	5.14%	5.14%	5.14%	Percentage of Sales
Borrowings and bank overdrafts	%	11.99%	11.99%	11.99%	11.99%	Percentage of Sales
Current other financial liabilities	%	1.25%	1.25%	1.25%	1.25%	Percentage of Sales
Trade and other payables	%	20.22%	20.22%	20.22%	20.22%	Percentage of Sales
Corporate tax payable	%	1.51%	1.51%	1.51%	1.51%	Percentage of Sales
Long-term Borrowings	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Non-current other financial liabilities	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Other payables	%	0.56%	0.56%	0.56%	0.56%	Percentage of Sales
Provisions	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Deferred tax liabilities	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Post-employment benefit liabilities	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Share capital	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Share premium	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value
Other reserves	%	0.00%	0.00%	0.00%	0.00%	Equal to 2018 nominal value

Appendix 7 – Sales Forecast Assumptions

Net sales per Region	2014	2015	2016	2017	2018	Historical average %
Africa	21.00%	13.20%	13.40%	13.00%	12.30%	14.58%
Asia Pacific	13.00%	20.60%	19.90%	20.20%	20.70%	18.88%
Europe and Turkey	21.00%	24.40%	24.30%	23.40%	24.20%	23.46%
North America	34.00%	32.20%	34.10%	34.70%	34.00%	33.80%
Latin America and Caribbean	11.00%	9.60%	8.30%	8.70%	8.80%	9.28%

GDP Growth per Region	2019	2020	2021	2022	%2019	%2020	%2021	%2022
Africa GDP growth	3.60%	3.80%	3.80%	4.10%	0.52%	0.55%	0.55%	0.60%
Asia Pacific GDP Growth	5.10%	5.20%	5.30%	5.20%	0.96%	0.98%	1.00%	0.98%
Europe GDP Growth	1.60%	1.80%	1.70%	1.70%	0.38%	0.42%	0.40%	0.40%
North America GDP Growth	2.20%	1.90%	1.80%	1.70%	0.74%	0.64%	0.61%	0.57%
LATAM GDP Growth	3.20%	3.50%	3.70%	3.70%	0.30%	0.32%	0.34%	0.34%
				Sum	2.90%	2.93%	2.91%	2.90%

Inflation growth per Region	2019	2020	2021	2022	%2019	%2020	%2021	%2022
Africa Inflation growth	9.70%	9.10%	8.20%	8.00%	1.41%	1.33%	1.20%	1.17%
Asia Pacific Inflation growth	3.20%	3.30%	3.30%	3.40%	0.60%	0.62%	0.62%	0.64%
Europe Inflation growth	2.20%	2.20%	2.20%	2.30%	0.52%	0.52%	0.52%	0.54%
North America Inflation growth	2.20%	2.70%	2.30%	2.30%	0.74%	0.91%	0.78%	0.78%
LATAM Inflation growth	2.70%	3.00%	3.00%	3.00%	0.25%	0.28%	0.28%	0.28%
				Sum	3.53%	3.66%	3.39%	3.40%

Population growth per Region	2019	2020	2021	2022	%2019	%2020	%2021	%2022
Africa Population growth	2.42%	2.36%	2.31%	2.26%	0.35%	0.34%	0.34%	0.33%
Asia Pacific Population growth	0.94%	0.70%	0.92%	0.92%	0.18%	0.13%	0.17%	0.17%
Europe Population growth	0.17%	0.12%	0.10%	0.08%	0.04%	0.03%	0.02%	0.02%
North America Population growth	0.77%	0.75%	0.74%	0.74%	0.26%	0.25%	0.25%	0.25%
LATAM Population growth	0.58%	0.60%	0.81%	0.78%	0.05%	0.06%	0.07%	0.07%
				Sum	0.89%	0.81%	0.86%	0.84%

Variable	2019	2020	2021	2022
GDP Growth	2.90%	2.93%	2.91%	2.90%
Inflation growth	3.53%	3.66%	3.39%	3.40%
Population growth	0.89%	0.81%	0.86%	0.84%
Sales growth	7.32%	7.39%	7.16%	7.14%

Appendix 8 – Net Working Capital

Net Working Capital (£M)	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
<u>Current Assets</u>									
Other receivables	107	46	46	58	46	61	61	61	61
Inventories	4222	4574	4579	4788	5015	5608	6023	6454	6915
Trade and other receivables	2499	2435	2686	2592	2678	3131	3362	3603	3860
Total Current Assets	6828	7055	7311	7438	7739	8800	9446	10118	10836
<u>Current Liabilities</u>									
Trade and other payables	2800	2943	3372	3563	3950	4001	4296	4604	4933
Other payables	94	69	70	24	209	112	120	128	137
Total Current Liabilities	2894	3012	3442	3587	4159	4113	4416	4732	5070
Net Working Capital (NWC)	3934	4043	3869	3851	3580	4687	5030	5386	5766
Change in NWC	-	109	-174	-18	-271	1107	343	356	380

Appendix 9 – CapEx

CapEx	2013	2014	2015	2016	2017	2018
Proportion of CapEx over sales	4.16%	4.59%	4.00%	3.24%	2.86%	3.17%
Historical average % of CapEx	3.669%					

Dep. & Amort.	2013	2014	2015	2016	2017	2018
Percentage of depreciation	–	3.02%	2.48%	2.18%	2.17%	2.21%
Historical average % of Percentage of D&A	2.41%					

Assets	Proportion on 2018
Intangible assets	75.35%
Property, plant and equipment	24.51%
Biological assets	0.14%

Assets	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Intangible assets	7891	11231	12370	12566	12572	12842	13119	13432	13782
Property, plant and equipment	3433	3690	3881	4014	4089	4177	4267	4369	4483
Biological assets	53	65	10	21	23	23	24	25	25
Total	11377	14986	16261	16601	16684	17042	17410	17825	18290

CapEx	2013	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Capital expenditure	636	642	638	506	518	584	726	779	835	895
Depreciation and intangible asset amortisation	-325	-344	-371	-355	-361	-368	-411	-420	-430	-441
Exceptional accelerated depreciation and impairment	-23	-25	-23	-22	–	-35	–	–	–	-
Exceptional impairment of intangible assets	-50	-260	-41	-104	–	-90	–	–	–	-
Exceptional accelerated amortisation	–	–	-5	–	–	–	–	–	–	-
Total Depreciation and amortization	-398	-629	-440	-481	-361	-493	-411	-420	-430	-441

Appendix 10 – Key Financial Ratios

Ratios	Unit	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F
Profitability Ratios										
Gross Profit Margin	%	44.56%	38.85%	39.86%	40.69%	40.85%	46.98%	48.74%	50.33%	51.81%
EBITDA Margin	%	23.86%	20.27%	21.24%	21.64%	22.70%	26.89%	28.54%	30.04%	31.45%
EBIT Margin	%	19.36%	17.52%	18.16%	19.65%	20.02%	24.81%	26.57%	28.16%	29.64%
Net Profit Margin	%	15.60%	15.45%	15.10%	15.30%	17.06%	21.54%	23.13%	24.57%	25.91%
ROA	%	9.50%	9.56%	8.29%	9.61%	10.58%	13.66%	15.23%	16.73%	18.21%
ROE	%	28.74%	26.65%	23.20%	23.05%	26.84%	33.78%	37.27%	40.50%	43.59%
Efficiency Ratios										
Receivable turnover	times	-	6.47	6.11	6.86	7.00	6.81	6.54	6.54	6.54
Days Sales Outstanding (DSO)	days	65.25	55.67	62.68	52.23	53.03	57.77	57.77	57.77	57.77
Inventory turnover	times	-	3.63	3.42	3.87	3.76	3.72	3.65	3.65	3.65
Days Inventory Outstanding (DIO)	days	110.23	104.57	106.86	96.48	99.31	103.49	103.49	103.49	103.49
Payables turnover	times	-	5.56	4.95	5.22	4.91	4.98	5.12	5.12	5.12
Days payable outstanding (DPO)	days	73.10	67.28	78.69	71.80	78.22	73.82	73.82	73.82	73.82
Operating Cycle	days	175.48	160.23	169.54	148.71	152.34	161.26	161.26	161.26	161.26
Cash cycle conversion (CCC)	days	102.37	92.95	90.85	76.91	74.12	87.44	87.44	87.44	87.44
Fixed asset turnover	times	-	1.12	1.03	1.15	1.14	1.20	1.26	1.32	1.38
Total asset turnover	times	-	0.16	0.14	0.16	0.16	0.16	0.17	0.17	0.18
Liquidity Ratios										
Current Ratio	times	1.54	1.45	1.43	1.30	1.37	1.39	1.39	1.40	1.40
Quick Ratio	times	0.67	0.59	0.69	0.58	0.58	0.60	0.60	0.60	0.60
Capital Structure										
Total Debt to Total Equity	times	1.48	1.31	1.30	1.00	1.03	1.01	0.99	0.96	0.93
Total Debt to Total Capital	times	14.08	15.17	16.57	15.13	15.49	16.40	16.67	16.96	17.27
Total Debt to Total Assets	times	0.49	0.47	0.46	0.42	0.41	0.41	0.40	0.40	0.39
Interest Coverage Ratio	times	4.30	4.26	4.82	6.31	7.34	10.41	11.78	13.15	14.57
Long-Term Debt to Equity	times	1.24	1.08	1.08	0.76	0.85	0.79	0.75	0.72	0.68
Long-Term Debt to Total Capital	times	11.83	12.59	13.84	11.50	12.70	12.70	12.70	12.70	12.70
Long-Term Debt to Assets	times	0.41	0.39	0.39	0.32	0.33	0.32	0.31	0.30	0.29
Net Debt to EBITDA	Years	3.18	3.59	3.65	2.77	2.68	2.21	1.96	1.76	1.59

Appendix 11 – Risk Free Rate

Bond info	
Price	109.45
Face value	£100
Coupon	1.63%
Maturity	22/10/2028
ISIN	GB00BFX0ZL78
YTM	2.205%

Coupon dates	Coupon Payment	n factor	1+YTM	(1+YTM)^n	Total
22/04/2019	1.625	0.5	1.022049	1.010964243	1.607376
22/10/2019	1.625	1	1.022049	1.0220487	1.589944
22/04/2020	1.625	1.5	1.022049	1.03325469	1.5727
22/10/2020	1.625	2	1.022049	1.044583545	1.555644
22/04/2021	1.625	2.5	1.022049	1.056036613	1.538772
22/10/2021	1.625	3	1.022049	1.067615254	1.522084
22/04/2022	1.625	3.5	1.022049	1.079320847	1.505576
22/10/2022	1.625	4	1.022049	1.091154783	1.489248
22/04/2023	1.625	4.5	1.022049	1.103118469	1.473097
22/10/2023	1.625	5	1.022049	1.115213327	1.45712
22/04/2024	1.625	5.5	1.022049	1.127440797	1.441317
22/10/2024	1.625	6	1.022049	1.139802331	1.425686
22/04/2025	1.625	6.5	1.022049	1.152299401	1.410224
22/10/2025	1.625	7	1.022049	1.164933491	1.394929
22/04/2026	1.625	7.5	1.022049	1.177706105	1.379801
22/10/2026	1.625	8	1.022049	1.19061876	1.364837
22/04/2027	1.625	8.5	1.022049	1.203672993	1.350034
22/10/2027	1.625	9	1.022049	1.216870356	1.335393
22/04/2028	1.625	9.5	1.022049	1.230212418	1.32091
22/10/2028	1.625	10	1.022049	1.243700765	1.306584
22/10/2028	100	10	1.022049	1.243700765	80.40519
Target price					109.4465

Country	CDS Spread	US adjusted spread
United States	0.39%	0.00%
United Kingdom	0.44%	0.05%

Country	Moody's rating	Rating-Based Default Spread
United Kingdom	Aa2	0.51%

YTM 10y	2.205%
Rf CDS adjusted	2.155%
Rf Rating adjusted	1.696%
Average Rf	1.925%

Appendix 12 – Cost of Debt

If interest coverage ratio is			
greater than	less or equal to	Rating is	Spread is
-100000	0.499999	D	15.000%
0.5	0.799999	C	12.000%
0.8	1.249999	CC	10.000%
1.25	1.499999	CCC	8.500%
1.5	1.999999	B-	5.500%
2	2.499999	B-	5.250%
2.5	2.999999	B+	4.250%
3	3.499999	BB	4.000%
3.5	3.999999	BB+	3.500%
4	4.499999	BBB	2.000%
4.5	5.999999	A-	1.500%
6	7.499999	A	1.250%
7.5	9.499999	A+	1.000%
9.5	12.499999	AA	0.750%
12.5	100000	AAA	0.500%

Cost of Debt (Rd)	3.684%
Interest Coverage Ratio	7.338
Spread	1.250%
Risk free rate	1.925%
Country default spread	0.509%

Appendix 13 – Discounted Cash Flow Valuation Method

Perpetual Growth Rate	2.91%
-----------------------	-------

Years	2019F	2020F	2021F	2022F
Risk Free Rate (Rf)	1.93%	1.93%	1.93%	1.93%
Equity Risk Premium (ERP)	8.70%	8.70%	8.70%	8.70%
Beta	0.8094	0.8094	0.8094	0.8094
Cost of Equity	8.9673%	8.9673%	8.9673%	8.9673%

Years	2019F	2020F	2021F	2022F
Net Income	4261	4915	5593	6320
Total Depreciation and amortization	411	420	430	441
ΔNWC	1108	342	356	380
Capital expenditure	726	779	835	895
Net increase in Debt	563	141	146	156
Free Cash Flow to Equity	3402	4353	4979	5642

Discounted Value (2019-2021)	14638.01
Perpetuity	67958.9
Total Value of Equity	82596.912
Shares outstanding (M)	2695
Price Target YE 2018	30.65
Current price	27.22
Upside potential	12.59%

Appendix 14 – Peers Selection

In order to perform our multiples valuation, we searched for the most similar alcoholic beverages companies in terms of business segments. Thus, using Bloomberg platform, a peer list was taken for each of the four business units Diageo has a share on. Peers were then selected considering in which segments they operate. Only companies operating in more than one common segment were selected.

Companies	Wine	Beer	Ready to Drink	Spirits	Peer?
Diageo Plc	Y	Y	Y	Y	>1
Accolade Wines Ltd	Y	N	N	N	N
Allied Blenders & Distillers Pvt Ltd	N	N	N	Y	N
Anheuser-Busch InBev NV	N	Y	Y	N	Y
Asahi Group Holdings Ltd	N	Y	Y	N	Y
Bacardi & Co Ltd	N	N	N	Y	N
Beijing Shunxin Agriculture Co Ltd	N	N	N	Y	N
Beijing Yanjing Brewery Co Ltd	N	Y	N	N	N
Boston Beer Co Inc, The	N	Y	N	N	N
Brown-Forman Corp	N	N	Y	N	N
Carlsberg A/S	N	Y	N	N	N
Castel Group	Y	N	N	N	N
China Resources Holdings Co Ltd	N	Y	N	N	N
Constellation Brands Inc	Y	N	N	N	N
Distell Group Ltd	Y	N	N	N	N
E&J Gallo Winery Inc	Y	N	N	N	N
Heineken NV	N	Y	N	N	N
Hite Jinro Co Ltd	N	N	N	Y	N
Kirin Co Ltd	N	Y	Y	N	Y
Lotte Group	N	N	N	Y	N
Mark Anthony Brands Ltd	N	N	Y	N	N
Molson Coors Brewing Co	N	Y	N	N	N
Oetker-Gruppe	Y	N	N	N	N
Pernord Ricard Groupe	Y	N	Y	Y	Y
San Miguel Corp	N	N	N	Y	N
Suntory Beverage Ltd	N	N	Y	Y	Y
Takara Holdings Inc	N	N	Y	N	N
Thai Beverage PCL	N	Y	N	Y	Y
Treasury Wine Estates Ltd	Y	N	N	N	N
Tsingtao Brewery Co Ltd	N	Y	N	N	N
Viña Concha y Toro SA	Y	N	N	N	N
Wine Group Inc, The	Y	N	N	N	N

Finally, we obtained our peer group, constituted by six firms: Anheuser-Busch InBev NV, Asahi Group Holdings Ltd, Kirin Co Ltd, Pernord Ricard Groupe, Suntory Beverage Ltd and Thai Beverage PCL. A more detailed analysis can be consulted in Chapter 3.

Appendix 15 – Risks to Price Target

Monte Carlo Assumptions:

Variable	Mean	Standard Deviation	Distribution
Cost of sales	-27.46%	0.275%	Normal
Re	8.967%	0.8967%	Normal
g	2.91%	0.29%	Normal

	Low Risk	Medium Risk	High Risk
Buy	>15%	>20%	>30%
Hold	>5% and < 15%	> 10% and < 20%	> 15% and < 30%
Reduce	>-10% and <5%	>-10% and <10%	>-10% and <30%
Sell	<-10%	<-10%	<-10%

Change in Perpetual growth rate (g)									
30.65	2.31%	2.46%	2.61%	2.76%	2.91%	3.06%	3.21%	3.36%	3.51%
Price	28.24	28.80	29.39	30.00	30.65	31.33	32.04	32.79	33.58
Upside potential	3.76%	5.81%	7.97%	10.22%	12.59%	15.08%	17.70%	20.46%	23.37%

Change in Cost of Equity									
30.65	6.97%	7.47%	7.97%	8.47%	8.97%	9.47%	9.97%	10.47%	10.97%
Price	46.23	41.05	36.90	33.49	30.65	28.24	26.17	24.38	22.81
Upside potential	69.86%	50.82%	35.56%	23.04%	12.59%	3.74%	-3.85%	-10.43%	-16.20%

Change in Cost of Sales/Sales proportion									
30.65	7.46%	12.46%	17.46%	22.46%	27.46%	32.46%	37.46%	42.46%	47.46%
Price	35.36	34.19	33.01	31.83	30.65	29.47	28.29	27.11	25.93
Upside potential	29.92%	25.59%	21.26%	16.93%	12.59%	8.26%	3.93%	-0.40%	-4.73%

Change in Inflation Rate Growth									
30.62	1.49%	1.99%	2.49%	2.99%	3.49%	3.99%	4.49%	4.99%	5.49%
Price	27.27	28.09	28.93	29.77	30.65	31.49	32.36	33.25	34.15
Upside potential	0.18%	3.20%	6.26%	9.37%	12.59%	15.68%	18.90%	22.16%	25.45%

Change in Effective Tax Rate (T)									
30.65	7.02%	9.52%	12.02%	14.52%	17.02%	19.52%	22.02%	24.52%	27.02%
Price	34.81	33.77	32.73	31.69	30.65	29.61	28.57	27.53	26.49
Upside potential	27.87%	24.05%	20.23%	16.41%	12.59%	8.78%	4.96%	1.14%	-2.68%

Change in Effective Tax Rate (T)	Change in Cost of Sales/Sales proportion									
	30.65	19.46%	21.46%	23.46%	25.46%	27.46%	29.46%	31.46%	33.46%	35.46%
	7.02%	45.67	42.96	40.24	37.52	34.81	32.09	29.37	26.66	23.94
	9.52%	44.34	41.70	39.05	36.41	33.77	31.12	28.48	25.84	23.19
	12.02%	43.01	40.44	37.87	35.30	32.73	30.16	27.59	25.01	22.44
	14.52%	41.68	39.18	36.68	34.19	31.69	29.19	26.69	24.19	21.70
	17.02%	40.35	37.92	35.50	33.07	30.65	28.22	25.80	23.37	20.95
	19.52%	39.01	36.66	34.31	31.96	29.61	27.26	24.91	22.55	20.20
	22.02%	37.68	35.40	33.13	30.85	28.57	26.29	24.01	21.73	19.46
	24.52%	36.35	34.15	31.94	29.74	27.53	25.32	23.12	20.91	18.71
	27.02%	35.02	32.89	30.76	28.62	26.49	24.36	22.23	20.09	17.96

Change in Cost of Equity (Re)	Change in Terminal growth rate (g)									
	30.65	2.31%	2.46%	2.61%	2.76%	2.91%	3.06%	3.21%	3.36%	3.51%
	6.97%	40.81	42.03	43.34	44.73	46.23	47.85	49.60	51.49	53.54
	7.47%	36.75	37.73	38.77	39.88	41.05	42.31	43.66	45.10	46.66
	7.97%	33.41	34.21	35.06	35.95	36.90	37.90	38.97	40.11	41.32
	8.47%	30.62	31.28	31.98	32.72	33.49	34.31	35.17	36.09	37.06
	8.97%	28.24	28.80	29.39	30.00	30.65	31.33	32.04	32.79	33.58
	9.47%	26.20	26.68	27.18	27.70	28.24	28.81	29.41	30.03	30.69
	9.97%	24.43	24.84	25.26	25.71	26.17	26.66	27.16	27.69	28.24
	10.47%	22.87	23.23	23.60	23.98	24.38	24.80	25.23	25.68	26.15
	10.97%	21.49	21.81	22.13	22.46	22.81	23.17	23.55	23.94	24.34

Appendix 16 – Business Units Constitution

Spirits	Beer	Wine	Ready to Drink
Bailey's	Guinness	Blossom Hill	Jeremiah Weed
Bell's	Harp	Piat d'Or	Pimm's
Buchanan's	Kilkenny		Smirnoff Ice
Bulleit	Senator		
Bundaberg	Tusker		
Cacique 500			
Caol Ila			
Captain Morgan			
Cardhu			
Cîroc			
Clynelish			
Cragganmore			
Crown Royal			
Dalwhinnie			
DeLeón			
Don Julio			
Gelinkinchie			
Gilbey's			
Glen Elgin			
Gordon's			
Grand Old Parr			
Haig Club			
J&B			
Johnnie Walker			
Ketel One			
Lagavulin			
McDowell's			
Mortlach			
Oban			
Pampero			
Ron Zacapa			
Royal Lochnagar			
Sheridan's			
Shui Jing Fang			
Smirnoff			
Talisker			
Tanqueray			
The Singleton			
VAT 69			
White Horse			
Windsor			
Yeni Raki			
Ypióca			

Appendix 17 – Countries by Geographical Area

Europe and Turkey	North America	Africa	Latin America and Caribbean	Asia Pacific
Albania	Canada	Angola	Argentina	Australia
Austria	United States	Burundi	Bolivia	Cambodia
Belgium		Cameroon	Brazil	China
Bulgaria		Ethiopia	Chile	Hong Kong
Croatia		Ghana	Colombia	India
Czech Republic		Kenya	Ecuador	Indonesia
Denmark		Mozambique	Mexico	Japan
Estonia		Nigeria	Paraguay	Korea
Finland		Rwanda	Peru	Laos
France		South Africa	Uruguay	Macau
Germany		Sudan	Venezuela	Malaysia
Greece		Tanzania		Myanmar
Hungary		Uganda		Nepal
Iceland				New Zealand
Ireland				Philippines
Italy				Singapore
Latvia				Sri Lanka
Lithuania				Taiwan
Moldova				Thailand
Netherlands				Vietnam
Norway				
Poland				
Portugal				
Romenia				
Serbia				
Slovakia				
Slovenia				
Spain				
Sweden				
Switzerland				
Ukraine				
United Kingdom				

Appendix 18 – Key Brands Portfolio Description

Johnnie Walker (JW):

The brand portfolio counts with:

- **Johnnie Walker Red Label** is a non-aged-state blend. Regularly used to mix with other drinks, it has been the world's bestselling scotch for more than seventy years.
- **Johnnie Walker Black Label** is known as one of the best premium scotches in the world. It's composed by a 12-year aged blend of multiple whiskies.
- **Johnnie Walker Double Black Label** was introduced in 2011. Made by maturing in old oak casks the already known *Black Label*.
- **Johnnie Walker Green Label** was launched in 1997 and was the first blended pure malt whisky ever created by the brand. All single malt whiskies used in the blend are at least 15-year aged.
- **Johnnie Walker Gold Label** is a blend of more than 15 single malts, labelled in 2013 as a Reserve product.
- **Johnnie Walker Aged 18 Years** stands out for the 18-year matured whiskies used on the blending process.
- **Johnnie Walker Blue Label**, the crown jewel of the brand, is made by the rarest and the finest blends in Scotland with no aging requirement.
- **Limited editions** are constantly being launched such as **John Walker & Sons**, **White Walker**, **Johnnie Walker Pocket Scotch**, amongst others.

Smirnoff (SMI):

The brand portfolio counts with:

- **Smirnoff No. 21 Vodka** is a triple distilled and ten times filtered vodka. It's the world's bestselling vodka and has won several awards.
- **Flavoured Vodkas** such as **Smirnoff Grape**, **Smirnoff Green Apple**, **Smirnoff Coconut**, amongst others.
- **Smirnoff Ice** is a malt ready to drink beverage available with several flavours.

Tanqueray (TAQ):

The brand portfolio counts with:

- **Tanqueray London Dry Gin**, the original and bestselling gin of the brand.
- **Tanqueray No. Ten**, first introduced in 2000, has a quadruple distillation using fresh citrus fruits.
- **Tanqueray Rangpur** differentiates itself due to the usage of Rangpur limes, bay leave and ginger, and is known as the legacy of the British-Indian tradition. Launched in 2006.
- **Limited editions** are constantly being launched such as **Tanqueray Sevilla**, **Tanqueray Old Tom**, **Tanqueray Malacca**, amongst others.

Captain Morgan (CM):

The brand portfolio counts with:

- **Captain Morgan Black** is the original Captain Morgan rum, constituted by several oak aged rums from Jamaica, Guyana & Barbados.
- **Captain Morgan Black Spiced Rum** known for its cinnamon and clove flavour, it is finished in double charred oak barrels.
- **Dark Rum** is a blend of Canadian and Caribbean rums.
- **White Rum** ages in white oak barrels, after its five times distillation process.
- **Limited editions** within regions such as **Silver Spiced, Tattoo, Sherry Oak**, amongst others.

Guinness (GNS):

The brand portfolio counts with:

- **Guinness Draught** is the world's bestselling stout beer. It differentiated from all beers using nitrogen in the pouring process, giving its creamier consistency.
- **Guinness Foreign Extra Stout** is a fruit and caramel flavoured stout. It's inspired in the former West India Porter, brewed by Arthur Guinness. Created specifically to export, this stout counted with a higher alcohol percentage and extra hops.
- **Guinness Original** is the direct descendant of the first beer brewed by Arthur Guinness.
- **Limited editions** such as **Guinness Nitro IPA, Guinness Dublin Porter, Guinness Golden Ale**, amongst others.

Appendix 19 – Expressions

Free Cash Flow to Equity

$$FCFE = \text{Net Income} + \text{Non Cash Charges} - \Delta NWC - CAPEX + \text{Net debt increase}$$

Historical Beta

$$\beta = \frac{\text{Cov}(R_c, R_i)}{\text{Var}(R_i)}$$

Cost of Equity

$$R_e = R_f + \beta * (R_m - R_f)$$

Cost of Debt

$$R_d = R_f + \text{Country Spread} + \text{Company spread}$$

9. Abbreviations

β - Beta

BIC - Baileys Irish Cream

BOD - Biochemical Oxygen Demand

BPI - Banco Português de Investimento

BU - Business Unit

CAPEX - Capital Expenditure

CAPM - Capital Asset Pricing Model

CCC - Cash Cycle Conversion

CDS - Credit Default Swap

CEO - Chief Executive Officer

CFO - Chief Financial Officer

CM - Captain Morgan

COO - Chief Operating Officer

CSD - Carbonated Soft Drinks

D&A - Depreciation and Amortization

DCF - Discounted Cash Flow

DGE - Diageo Plc

DIO - Days Inventory Outstanding

DPO - Days Payable Outstanding

DSO - Days Sales Outstanding

EBIT - Earnings Before Interest and Taxes

EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization

ECB – European Central Bank

EMR - Economic and Market Risk

ERP - Equity Risk Premium

EUR - Euro

FCFE - Free Cash Flow to Equity

g - Perpetual Growth Rate

GBP – Great Britain's Sterling Pound

GDP - Gross Domestic Product

GIZ - Gesellschaft für Internationale Zusammenarbeit

GM - Grand Metropolitan Plc
GNS - Guinness
GUI - Guinness Plc
IMF - International Monetary Fund
JW - Johnnie Walker
l - liter
LSE - London Stock Exchange
ME - Middle East
£M - Million pounds
MRMA - Mount Royal Metropolitan Association
NWC - Net Working Capital
OR - Operational Risk
p - pence
PRR - Political and Regulatory Risk
Rd - Cost of Debt
Re - Cost of Equity
Rf - Risk Free Rate
ROA - Return on Asset
ROE - Return on Equity
RTD - Ready to Drink
SMI - Smirnoff
T - Effective Tax Rate
TAQ - Tanqueray
Ton - Tonne
TV - Terminal Value
UK - United Kingdom
US - United States
YoY – Year on Year
YTM - Yield to Maturity

10. References

Books

Berk, J., Demarzo, P. (2013). Corporate Finance, 3^a Ed. Boston: Pearson.

Damodaran, A. (1997). Corporate Finance- Theory and Practice, 1^a Ed. John Wiley & Sons.

Damodaran, A. (2006). Valuation Approaches and Metrics: A Survey of the Theory and Evidence, Stern School of Business: New York University.

Damodaran, A. (2012). Investment Valuation: Tools and Techniques for the determining the value of any asset. 3^a Ed. Hoboken, New Jersey: John Wiley and Sons.

Investor Relations – Company Consolidated Reports

Diageo Plc, Consolidated Financial Annual Reports from 2013 to 2018

Databases and Websites

Aswath Damodaran - <http://pages.stern.nyu.edu/~adamodar/>

Bloomberg Database

Diageo - <https://www.diageo.com/>

European Central Bank- <https://www.ecb.europa.eu/home/html/index.en.html>

FixedIncomeInvestor.co.uk - <https://www.fixedincomeinvestor.co.uk/x/default.html>

Institute for Government UK - <https://www.instituteforgovernment.org.uk>

IMF World Economic Outlook April 2019 Database

Investing.com - <https://www.investing.com/>

London Stock Exchange - <https://www.londonstockexchange.com/home/homepage.htm>

OECD - <http://www.oecd.org/economy/>

Statista - <https://www.statista.com/>