A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

Reinventing the Tobacco Industry:
A Breath of Fresh Air

João Salgado Mano, 42974

A Project carried out on the Master in Finance Program, under the supervision of:

Camillo Riva

20/12/2023

Abstract:

This individual report is one of two parts forming a comprehensive equity research report on Philip Morris International, a leading manufacturer and distributor within the tobacco industry. This part encompasses a detailed projection of PMI's key financial and operational metrics, highlighting the assumptions made and the rationale behind them. Furthermore, the firm's intrinsic value is derived through the Discounted Cash Flow methodology, arriving at a target share price. In this section, a sensitivity analysis is performed to assess the impact of varying assumptions in the valuation, as well as a Monte Carlo simulation, which provides insights on potential unexplored scenarios. Finally, to finish the report a risk analysis is developed, bringing attention to possible adverse industry and company developments that represent the main risks to the investment thesis presented.

Keywords: Philip Morris International, Philip Morris International, Smoke-free Products, DCF valuation, Monte Carlo simulation

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209)

This report is part of the equity research report “Reinventing the Tobacco Industry: Fog-lifting innovation, developed by João Salgado Mano and Henrique Manuel Miranda Ferreira and should be read has an integral part of it.

Table of Contents

Introduction

The joint report named “Reinventing the Tobacco Industry: Fog-lifting innovation, is an equity research report on Philip Morris International (PMI), a leading enterprise in the tobacco industry. The goal of such report is to estimate PMI’s fair market value and provide to investors relevant information to make well-informed decisions about buying, holding, or selling the company’s stock.

With that purpose in mind, the joint report is structured into 6 main sections: a company overview, and industry overview, a financial analysis, a financial assumptions section, a valuation and a risk & ESG analysis. Firstly, in the company overview section, the reader is presented with a comprehensive examination of PMI’s core business, geographical presence, and its business strategy. Thereafter, the industry overview section describes prevailing market dynamics, positions PMI within the competitive landscape and a Porter’s Five Forces analysis is developed. Moreover, the firm’s past financial and operational performance is dissected through a comparative and historical review, in the financial analysis section. As to perform the valuation, a financial assumptions section is dedicated to the projection of PMI’s future trajectory, encompassing a revenue model and operational forecasts. In the valuation section, two main derivation methodologies are employed: a discounted cash flow model and a relative valuation based on comparable companies. In order to assess how changes in different assumptions affect the absolute valuation outcome, a sensitivity analysis and a Monte Carlo simulation are developed. Subsequently, in the risk analysis section, the primary risks that may affect our investment thesis are thoroughly explained. Lastly, to end the report, an historical and comparative ESG analysis is performed.

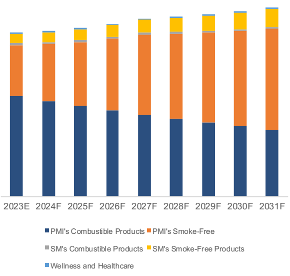
Our equity research report culminates in a FY24 target price of $121.25, which when considering the current share price of $94.70, yields a total expected return of 33.7%, out of which 5.7% represents the dividend yield. As such, we issue a BUY recommendation on PMI’s stock, mainly driven by its potential growth opportunities in the smoke-free segment, which the firm is expected to capitalize on, through launching its innovative products in untapped markets and by further developing underdeveloped markets.

The sections covered in this individual report are: the forecasting assumptions section, the valuation section (excluding the relative valuation based on comparable companies section) and the risk analysis section. Conversely, the individual report of my pair Henrique Manuel Miranda Ferreira covers the remaining sections: the company and industry overview sections, the financial analysis section, the relative valuation section and the ESG analysis section.

Forecasting Assumptions

Revenue Model

Figure 1: Evolution of PMI's Net Revenues from 2023 to 2031.



Source: Analyst Estimates

To predict future net revenue levels, a **top-down approach** was conducted. Revenue was segmented into **two primary categories**: those originating from Philip Morris International (**PMI**) and those associated with Swedish Match's (**SM**) business. Considering that SM was only integrated into PMI in the latest quarter of 2022, we have decided to distinguish between PMI and SM revenues for the identification of trends specific to each entity's product range. In addition, within this categorization, a **further breakdown** was undertaken separating PMI's and SM's revenues into **two subcategories**: revenues derived from **combustible products** and those originating from **smoke-free products**. This enables granular examination of revenue sources, aiding in the assessment of evolving consumer preferences and market dynamics within these specific product categories.

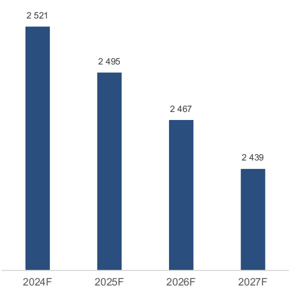
Apart from the abovementioned, revenues originating from the Wellness and Healthcare business were also forecasted.

The forecast method was based on two main variables: market size in retail volume terms and market share projections. We acknowledge that tobacco product prices are likely to not remain constant in the future, mainly because of increased regulation, rising living standards, inflation, and other factors. Nonetheless, our projections rely on future consumption levels for two main reasons:

- Firstly, evidence has shown that, throughout time, when compared with other consumer goods, tobacco products are relatively **inelastic**, primarily due to their addictive nature. Price elasticity of demand for cigarettes has been estimated around -0.4 for high-income countries (a 10% increase in price results in a 4% decrease in consumption levels) and between -0.6 and -0.2 for middle-to-low-income countries. For example, in South Africa, between 1991 and 2016, cigarette net-of-tax prices increased by 245%, which resulted in a reduction in consumption of only 43%[1]. Therefore, even though price changes may impact consumer behaviour to some extent, their impact is limited.
- By considering the projections on future retail volume levels made by Euromonitor/Passport, the potential price fluctuations on consumption are being incorporated in the estimates, providing a more accurate and holistic measure to forecast Philip Morris International's net revenue outlook.

Philip Morris International

Figure 2: Projections of the retail volume of cigarettes (excluding U.S. and China, in billion sticks)



Source: Euromonitor/Passport

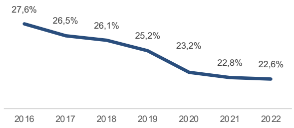
To develop the forecast of Philip Morris International's net revenues, we first considered the global projections made by Euromonitor/Passport on cigarette consumption and their estimates for heated tobacco stick consumption for the 2024-2027 period. This decision is due to cigarettes and heated tobacco sticks **representing most** of PMI's combustible and smoke-free volume sales, respectively, and, as such, their future consumption trends will dictate the company's product segment net revenues. Subsequently, the CAGR associated with these projections was adjusted according to how we believe PMI's market share will fluctuate in the future.

For the 2024-2027 horizon, Euromonitor/Passport anticipates a decline in global consumption of

[1] Blecher, E. (2019). *The economics and control of tobacco, alcohol, food products, and sugar-sweetened beverages.* Reducing Social Inequalities in Cancer: Evidence and Priorities for Research

cigarettes at a CAGR of -1.1%. Due to PMI's strategic shift to build a smoke-free future, its **cigarette** market share has continuously declined throughout the historical period, decreasing from 27.6% in 2016 to 22.6% in 2022. Even though the company states that it seeks to maintain its international leadership position in the combustible tobacco market, **we believe** that the tendency for **PMI's market share** is to **further deteriorate** mainly due to two main factors:

Figure 3: PMI Cigarette Global (excluding U.S. and China) Market Share (in %)

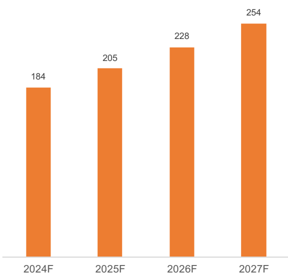


Source: Euromonitor/Passport/Company Reports/Analyst

- Their combustible product portfolio is tilted towards premium-priced brands which in periods of stricter regulatory and/or economic uncertainty suffer more heavily. This is because consumers tend to opt for low-priced alternatives offered by competitors during such times.
- PMI is suffering and will continue to suffer from the cannibalization phenomenon, reflected by the consistently increasing number of users who have switched to smoke-free alternatives, mainly *IQOS*. This metric has increased from 0.1 million users in 2015 to 19.7 million users as of the third quarter of 2023.

Taking this into consideration, to better reflect the expected decrease in PMI's cigarette market share, we assumed that its **combustible product** net revenues will shrink at a **CAGR** of **-5.0%** from **2024 onwards**.

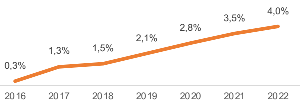
Figure 4: Projections of the retail volume of heated tobacco sticks (excluding U.S. and China, in billion



Source: Euromonitor/Passport

According to Euromonitor/Passport estimates, the consumption of heated tobacco sticks is expected to rise at a CAGR of 11.3% throughout 2024-2027. PMI's investment efforts in the development and commercialization of smoke-free alternatives have resulted in a significant heated tobacco market share increase throughout the historical period, from 0.3% in 2016 to 4.0% in 2022. For the 2024-2027 period, **we believe** the company's **heated tobacco market share** will **continue** its **expansion trend** for several reasons:

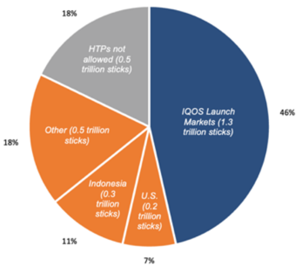
Figure 5: PMI Heated Tobacco Units Global (excluding U.S. and China) Market Share (in %)



Source: Euromonitor/Passport/Company Reports/Analyst Estimates

- As the company continues to heavily invest in the **global rollout** of ***IQOS ILUMA***, its innovative addition to the heated tobacco portfolio, it will be able to drive further growth both in markets where *IQOS* is already commercialized, as well as in markets where it has not yet been launched.
- *IQOS* is currently commercialized in only 46% of the cigarette and heated tobacco market, with 18% of it being inaccessible because of prohibitions on the sale of HTUs, which leaves **36% of the market still untapped**. By 2024, PMI will be launching its *IQOS* products in the **U.S**. which represents the **largest nicotine market by value** and where the company will be able to sell its blade products under a **modified risk claim**. Additionally, PMI will further expand their presence in this geography when the *IQOS ILUMA* receives its FDA authorization, which is anticipated to happen closer to 2026. Moreover, the company is already piloting *IQOS* in **Indonesia**, a very attractive geography due to its potential for being one of the largest cigarette markets by volume (300 billion units, in 2022). Besides these countries, given PMI's consistent track record of introducing *IQOS* products in new regions every year, we anticipate the company to continue this strategic approach, expanding in additional markets in the future.

Figure 6: Cigarette and Heated Tobacco Units 2022 Industry Volume



Source: Company Reports

- The company anticipates a **diversification** of its ***IQOS*** **product portfolio**, including new offerings like *TEREA*, a selection of tobacco flavours, *DELIA*, a low-priced option akin to *TEREA* and *HEETS*, and *LEVIA*, a zero-tobacco heat stick. In our opinion, these new products will allow PMI to broaden its customer base and satisfy the different needs of consumers. More specifically, *DELIA* will attract smokers to whom affordability might be an issue, while *TEREA* will enable current and new *IQOS* users to experience a wider variety of real tobacco flavours. Lastly, *LEVIA* was purposely designed not only to attract consumers who wish to stay away

Figure 7: Advertising Campaigns for new IQOS variants

Source: Company Reports

from the tobacco substance, but also to potentially avoid certain flavour regulations and have levied taxation.

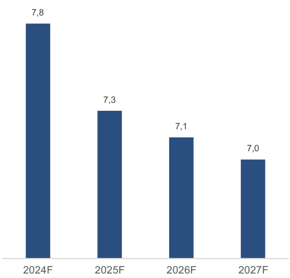
- As a leading cigarette manufacturer with an extensive worldwide presence, PMI has gained significant **expertise** in **manufacturing** and **regulatory** matters. Furthermore, the company has developed a sound **commercial** and **distribution infrastructure** for its traditional tobacco business. These attributes will ease the introduction of heated tobacco products in the new markets. Moreover, PMI's **brand reputation**, as well as its increasing investment to build the *IQOS* brand and superior respective consumer engagement will boost conversion rates and customer acquisition.

As such, to account for the expected expansion in heated tobacco market share, we assumed that from **2024-2027**, PMI's **smoke-free net revenues** will **grow** at a higher **CAGR** of **13.0%**. From **2028 onwards**, a **lower CAGR** of **6.5%** was assumed as we believe that in the longer term, peer action and their strategic response will affect PMI's performance.

- Swedish Match

Swedish Match's smoke-free portfolio is composed of nicotine pouches, snus, moist snuff, chewing tobacco products, and lighters, while cigars are its sole combustible product. Similarly to the forecast process of PMI's net revenues, firstly we considered projections made by Euromonitor/Passport on U.S. cigar consumption and their global estimates for nicotine pouch consumption for the 2024-2027 period. The reasoning behind this rationale is that, on one hand, SM's combustible products **only comprise cigars** and, on the other hand, **nicotine pouches** represent the **most contributing product subsegment** for the company's smoke-free volume sales. Thereafter, the CAGR suggested by Euromonitor/Passport's forecasts was adjusted to reflect our expectations regarding market share fluctuations.

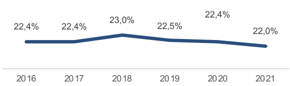
Figure 8: Projections of the retail volume of Cigars in the U.S. market (in billion units)



Source: Euromonitor/Passport

Euromonitor/Passport projects the U.S. cigar market volume to register a negative CAGR of -3.5% from 2024 up until 2027. SM's cigar business is present **solely in the U.S.**, where the company holds the second position for mass market cigars (excluding little cigars). From 2016-2021, the company reported a relatively stable market share with minor fluctuations, ranging between 22.0% and 23.0%. Given the stability in SM's past market share and, considering PMI's intention to simultaneously maintain their established position in combustibles and potentiate the smoke-free segment growth, **we believe** SM's **market share** in the **cigar** market will remain **constant**. Therefore, to account for this expectation, we assumed that SM's **combustible product** net revenues will **shrink** at the same rate of the industry's retail volume, corresponding to a **CAGR** of **-3.5%**.

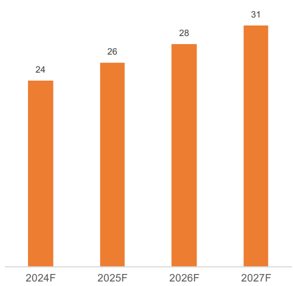
Figure 9: SM cigar Market Share in the U.S. Market (in %)



Source: Company Reports

In accordance with Euromonitor/Passport, the consumption of nicotine pouches is anticipated to rise at a CAGR of 9.1% from 2024 to 2027. **SM** is one of the **leaders** in both the U.S. and Scandinavian nicotine pouch markets, holding first and second position, respectively. Additionally, the company is also active in some European countries where market potential has **not been fully unlocked yet**, as the nicotine pouch market is still in its **early stage** of development. Due to the global nicotine pouch industry still being in its infancy, there is a lack of information regarding company market shares. Nonetheless, we believe that the following factors will determine the size and growth prospects of SM's smoke-free products:

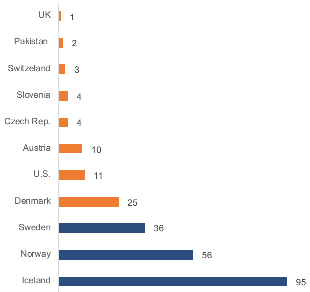
Figure 10: Projections of the retail volume of nicotine pouches (in billion units)



Source: Euromonitor/Passport

- SM's oral smokeless portfolio, now a constituent of PMI's smoke-free portfolio, has gained an important role in the achievement of PMI's mission to deliver a smoke-free future. The company is focused on improving its market position within the rapidly growing nicotine pouch market, mainly through its *ZYN* brand. As such, similar to the heated tobacco segment, PMI's infrastructures, commercial footprint, capabilities, and overall operational engine will facilitate SM's nicotine pouches' penetration and, consequently, potentiate their growth.

Figure 11: Nicotine Pouch average yearly consumption in selected geographies per legal age nicotine



Source: Company Reports

- Although SM has a **significant presence in the U.S.**, this geography, like the global nicotine pouch market, is **still underdeveloped**. This is reflected by comparing the yearly average consumption of nicotine pouches between the U.S. and other established markets. In this region, where *ZYN* has only been commercialized nationwide since 2019, the yearly average consumption rate is of 11 cans per legal age nicotine user. When comparing this metric with Iceland, which does not have a long oral tobacco tradition and has a considerably smaller market size, the average consumption is more than eight times higher (95 cans). Pairing the *ZYN* brand equity already established by SM in the U.S. with the early state of this product in that market, we believe this region is considered the **main short-to-medium-term growth opportunity** for the oral smokeless product segment. In fact, PMI is planning, for the 2024-2026 period, to take action to exploit the potential of such opportunity. Therefore, we believe this factor will enhance overall SM's nicotine pouch growth.
- As of November 2023, SM's nicotine pouches were only currently being commercialized in a total of 30 countries, leaving **a considerable share of the global market unexplored**. Several considerable growth opportunities reside within this untapped potential, for instance, India and Pakistan. These countries have both a long tradition of oral tobacco use and represent some of the biggest nicotine markets in the world. For the medium-to-long-term, PMI anticipates to capitalize on these international opportunities, having already established the goal to **launch/re-launch SM's nicotine pouches** in a total of **40 additional markets** from 2023 onwards. To put in perspective, if we assume that PMI is able to achieve in its top-20 markets the market penetration/consumption levels
  equal to the underdeveloped U.S. market (11 cans per year), this would result in an additional retail volume of 50 billion cans. When compared with the current retail volume of 0.3 billion, this represents a substantial increase.

As previously mentioned, the nicotine pouch market is still in its early stages of global development, which results in past company market share information referring to a small period of time and having limited accuracy. This makes it difficult to precisely forecast SM's products' market share within the nicotine pouch industry. Based on the points we presented previously, **we believe** the **outlook** for **SM**'s within the industry is **very positive**. Notwithstanding, to take into consideration the potential entry of new players and the possibility of PMI's competitors reacting, we take a **conservative approach** and assume SM's **smoke-free** net revenues will **grow** at the rate of the industry, equal to a **CAGR** of **9.1%**.

- Wellness and Healthcare

Despite the growth demonstrated between 2022 and 2023, PMI stated that it is focused on reprioritizing its strategy and resource allocation to capitalize in opportunities arising in the smoke-free product markets, mainly related to *IQOS* and *ZYN*. After unsuccessful clinical trials, slower-than-expected development of products and several controversial episodes related to Vectura Fertin Pharma, PMI decided to abandon the $1 billion target for healthcare business in 2025. Moreover, in its 2023 Investor Day report, the company stated that it expects **limited growth in Wellness and Healthcare segment's net revenues** and no increase in its investment levels. As such, we assumed that net revenues tied to the Wellness and Healthcare business segment would not present any future growth and are kept constant at the 2023 net revenue level of $322.8 million.

Operating Costs

PMI with its long history in the international tobacco industry has been able to enjoy economies of scale in the production of its traditional tobacco products. As the company invests in the novel smoke-free alternatives, specifically *IQOS* heated tobacco products and *ZYN* nicotine pouches, the company's gross margin is expected to amplify. The **cost of sales** associated with the abovementioned products has not been fully optimized yet, causing them to be higher when compared with cigarettes. Nonetheless, *IQOS* and *ZYN* bring in relatively higher revenue values in comparison to cigarettes. As a result, the gross margin associated with the smoke-free offering is considerably higher than that of PMI's flagship combustible product. As smoke-free alternatives grow as a proportion of PMI's net revenues and given its higher gross margin, we assumed that the cost of sales as a percentage of net revenue would decrease by 0.25% each year, from 2024 to 2027. From 2028 onwards, as the company starts to generate cost efficiencies, we believe that such metric will decrease by 0.75% each year of the remaining forecasting period.

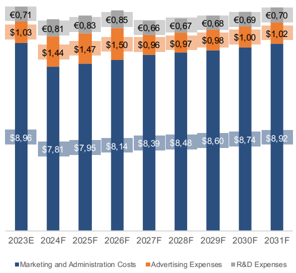
Figure 12: Evolution of PMI's cost of sales (in billion $).

Source: Analyst Estimates

PMI's **marketing, administration and research costs** are split between three primary categories: marketing and administrative costs, advertising expenses and research and development (R&D) expenses. Historically, marketing and administrative expenses were the most significant component of the total MAR figure, averaging 83,8% of the total value.

The **marketing and administration costs** comprise marketing costs (excluding advertising) and selling, general and administrative costs. Although PMI has been subject to increasing regulation on its marketing activities, the company still operates in several countries where these restrictions are not as strict or are ineffectively employed. Thus, it is hard to claim if these marketing expenses will be reduced anytime soon. Selling, general and administrative costs are expenses that, while may not be directly attributable to the production of goods are necessary to maintain the company's day-to-day operations. In fact, a large portion of these costs tends to be of fixed nature since it encompasses items such as rental expenses and executives' wages. Considering that marketing and administration costs remained stable in relation to net revenues throughout the historical period, at 21.4%, and that they are, in their majority, related to the company's operations we forecasted that they will maintain this ratio in the future.

Figure 13: Evolution of PMI's marketing, administration and



Source: Analyst Estimates

PMI's *IQOS* and *ZYN* future growth plans lead us to believe that the firm will increase its **advertising spending** in the short-term, aiming to capture consumers' attention. Therefore, from 2024 to 2026, we project an increase in advertising expenses as a percentage of net revenues by 1.5% from their 2022 level, reverting to their average historical ratio of 2.4% by 2027 and steadying thereafter.

In the last three years, PMI has dedicated 99% of its **R&D expense** to the smoke-free product portfolio. We believe that in the future R&D spending will stay committed to the smoke-free business as the company has stated they do not intend to further invest in the Wellness and Healthcare business. A critical factor for the success of PMI's smoke-free transformation and planned expansion is to be able to provide proof to regulatory authorities and the public that these products are actually of reduced risk. For that purpose, the company actively seeks to get authorizations for modified risk claims from regulators and is continuously innovating and testing its products to access more markets. Given this and the fact that R&D expenses as a proportion of net revenues have steadily increased in the last 5 years, it is forecasted that this proportion will gradually increase by 0.2% per year in the 2024-2026 period, reaching 2.6% in 2026. From 2027 onwards, this ratio will be kept at the historical average of 1.7% as the company strengthens its position in the new markets.

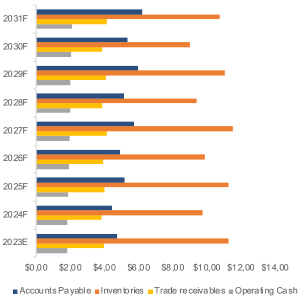
Income Tax

As an U.S. resident corporation, we expect PMI to be taxed at a **corporate rate** of **21%** from 2024 onwards, in accordance with the 2017 Tax Cuts and Jobs Act.

Working Capital

PMI reportedly states that their cash requirements include principal and interest payments on long-term debt, short-term accounts payable and accrued liabilities, purchase obligations for inventory and production costs, and operating lease liabilities. As the company does not present future levels of needed cash, **operating cash** is forecasted at 5% of net revenue, which should suffice to comply with the previously mentioned obligations.

Figure 14: Evolution of PMI's Working Capital Components (in



Source: Analyst Estimates

The forecasts of **accounts receivable**, **inventories** and **accounts payable** were based on the evolution of DSO, DSI and DPO and its comparison with those of PMI's peers.

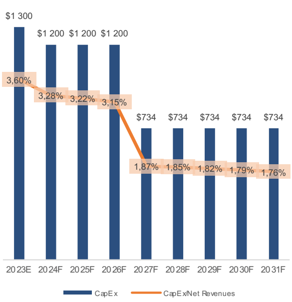
In regard to the average collection period, PMI has historically outperformed its peers with an average DSO of 39 days against a peer average of 56 days. We believe PMI will seek to maintain this comparatively higher efficiency and, thus, assume that DSO will slowly decrease from 2023 onwards, reaching their historical low of 35 days in 2031.

In contrast, PMI handles its inventories less efficiently when compared to its peers. In the past, the company reported an average DSI of 352 days, while the industry's mean was of 244 days. Considering the company's efforts to optimize their supply chain, we expect the recent downward trend in PMI's DSI to continue. As such, we forecast this metric to gradually decrease until 300 days in 2031, which although represents an improvement it still leaves the company falling short of its competitors. Our reasoning behind this lies in the fact that PMI increasingly relies on third-parties to produce its IQOS devices and other product parts, resulting in a more complex supply chain. While outsourcing can offer operational and cost efficiencies, it can also introduce challenges to inventory management and, consequently increase DSI. For instance, in unexpected market conditions, the company may have reduced flexibility and speed in reacting, possibly leading to overstocking.

From 2016 to 2022, PMI has been able to extend its average payable period every year. As of 2022, this metric was equal to 131 days, which was lower than the competitor average of 176 days. Notwithstanding, we believe PMI will be able to further increase its DPO by negotiating extended payment terms through leveraging its strong bargaining power over suppliers. Therefore, from 2023 onwards, we expect the company's average payable period to steadily increase, reaching the 2022 peer average of 176 days by 2031.

Capital Expenditures

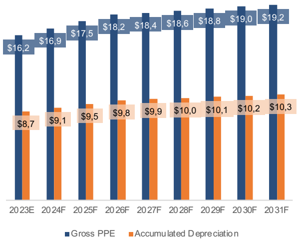
Figure 15: Evolution of PMI's CapEx (in million $) and CapEx/Net



Source: Analyst Estimates

PMI is planning on increasing investments behind smoke free product manufacturing capacity, related to its *IQOS* and *ZYN* brands. As we previously mentioned, the company is aiming to simultaneously introduce these products to new regions and foster their growth in underdeveloped markets. The firm disclosed that to support such capacity expansion, CapEx for the 2024 to 2026 period will remain around the 2023 expected level ($1.3 billion), totalling $3.5 – $3.7 billion. This spending will be directed to the **establishment of new manufacturing sites** and the **modernization** and **conversion** of current cigarette production lines to accommodate the new smoke-free products. As such, we forecasted a yearly average of $1.2 billion for the 2024-2026 period. From 2027 onwards, similarly to what occurred in the 2019-2021 period, we expect PMI's efforts to optimize its manufacturing infrastructures to flourish, resulting in CapEx being naturally lowered to the 2019-2021 average.

Figure 16: Evolution of PMI's Gross PPE and Accumulated Depreciation



Source: Analyst Estimates

CapEx is the major determinant of changes in gross property, plant and equipment (PPE). Nonetheless, the value of **gross PPE** can be further influenced by several other factors such as disposals and revaluations. Due to their unpredictable nature, these type of changes in gross PPE were assumed to remain at their historical average for the forecasting period, equal to -$537 million. Bearing this in mind, the final gross PPE figure forecasted for each year, is equal to its beginning level plus estimated capital expenditures and expected value-affecting changes.

Throughout the historical period, the **depreciation expense** as a proportion of gross PPE has maintained a relatively stable figure, averaging 5.9%. As such, it is assumed that, in the forecasting period, this expenditure item will grow in line with the abovementioned historical ratio.

Valuation

Absolute Valuation – Discounted Cash Flow Model

As to reach the intrinsic value of Philip Morris International Inc., as of December 2024, the **discounted cash flow** (DCF) model is employed. We followed this model since it is one of the most commonly used approaches to value companies by practitioners, being considered the most accurate and flexible method and the foundation on which all other valuation approaches are built. Through the DCF model, PMI's enterprise value is estimated by discounting the company's future free cash flows (FCF) at the appropriate cost of capital, the **weighted average cost of capital** (WACC).

The DCF methodology is based on two main time periods: the forecasting period, in our case until 2031, where the firm's expected free cash flows are estimated for each year, and the terminal period, where the company's value is estimated beyond the forecasting period. With regards to the terminal period, the Gordon Growth Model is applied, assuming that PMI's cash flows are reinvested, and that the enterprise **grows at a constant rate in perpetuity**.

- Weighted Average Cost of Capital Assumptions

As mentioned previously, according to the DCF model, the future free cash flows to the firm are discounted by the WACC as it represents the rates of return required by the company's debt and equity holders blended together. The WACC calculation requires four main components: a target debt-to-equity ratio, the cost of equity, the cost of debt, and the corporate tax rate.

In 2022, PMI's market D/E ratio was significantly influenced by the borrowings taken on by the company to realize its acquisition of Swedish Match. Furthermore, the firm's management does not disclose an explicit target capital structure, solely mentioning their intention to deleverage in relation to the prior year. Targeting the current capital structure would be, in our opinion, both inconsistent with PMI's deleveraging plan and potentially prejudicial to the company's credit ratings. In fact, as of November 2023, Fitch revised PMI's long-term issuer default rating from stable to negative, ultimately, as a consequence of the higher 2022 debt burden. We believe that it is important for the company to return to its pre-acquisition D/E levels as a downgraded credit rating can potentially impair PMI's ability to raise future debt at attractive conditions. As such, we assumed that the firm will **target** a **D/E ratio** equal to its average capital structure for the past three years, equal to 20.0%.

Figure 17: Cost of Equity by components

Risk-free Rate	4,04%
Market Risk Premium	5,00%
Levered Beta	0,29
Cost of Equity	7,43%

Source: Analyst Estimates/FRED.com/Damodaran

The **cost of equity** was computed through the capital asset pricing model (**CAPM**), the most widely used risk and return model, which establishes a relationship between the risk and expected return by an investor using three key variables: the risk-free rate, the market risk premium and the beta of equity (systematic risk measure).

As for the **risk-free rate**, we assumed it to be equal to the yield on a 10-year U.S. government bond, which, according to FRED's databse, at 13/12/2023, was **4.04%**, given that it is denominated in the same currency as the cash flows. Although no asset is fully free from risk in real capital markets, U.S. government bonds are commonly considered as such since they are backed by the country's government, have a low risk profile and high liquidity.

The **market risk premium** was established at **5.00%**, which corresponds to the estimate provided by Professor Aswath Damodaran on his database of country risk premiums, updated on July 2023, on the U.S. equity risk premium.

In relation to the equity beta (levered), which is a measure of systematic risk, in other words, how a company's stock price responds to movements in the overall market, we estimated it through two approaches.

The first approach was the **regression method**, in which PMI's weekly stock returns were regressed against the returns of the **MSCI World index** (in USD) for a period of 3 years, with the slope of the regression being the beta. Given PMI's geographical presence and market exposure, the MSCI World index was considered as a proxy for the market portfolio due to it encompassing a broad range of developed market equities from various industries and from various countries, unlike a regional index. With regards to the time frame chosen, we compared the betas resulting from regressions done on 10, 7, 5, 3 and 2-year periods and verified that there was a noticeable difference between the 10, 7, and 5-year betas to the 3, and 2-year betas, which could be explained from the changes in PMI's business across time. As such we decided to opt for the 3-year beta, as to better reflect the risk associated with PMI's current business strategy. In addition, for the return interval, we chose weekly returns which have the advantage of yielding more observations than longer return intervals. However, this choice comes with the non-trading problem: the fact that assets do not trade on a continuous basis, and when there is non-trading on the asset, the beta estimated can be affected. The beta resulting from this regression method is equal to 0.68, having a 95% confidence interval of [0.50,0.86], which using the average 3-year PMI capital structure (D/E ratio of 20.03%) results in an unlevered beta of 0.59.

Figure 18: PMI's Credit Ratings

	Long-term	Outlook
Moody's	A2	Stable
S&P	A-	Stable
Fitch	A	Negative

Source: Company Reports/Fitch/Moody's/S&P

The second approach was the **peer group method**, which attains an unlevered beta by averaging the unlevered betas of PMI and its peers. The peer group considered is composed of Japan Tobacco Inc., British American Tobacco and Imperial Brands PLC. In order to compute the unlevered betas of each company, the regression method was applied, regressing each company's weekly stock returns on the MSCI World index returns for a 3-year period, and unlevering these betas by each company's 3-year average capital structure. The resulting average unlevered beta is equal to 0.38.

For the final computation of the cost of equity, the beta derived from the second approach was excluded due to being considered too low, influenced by Japan's low unlevered beta. Therefore, the regression beta, when relevered by applying PMI's target capital structure results in a **beta value** of **0.68**. Consequently, the **cost of equity** derived from employing the three estimated

Figure 19: Cost of Debt by components

Risk-free Rate	4,04%
Default Spread	1,00%
Before-tax Cost of Debt	5,04%
Tax Rate	21,00%
After-tax Cost of Debt	3,98%

Source: Analyst Estimates/FRED.com/Damodaran

variables corresponds to **7.43%**.

PMI's **cost of debt** was computed through a **default spread approach**. Given PMI's most recent credit ratings of Moody's, S&P and Fitch, the corresponding default spread was derived according to Damodaran (2012), equivalent to 100 basis points. Applying the risk-free rate previously established for the cost of equity, the before-tax cost of debt equals 5.04%. When considering the U.S. corporate tax rate of 21%, the after-tax cost of debt totals **3.98%**.

Figure 20: Estimated default spreads by credit rating

Moody's rating	Fitch Rating	Default spread (bps)
Aaa	AAA	0
Aa1	AA+	25
Aa2	AA	50
Aa3	AA-	70
A1	A+	85
A2	A	100
A3	A-	115
Baa1	BBB+	150
Baa2	BBB	175
Baa3	BBB-	200
Ba1	BB+	240
Ba2	BB	275
Ba3	BB-	325
B1	B+	400
B2	B	500
B3	B-	600
Caa	CCC	700
Ca	CC	850
C	D	1,000

Source: Modified from Damodaran (2012)

Source: Damodaran

Having gathered all the needed inputs for the **WACC** calculation, its final value was derived at **6.86%**.

- Implied Share Price

In order to reach the enterprise value of PMI's core operations, the unlevered core future free cash flows were discounted by the WACC, as well as to obtain the company's terminal value. The terminal growth rate (g) employed in the Gordon Growth Model corresponds to Goldman Sachs's prospect on the long-term (2070-2079) world real GDP growth rate, at 1.70%. We chose this global growth rate due to PMI's extensive international presence, covering more than 180 markets, which exposes it to changing macroeconomic conditions on a global scale.

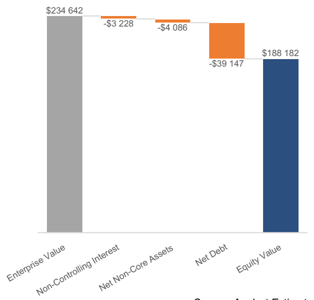
Figure 21: Final WACC computation

D/V Target	16,69%
E/V Target	83,31%
Target D/E	20,03%
Cost of Equity	7,43%
After-tax Cost of Debt	3,98%
WACC	6,86%

Source: Analyst Estimates

Aggregating the sum of the discounted FCF of the forecast period and the present value of the terminal value, one reaches an **enterprise value** (EV) of $234.6 billion. To calculate the equity value, which will be used to compute the market value of one PMI share, **Net Debt** ($39.1 billion) and **Non-controlling Interests** ($3.2 billion) are subtracted from the EV and the **Net Non-core Assets** (-$4.9 billion) are added to this figure. By dividing the equity value by the total number of shares outstanding (1552 million), an intrinsic share price of **$121.25** is attained, as of December 2024.

Figure 22: Equity Bridge: From Enterprise Value to Equity Value (in million $)



Source: Analyst Estimates

Given the current share price of $94.70, as of Dec. 15 2023, and an estimated cash dividend of $5.38, the DCF's implicit share price corresponds to a **total expected return** of approximately **33.7%**, with capital gains of 28.0% and a dividend yield of 5.9%. Solely considering the DCF valuation, this expected return leads us to issue a **BUY** recommendation for PMI's stock.

- Sensitivity Analysis

The discounted cash flow valuation methodology hinges on several critical assumptions. Therefore, we performed a **sensitivity analysis** to assess the impact of different key input adjustments on PMI's stock valuation. By doing so, we are able to test the reliability of our model, while identifying which indicators have the most significant influence on its outcome and which are less relevant.

We developed two main sensitivity analyses. The first tested the influence of **changes** in the **raw equity beta** and **the default spread** on the **WACC**. This analysis enabled us to define an adequate WACC range for the second sensitivity assessment, which depicts how PMI's **share price** varies relative to **adjustments** in two pivotal assumptions of the DCF: the **WACC** and the terminal growth rate (***g***).

Figure 23: Results of first sensitivity analysis: Raw Equity Beta and Default Spread on WACC.

PMI 3y Reg. Beta		Default Spread -36%	-15%	0%	12%	21%
		0,39%	0,80%	**1,00%**	1,20%	1,70%
-36%	0,50	6,03%	6,09%	**6,11%**	6,14%	6,21%
-15%	0,59	6,41%	6,46%	**6,49%**	6,51%	6,58%
0%	**0,68**	**6,78%**	**6,83%**	**6,86%**	**6,88%**	**6,95%**
12%	0,77	7,16%	7,21%	**7,24%**	7,26%	7,54%
21%	0,86	7,53%	7,59%	**7,61%**	7,64%	7,71%

Source: Analyst Estimates

Regarding the first analysis, we assumed that the raw equity beta could take values in the range of [0.50; 0.86]. This interval corresponds to the 95% confidence interval obtained from regressing PMI's weekly stock returns against the returns of the MSCI World index for the past three years. Simultaneously, the default spread was assumed to vary in the same magnitude as the raw equity beta, which results in a range of [0.39%; 1.70%]. The choice behind these two key variables lies in the fact that the company possesses some form of control over them, when compared with other inputs. More specifically, we believe that such factors are the ones that PMI could influence through its financing and investment choices. For instance, PMI may have less control over other WACC-impacting components, such as the risk-free rate, the market risk premium and the tax rate due to their macroeconomic nature. Given this, the WACC resulting from our analysis ranges from [6.03%; 7.71%].

Figure 24: Results of second sensitivity analysis: WACC and g on share price

		Terminal Growth Rate				
		12%	**6%**	**0%**	**-6%**	**-12%**
		1,91%	1,81%	**1,70%**	1,60%	1,50%
WACC **-12%**	6,03%	$152,49	$148,81	**$145,30**	$142,07	$138,99
-6%	6,44%	$138,07	$135,08	**$132,23**	$129,60	$127,07
0%	**6,86%**	**$126,05**	**$123,60**	**$121,25**	**$119,07**	**$116,97**
6%	7,28%	$115,58	$113,54	**$111,59**	$109,77	$108,01
12%	7,71%	$106,64	$104,94	**$103,29**	$101,76	$100,27

Source: Analyst Estimates

In the second sensitivity analysis, the WACC values we considered were the ones attained from the previous assessment. Similar to the previous approach, the interval for the terminal growth rate (*g*) was defined by taking movements of similar magnitude to those reflected in the WACC range. The share price resulting from this analysis ranges between [$100.27; $152.49]. On one hand, holding *g* constant, a 3% change in WACC's value yields an average share price change of $5.1. On the other hand, holding WACC constant, an adjustment of the same magnitude in *g* results in an average share price change of $1.1. As expected, considering that the WACC is applied to discount both the cash flows of the forecasting period and the continuing value, while *g* solely influences the terminal value, the share price is more sensitive to changes in the former than the latter.

Considering the estimated cash dividend of $5.38, the share price resulting from the DCF analysis would have to equal or fall below $98.8 for our BUY recommendation to change. Therefore, it is interesting to note that for the WACC and *g* ranges considered, **such situation would not occur**, confirming the robustness of our BUY recommendation for the spectrums analysed.

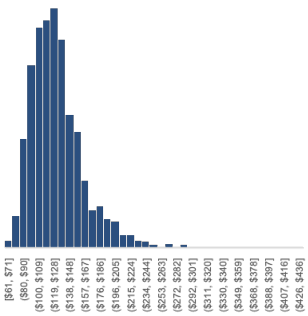
- Monte Carlo Simulation

In this section, we conducted a **Monte Carlo simulation** as to complement our discounted cash flow valuation of PMI and to explore possible scenarios not envisioned by our sensitivity analysis. The simulation constitutes a stochastic approach that acknowledges for the uncertainty and variability in financial valuation. Through the Monte Carlo simulation, we generate thousands of possible scenarios, each representing a unique combination of random key input values, which results in a multitude of potential share price outcomes.

Figure 25: Results of randomly selected Monte Carlo simulation.

Max.	$	429,94
Min	$	61,12
Mean	$	127,70
St. Dev.	$	34,68

Frequency of BUY	82,30%
Frequency of HOLD	9,50%
Frequency of SELL	8,20%



Source: Analyst Estimates

The following parameters influencing our final valuation were defined as the most impacting and as, such, integrated in our simulation: the different CAGRs we assumed for the growth of PMI's and SM's net revenues, the decrease we expect in PMI's cost of sales as proportion of net revenues for the 2024-2027 period and the one applied from 2028 onwards, the WACC and the terminal value growth rate. We specified a spectrum of values for each variable which **included estimates** that **we perceive as unlikely to occur** in the future or **inaccurate**. In other words, the Monte Carlo simulation could, for instance, generate a scenario in which: i) PMI and SM fail to experience robust growth in their smoke-free segment; ii) their combustible segments register a positive growth trend, iii) PMI's is unable to expand their gross margins; iv) the firm's WACC rises significantly from our assumed value of 6.86%; v) the terminal growth rate is lower than our expected 1.7%.

By randomly selecting one of the simulations created and analysing its results, we gained a more nuanced understanding of the robustness of our DCF analysis and on the impact of parameter changes in the company's intrinsic value. Our simulation consisted of a total of 2000 iterations, each resulting from a different combination of the previously mentioned input variables, which generated 2000 possible PMI share prices. The share prices attained range between [$61.12; $429.94] with an **average of $127.70** and **standard deviation of $34.68**. Through the histogram plotted, it is possible to infer that the outcomes were mostly concentrated around the [$119; $128] class. Moreover, considering PMI's current share price, out of the resulting scenarios, **82.3%** corresponded to a **BUY** recommendation, **9.5%** indicated a **HOLD** recommendation while the remaining **8.2%** represented a **SELL** recommendation. We acknowledge that in 17.7% of all scenarios, the investor recommendation might be subject to changes and that the standard deviation presents a considerable figure. Nonetheless, it is worth mentioning that the vast majority of the outcomes, even with scenarios we perceive as unlikely having the possibility to occur, aligns with our BUY recommendation.

Final Recommendation

The **final target share price** we derived was of **$121.25**. Considering an investment as of December 15, 2023, at a price of $94.70, an estimated cash dividend of $5.38 and no expected share repurchases, we anticipate a **total return** of **33.7%**. This total expected return is composed of an expected capital gain of 28.0% and dividend yield of 5.7%. As the total expected return lies above 10%, we issue a **BUY recommendation** on PMI's stock.

PMI's intrinsic valuation provided by our discounted cash flow analysis was the sole methodology considered to arrive at the aforementioned final share price. The reasoning behind the **exclusion of our relative valuation**, as we mentioned previously, is based on two main factors. Firstly, the dissimilarities between PMI and its peer group we highlighted earlier create a comparability challenge, which results in a misjudgment of our company's true value. Furthermore, the multiple valuation approach is static and, thus, does not consider PMI's future potential. Throughout our report, we have outlined our growth expectation for PMI based on the company's investment and expansion into the novel smoke-free industry. By scaling up its operations, launching its innovative products in untapped markets, and further exploring underdeveloped markets, we believe the enterprise will experience future earnings growth and realize operational efficiencies. As such, by **deciding to consider the DCF** implied share price as the target FY24, we are able to incorporate the insights we obtained from our comprehensive analysis of PMI, given the more nuanced and holistic valuation approach provided by this model.

Risk Analysis

In the following section, we have identified potential negative industry and company developments that we believe represent **the main risks** to the investment thesis presented.

Uncertainty regarding the rollout of smoke-free products: Our investment thesis assumes that the rollout of smoke-free alternatives will be successful. Nevertheless, several hurdles during its introduction may negatively affect the company's overall performance, whether the impact is temporary or permanent. The following issues are some of the possible challenges PMI can encounter: unexpected/rigid regulation, for instance, marketing/sale restrictions and significant taxation; reluctance by consumers to adopt these new alternatives; competitor reaction through the introduction of rival products. We believe PMI's continuous efforts in proving its reduced-risk claims, its ability to cater to customers' preferences and to differentiate its products will effectively minimize these problems.

Currency risk fluctuations: As a global company, PMI is exposed to currency exchange rate fluctuations. PMI's business is conducted primarily in local currency and then, for reporting purposes, translated into U.S. dollars based on the average exchange rates during the reporting period. The strength of the home currency relative to foreign currencies can impact the company’s metrics. A stronger home currency can have an impact on reported net revenues, operating income, and EPS because the local currency translates into fewer U.S. dollars. Moreover, the existence of capital controls or foreign currency exchange constrains can affect subsidiaries financial conditions, cash flows, net earnings, and profitability. Nonetheless, we believe that thus far PMI has effectively managed this risk by largely employing derivative financial instruments as part of its hedging strategy.

War in Ukraine: In 2022, Russia and Ukraine collectively accounted for 11% of the total shipment volume of cigarettes and heated tobacco units, contributing roughly 8% to Philip Morris International's net revenues. Apart from that, these nations were also integral to PMI's manufacturing process, housing manufacturing facilities for the company. Since the beginning of the conflict, PMI has suspended planned investments in both countries and scaled down their manufactured operations in Russia. We believe that so far PMI has been effective in its efforts to minimize the adverse impact caused by the geopolitical conflict and, as such, assumed that this impact would have no material effect in our model. However, if the depth and length of the conflict heightens, several consequences such as legal actions, nationalization of assets, supply chain disruptions and adverse effects on macroeconomic and security conditions, currency exchange rates, and financial markets are likely to arise.

PHILIP MORRIS INTERNATIONAL

COMPANY REPORT

TOBACCO INDUSTRY

20 DECEMBER 2023

HENRIQUE FERREIRA, JOÃO MANO

Reinventing the Tobacco Industry

Fog-lifting innovation

- Based on our FY24 target price of **$121.25**, we issue **a BUY recommendation** for Philip Morris International's stock. A **total return** of **33.7%** is expected considering no future share repurchases and an estimated dividend of $5.38, which accounts for 5.7% of the overall yield.

- As society's concerns for personal health rise, a **significant shift** is observable within the tobacco industry. The demand for less risky alternatives has surged since 2016, resulting in a 5.5**% increase** in the **smoke-free products'** share of the total industry's retail market value, while **combustible products** registered a **corresponding decline**.

- With its mission "**To deliver a smoke-free future**", PMI has been leading the sector's transformation, investing **over $10.5 billion** in the development and commercialization of its **reduced-risk** products. PMI is accelerating the transition by leveraging its **strong brand equity** and **proven commercial engine**.

- We believe PMI's recent acquisition of Swedish Match unlocks a valuable opportunity to explore the smokeless tobacco industry through a **leading portfolio**. Moreover, the company's planned **geographic** and **offering expansion** of its growing ***IQOS*** product line will be one of the pillars of its future envisioned growth.

Company description

Philip Morris International Inc. (PMI) is a multinational leading tobacco company engaged in the manufacture and sale of cigarettes, heated tobacco, and other nicotine-containing products in more than 180 markets outside the United States of America.

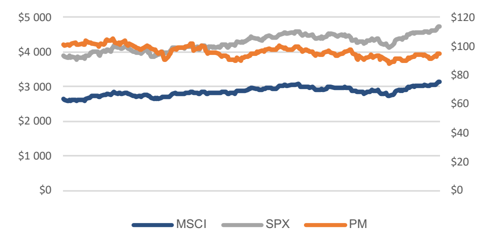
Recommendation:	**BUY**
Price Target FY24:	**$121.25**
Price (as of 1-Mar-24)	**$94.70**

Reuters: PM.N, Bloomberg: PM:US

52-week range ($)	87.47-105.39
Market Cap ($B)	146,974
Outstanding Shares (M)	1.552
Total Expected Return	33,7%

Source: Bloomberg/Analyst Estimates

Figure 1: Share price performance of MSCI World Index, S&P500 and PM from 15/12/2022 to 15/12/2023.



Source: Bloomberg

(Values in $ billions)	2022	2023E	2024F
Net Revenues	$31.76	$36.15	$36.57
From Combustibles	$21.57	$22.54	$21.42
From Smoke-Free	$10.19	$13.61	$15.15
EBITDA	$13.32	$12.95	$14.63
NOPAT	$10.02	$9.14	$10.51

Source: Company Reports, Analyst Estimates

Table of Contents

Company Overview

Company Description

PMI is a Virginia holding company incorporated in 1987, headquartered in Stamford, Connecticut and listed on the New York Stock Exchange (NYSE: PM). In 2022, the firm reported net revenues of more than $31.70 billion, which makes it the world's second largest nonstate-owned tobacco enterprise however, in market capitalization terms, PMI stands as **the biggest player** in the industry being valued at $146.97 billion. The firm operates and owns 53 manufacturing facilities worldwide, employing a workforce of approximately 79,800 individuals to meet the needs of more than 150 million customers.

Key Highlights and Strategy

PMI's genesis dates back to 1847, when Philip Morris, a British tobacconist and entrepreneur, opened a shop on London's Bond Street, selling tobacco and ready-made cigarettes. Decades later, in 1881, the son of Philip joined Joseph Grunebaum to establish Philip Morris & Company and Grunebaum Ltd.. In 1987, the enterprise is incorporated as an operating company of Philip Morris Companies Inc.. In 2003, the firm's named is changed to Altria Group, Inc. to distance itself from the negative associations of the tobacco industry and to reflect its diversification into non-tobacco businesses like Kraft Foods. **In 2008**, **PMI** was **spun-off** into an independent entity from its parent company Altria Group, Inc., as to unlock its international potential and to be cleared from legal constraints its domestic counterpart, Philip Morris USA, was facing.

PMI's journey in the reduced-risk product segment begins in 2009, when it unveiled its new R&D facility devoted to the development of such products. **In 2014**, the enterprise built its first dedicated production factory in Italy, and **piloted IQOS, its first heat-not-burn platform**, in Italy and Japan. PMI's strategic focus shift is announced in 2016, when the company presented its new purpose: "To deliver a smoke-free future", that is, the firm is committed to phase out smoking by providing to consumers less harmful smoke-free alternatives. In 2022, PMI achieved important milestones in its transformation to becoming a smoke-free firm. Firstly, it completed an agreement with Altria Group, Inc. to end their commercial relationship in the U.S by April 30, 2024, and thus, **PMI will have full rights** to commercialize IQOS in the country afterward. Moreover, it **acquired Swedish Match** (SM), a market leader in oral nicotine delivery with a significant presence in the U.S. market.

In light of this new vision, PMI announced that, by 2030, it desires that more than two-thirds of the company's total net revenues come from smoke-free products.

Besides its mission to deliver a smoke-free future, PMI shared, in 2021, its long-term plan of evolving into a broader lifestyle, consumer wellness and healthcare company. In the same year, in order to accelerate this expansion, PMI acquired Vectura (July), OtiTopic (August) and Fertin Pharma (September), all enterprises within the parhmaceutical industry. In addition, the firm established the ambitious goal of achieving at least $1 billion in annual net revenues from "Beyond Nicotine" sources by 2025.

Markets

PMI is a global company selling products in **more than 180 markets** worldwide, and in many of these markets they hold the number one or number two market share position. Additionally, PMI manages their business in six reportable regions, a framework adopted by the company in 2018: European Union (EU), Eastern Europe (EE), Middle East & Africa (ME&A), South & Southeast Asia (S&SA), East Asia & Australia (EA&A) and Americas (AMCS).

Product Portfolio

The firm's product portfolio is split among two categories: combustible products and smoke-free products.

The **combustible product category** is mainly composed of cigarette brands, although PMI also offers other combustible tobacco variants, including roll-your-own and make-your-own cigarettes, pipe tobacco, cigars and cigarillos. The company has a product lineup of both international and local brands ranging from premium, mid-price and low-price categories, totalling more than 130 brands. PMI's cigarettes are sold in approximately 175 markets and it holds five of the top 15 international brands, which contributed to 77% to the company's cigarette shipment volume in 2022. *Marlboro* is PMI's leading cigarette brand and the world's best-selling international cigarette since 1972, representing 9.8% of the international cigarette market (excluding U.S. and China), in 2022.

PMI's **smoke-free portfolio** is composed of three main product categories: **heated tobacco** products (HTP), **e-vapor** products and **oral smokeless** products. The firm employs the term "reduced-risk products" (RRP) to refer to its smoke-free products that present, are likely to present, or have the potential to present less risk of harm to smokers who switch to these products versus continuing to smoke.

HTPs, also known as tobacco heating systems and heat-not-burn products, heat the tobacco to release a nicotine-containing tobacco aerosol but without burning the tobacco. These products are composed of two main components: the tobacco heating system and the heated tobacco unit, which is inserted into the system. PMI has developed several variants of the tobacco heating system, which are commercialized under the *IQOS* brand. The initial generations of the heated tobacco products, *IQOS ORIGINALS*, use a blade heating technology, while the *IQOS ILUMA*, launched in 2021, uses induction to heat tobacco. Finally, the latest addition to the firm's HTP portfolio is the brand *BONDS* by *IQOS* that heats tobacco via resistive external heating. Each heating system variant has a specifically designed heated tobacco unit, for instance, *TEREA SMARTCORE STICKS* are to be used exclusively with *ILUMA* devices.

The two leading **e-vapor** products, also known as e-cigarettes, sold by PMI are *VEEV ONE* and *VEEV NOW*, which are battery-powered devices that produce an aerosol, by vaporizing a nicotine-containing liquid. These products, unlike HTPs, do not contain tobacco and their e-liquids may also not contain nicotine, although most of them do.

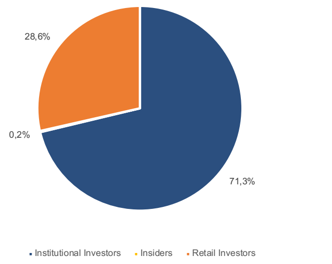
PMI's first **oral smokeless** product resulted from its 2021 acquisition of AG snus, a Danish company, which focused on traditional tobacco snus. As a result, in 2022, PMI released a rebranded and reformulated version of the already commercialized *Shiro* nicotine pouches. However, with the acquisition of Swedish Match, in November 2022, PMI incorporates a leading oral nicotine portfolio, including the *ZYN* brand, the leading nicotine pouch in the world, *General* snus, *Volt Pearls* nicotine pouches, among others.

PMI's **Wellness and Healthcare** (W&H) segment refers to the operations of Vectura Fertin Pharma, which ultimately combines the capabilities of Vectura, Fertin Pharma and OtiTopic. This segment delivers products associated with inhaled therapeutics and oral and intra-oral delivery systems. PMI includes the products from this subsidiary in in its smoke-free product category. Nonetheless, throughout this report, we separate the W&H segment from the smoke-free product category, unless otherwise stated.

As of September 30, 2023, PMI's smoke-free products were available in 82 markets globally with an estimated 27.4 million IQOS users, of whom 19.7 million have stopped smoking and switched to the heat-not-burn product

Shareholder Structure

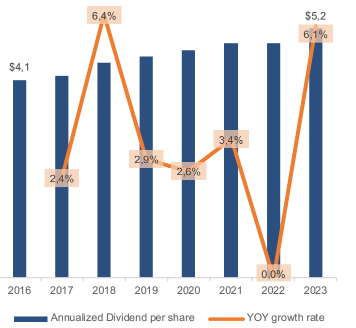
Figure 2: Shareholder structure, as of Oct. 1 2023, by investor type.



Source: Bloomberg

As of October 1, 2023, according to Bloomberg, 71.3% of PMI shares were held by institutional investors, while insiders corresponded to 0.2% of the company's ownership structure. The investment manager The Vanguard Group Inc. held the largest stake in PMI, at 8.4%, followed by two equity investment divisions of Capital Research and Management Company: Capital World Investors at 7.6% and Capital International Investors at 6.6%. Furthermore, PMI counted with more than 2400 institutional holders and the top 10 shareholders held 41.5% of the firm shares. Geographically, PMI's shareholders were mostly concentrated in the U.S. (81.9%) followed by the U.K. (9.1%) and Japan (2.6%). Moreover, the firm is currently not engaged in share repurchasing activities after having suspended their repurchase program, in May 2022, to prepare for the acquisition of Swedish Match.

Figure 3: Evolution of cash dividends paid per each PMI share.



Source: Company Reports

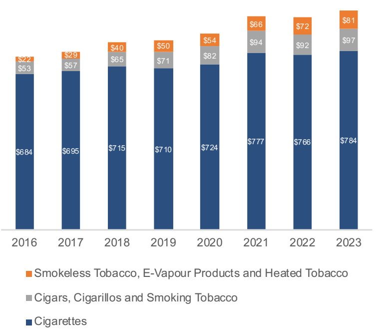
Dividend Policy

Since its spin-off from Altria and becoming a public company in 2008, PMI has increased its annual dividend every year. The firm had an annualized dividend rate of $1.84 per share in 2008, which has since climbed to a present dividend payout of $5.20 per share. This represents a total increase of 182.6% and a CAGR of 7.2%. PMI claims to be committed to a **progressive dividend policy**, while targeting a long-term dividend payout ratio of around 75% of adjusted diluted EPS.

Industry Overview

Market Size and Growth Trends

Figure 4: Evolution of retail volume of tobacco industry-related products (in billion $)



Source: Euromonitor/Passport

The tobacco industry has witnessed **substantial transformations** in its market landscape and dynamics. In 2016, total industry revenue stood around $759 billion, rising to nearly $962 billion by 2023. These figures represent a $202 billion nominal increase, corresponding to a growth trajectory characterized by a CAGR of 3.4%.

When analysing specific product categories, the retail value for cigarettes, which historically dominated the market, amounted to about $684 billion in 2016. By 2023, this figure had increased by $100 billion to $784 billion, indicating growth at a CAGR of 2%. Moreover, other combustible products such as cigars, cigarillos, and smoking tobacco followed a similar pattern. Starting at $53 billion in 2016, this category rose to nearly $97 billion by 2023, marking a robust growth at a CAGR of 9%.

The category of oral smokeless tobacco, E-vapour products, and heated tobacco gained **increasing relevance** in recent years. In 2016, the total retail value for these products was $22 billion. However, by 2023, it surged to $81 billion, reflecting a real increase of $59 billion and, consequently, a CAGR of 20.2%.

In terms of relevance within specific segments, there is a discernible trend of **shifting consumer preferences from combustible products to smoke-free alternatives**. In fact, in 2016, combustible products accounted for 97.1% of the total retail value of the market. However, by 2023, this figure had declined to 91.6%. Meanwhile, the smoke-free product category increased its share from 2.9% to 8.4% over the same period.

Peer Group

Figure 5: Characterization of peer companies.

BAT

Geographical Presence	180 markets
Market Capitalization (in million $)	$65 683
LTM Revenue (in million $)	$34 002

IMPERIAL BRANDS

Geographical Presence	120 markets
Market Capitalization (in million $)	$20 321
LTM Revenue (in million $)	$22 184

JT

Geographical Presence	130 markets
Market Capitalization (in million $)	$52 309
LTM Revenue (in million $)	$20 238

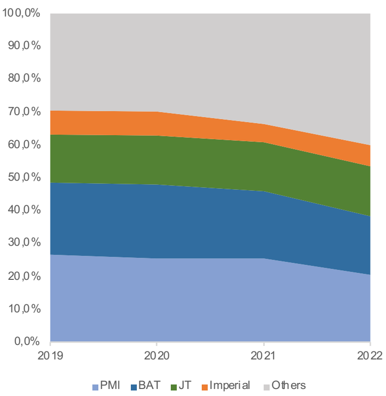
To comprehensively assess the competitive landscape in which PMI operates, it is imperative to define a pertinent **peer group**. By conducting a preliminary analysis of the players in the tobacco industry, we have identified the following **potential peers**: British American Tobacco (BAT), Imperial Brands PLC (Imperial), Japan Tobacco Group Inc. (JT), Altria Group, Inc. (Altria), China National Tobacco Corporation (CNTC) and ITC Limited (ITC). Each potential peer underwent a review process based on specific criteria to determine whether they could be considered comparable to PMI. The selection criteria encompass the following key parameters: i) the **business model** of the company should closely mirror that of PMI, meaning that, its core activity should revolve around the manufacturing and distribution of tobacco products; ii) the firm's **geographical presence** should be akin to PMI's; iii) the company's **size**, **financial health** and **profitability performance**, measured through metrics such as market capitalization, net revenues, profitability margins, among others, should resemble those of PMI.

Under our previously set requirements, the enterprises that were **excluded** from the final selected peer group were Altria, CNTC and ITC. Although **Altria** shares financial performance similarities with PMI, its operations are mainly focused on the U.S. market. Additionally, besides the manufacturing and sale of tobacco products, the company engages in the alcohol, cannabis, and financial services industries. **CNTC** is a state-owned enterprise that dedicates itself to serving solely the domestic Chinese market. Moreover, the company holds a state-backed monopoly which dissociates its operating environment from that of PMI. Focusing mainly on the Indian market, **ITC** is a diversified conglomerate with interests beyond tobacco. The corporation's segments include FMCG; Hotels; Packaging, Paperboards & Specialty Papers; Agri & IT businesses. As such, we deem its business model incompatible to PMI's.

Therefore, the chosen peer group comprises BAT, Imperial, and JT:

- **BAT**, established in 1902, is a global player in the tobacco and nicotine-related products industry. The company operates in 180 markets with a wide-ranging product portfolio encompassing cigarettes, tobacco, vapor, tobacco-heating products, and other related items such as cigars, fine-cut tobacco, snus, and moist snuff. The company strategically markets these products under a diverse brand portfolio, featuring names such as *Vype*, *glo*, *Lucky Strike*, and *Kodiak*.
- **Imperial** is a multinational tobacco corporation offering a broad range of tobacco-related products similar to PMI's offerings. The company's most notable brands include those related to traditional tobacco products such as *JPS*, *West*, and *Winston*, but also new offerings of Swedish-style snus *skruf*, e-cigarette, and heated tobacco products through *Blu* and *Pulze*, respectively.
- **JT** is an international tobacco group with a presence in over 130 countries. The group's activity is focused on manufacturing and distributing tobacco products through an extensive product range, composed of cigarettes, rolling tobacco, electronic cigarettes, snus, cigars, waterpipe tobacco, and heated tobacco. JTI's brand portfolio comprises well-known names like *LD*, *Glamour*, *Benson & Hedges*, *Silk Cut*, *Amber Leaf*, *Logic*,and *Ploom*.

Figure 6: Company Shares of Global Tobacco Industry (exc. CNTC).



Source: Company Reports

To position PMI relative to its peers, it is crucial to understand how the companies have fared in terms of global market share, including cigarettes and heated tobacco units. In 2019, when excluding CNTC, **PMI** was the **world leader** in the tobacco industry holding a market share of 26.6% followed by BAT (22.0%), JT (14.7%) and Imperial (7.3%). By 2022, noteworthy shifts occurred in these market share proportions. PMI's global **share decreased** to 20,65% as well as that of BAT (17,9%) and Imperial (6.2%), contrasting with an increase in JT's share (15.2%) and the remaining share split among other players in the market.

Competitive Environment

To gain further insights into the competitive landscape of Philip Morris's industry, an analysis using Porter's Five Forces framework was conducted.

Threat of new entrants: The tobacco industry exhibits a low threat of new entrants primarily due to substantial barriers to entry. Such barriers include: considerable capital investments to establish manufacturing facilities and distribution networks; significant resources and expertise to comply with complex regulatory environments; strong loyalty towards established brands; existing manufacturing and distribution economies of scale; among others. As such, we classify the threat of new entrants into the tobacco industry as **low**.

Bargaining power of suppliers: Most companies within the tobacco industry rely on a global network of suppliers. Such diversity diminishes their reliance on any single supplier and the possibility of one of them exerting power over the company, hampering its operations. Furthermore, tobacco firms typically foster stability and security within its supply chain, establishing contracts that outline current and future supply needs and by providing predictability and assurance for both parties involved. As such, all the abovementioned factors, coupled with the intense competitiveness among suppliers vying for contracts with leading tobacco companies, makes us conclude that the bargaining power of suppliers is **low**.

Bargaining power of buyers: Tobacco companies typically serve a large number of customers which completely eradicates their power to negotiate prices and favourable deals. Moreover, the tobacco industry runs on customers' dependence on nicotine. If a company significantly raises the price of its tobacco products there will always be a proportion of its customer base that will buy cigarettes irrespective of their price. It is nearly impossible to find a substitute with nicotine that can reproduce the distinct sensory smoking experience. As such, bargaining power of buyers is **low**.

Threat of substitutes: The current societal shift in attitudes towards tobacco use, largely propelled by heightened health awareness, holds the potential to significantly increase the demand for substitute products. Products and methods existing outside the tobacco industry such as nicotine replacement therapies and various pharmaceutical interventions aimed at aiding smoking cessation act as substitutes for tobacco-based products. As such, amid changes in the perception of tobacco use, threat of substitutes faced by the tobacco industry can be considered **high**.

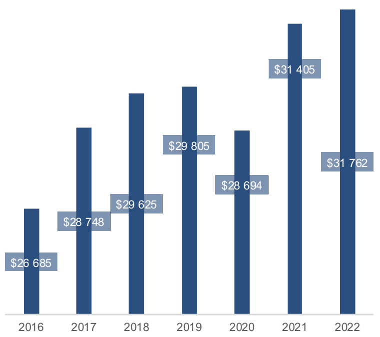
Competitive Rivalry: The tobacco industry is largely dominated by six multinational companies that, as of 2022, controlled approximately 74.4% of the global tobacco market. Moreover, the high industry concentration is demonstrated by the Herfindahl-Hirschman Index which equals 2578, when considering firms' shares of cigarette retail volume in 2022. These figures underscore the **highly competitive nature** of the industry which is heightened by several other factors, such as its substantial legal, social and regulatory scrutiny.

To summarize, while PMI may not face concerns regarding the possibility of new entrants and the bargaining power of buyers and suppliers, the rise of substitutes for tobacco-related products and the intensifying rivalry within the industry can jeopardize the company's operations and future performance. Nonetheless, we believe that the firm's positioning within the industry, its diverse range of products along its focus on continuously innovating and developing its products to meet consumers' needs will allow the firm to circumvent the aforementioned challenges and sustain its competitive position.

Financial Analysis

Revenues

Figure 7: Philip Morris International Net Revenues (in billion USD)

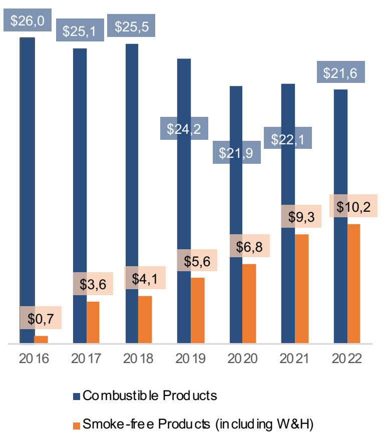


Source: Company Reports

PMI's **total net revenues** have **increased** by, approximately, 19.0%, from $26.7 billion in 2016 to $31.8 billion in 2022. In fact, excluding 2020, the company has been able to increase its total net revenues every year of the historical period, achieving high single-digit growth rates of 7.7% and 9.4% in 2017 and 2021, respectively. The effects of the COVID-19 pandemic resulted in a decline of 3.7% in PMI's total net revenues in 2020 due to reduced adult smoker daily tobacco consumption, disruptions in the firm's supply chain and trade operations, and a significant downturn in PMI's duty-free business. The strong growth in revenues registered in 2017 was mainly driven by substantial growth in the smoke-free business coupled with favourable pricing in the firm's cigarette portfolio. Similarly, the robust revenue increase in 2021 reflected the strong performance of the firm's heated tobacco product segment, with volume rises of HTUs and devices, as well as favourable combustible tobacco pricing. Overall, for the 2016-2022 period, PMI's net revenues grew at a **CAGR** of **2.9%**.

- ### By Product Segment

Figure 8: Distribution of Philip Morris International's Net Revenues by Product Segment (in billion USD)



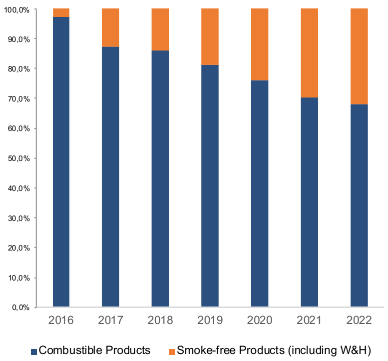
Source: Company Reports

As PMI has shifted their strategic focus from combustibles to smoke-free products, this transition has been reflected in the net revenue per product segment.

On one hand, **combustible product revenues** have **decreased** by, approximately, 16.9%, from $26.0 billion in 2016 to $21.6 billion in 2022. Throughout the historical period, the revenues from this product segment have only slightly increased in 2018 and 2021, mainly due to favourable pricing. Nonetheless, for the remaining years, strong pricing has been offset by declining volumes of combustibles coupled with unfavourable product mixes, resulting in revenue drops. From 2016 to 2022, combustibles net revenues declined at a **CAGR** of **3.1%.**

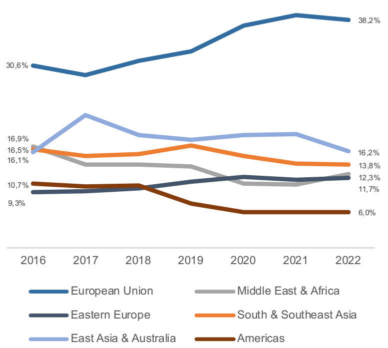
On the other hand, **smoke-free product revenues** have shown solid growth, **increasing** from $0.7 billion in 2016 to $10.2 billion in 2022, which corresponds to a **CAGR** of **53.7%.** Since 2016, the smoke-free product segment has demonstrated very robust growth, with double-digit growth rates every year except 2022, which registered a revenue growth rate of 7.4%. Although in 2022 there was a brief slowdown in the smoke-free growth associated with unfavourable HTU and device mix and pricing, the segment is still growing continuously and substantially. In fact, the revenues from smoke-free products are expected to regain their momentum,

Figure 9: Contribution of each product segment to PMI's Net Revenue (in %)



Source: Company Reports

Figure 10: Geographical Distribution of PMI's Net Revenues (in %)



Source: Company Reports

having demonstrated a growth rate of 28.0% for the nine months ended in September 2023, compared to the same period in 2022.

As a result of the strategic change, the **contribution of the smoke-free segment to the total net revenue** figure has **steadily risen**, increasing from 2.8% in 2016 to 32.1% in 2022. Contrarily, the share of the combustible segment of the firm's total net revenues has constantly decreased, declining from 97.2% in 2016 to 67.9% in 2022.

- Geographic Distribution

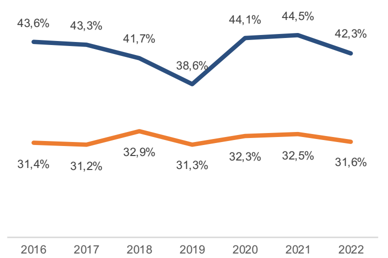
In regard to the **geographic distribution**, the **European Union** region has been the **major contributor** of PMI's total net revenues every year since 2016, with its share increasing from 30.6% in 2016 to 38.2% in 2022. Conversely, in 2022, the region that has **least contributed** to the firm's total net revenues is the **Americas** region, at 6.0%, while in 2016, the **Eastern Europe** region was the least representative at 9.3%.

For the historical period, only two out of the six regions, the **Middle East & Africa** and the **Americas**, showed **negative** total net revenue **CAGR's** of -2.4% and -6.5%., with the other regions either maintaining (S&SA) or growing (EU, EE, EA&A) their revenue level. The negative CAGR's registered by these two regions are heavily influenced by the severe revenue decline both suffered in 2020. Pandemic-related lockdown measures, travel restrictions and bans on tobacco sales in certain countries, resulted in lower adult smoker average daily consumption in both regions. Moreover, the Americas region, also demonstrated a significant revenue decrease in 2019 (-27.8%) mainly caused by the deconsolidation of PMI's Canadian subsidiary and related unfavourable effects.

In 2022, the European Union and East Asia & Australia regions reported the **highest proportions** of **net revenues** derived **from smoke-free products**, with 40.5% and 58.3%, respectively. Contrarily, the South and Southeast Asia and Americas region registered the lowest proportions, with 0.5% and 5.2%, respectively.

Profitability

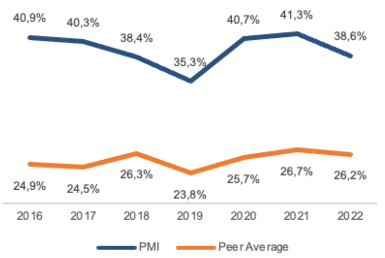
Figure 11: Evolution of PMI's and peers' average EBITDA margin.



Source: Company Reports/Bloomberg

PMI's **EBITDA and EBIT margins** have shown some variability across the historical period. From 2016-2019, there was a continuous decrease, while, in 2020 and 2021, the company saw increases, but the margins declined again in 2022. It is important to note, however, that these fluctuations were mostly minor, with the EBITDA and EBIT margins slightly decreasing from 43.6% and 40.9%, in 2016, to 42.3% and 38.6%, in 2022, respectively. In 2019, PMI suffered its most significant EBITDA and EBIT margins decreases of -3.2% and -3.1%, respectively, as the company's

Figure 12: Evolution of PMI's and peers' average EBIT margin.



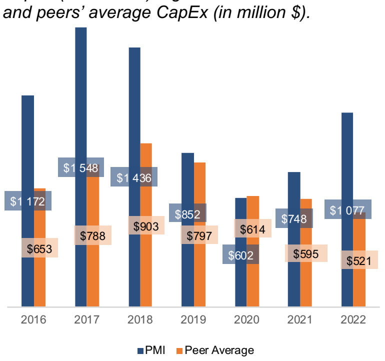
Source: Company Reports/Bloomberg

marketing, administration and research costs for that year included $1.2 billion of exceptional charges. More specifically, the firm's profitability was affected by asset impairment and exit costs relating to PMI's organizational design optimization, a loss on the deconsolidation of its Canadian subsidiary, litigation-related expenses and an excise and VAT audit charge on a Russian affiliate. Nonetheless, given the extraordinary nature of these charges, in the subsequent year, 2020, the company was able to recover and return to its higher 2016 profitability levels, registering its most substantial increase in EBITDA and EBIT margins of 5.5% and 5.3%, respectively.

When comparing **PMI**'s EBITDA and EBIT margins with those of its peers, we observe that the company has **consistently outperformed the market**, registering **higher margin levels**. We associate PMI's comparatively higher operational efficiency to two main factors. On one hand, PMI's larger market presence and size, allows it to have enhanced economics of scale, which drive increased cost efficiencies. On the other hand, as the leading international enterprise in the industry and given its long history, PMI has built a very robust brand equity, exemplified by its *Marlboro* brand, enabling it to be less dependent on marketing and advertising costs.

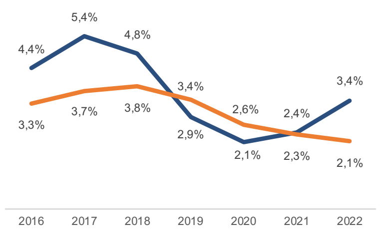
Capital Expenditures

Figure 13: Evolution of PMI's and peer average CapEx (in million $).Figure 13: Evolution of PMI's and peers' average CapEx (in million $).



Source: Company Reports/Bloomberg

Figure 14: Evolution of PMI's and peer average CapEx/Net Revenue ratio.Figure 14: Evolution of



Source: Company Reports/Bloomberg

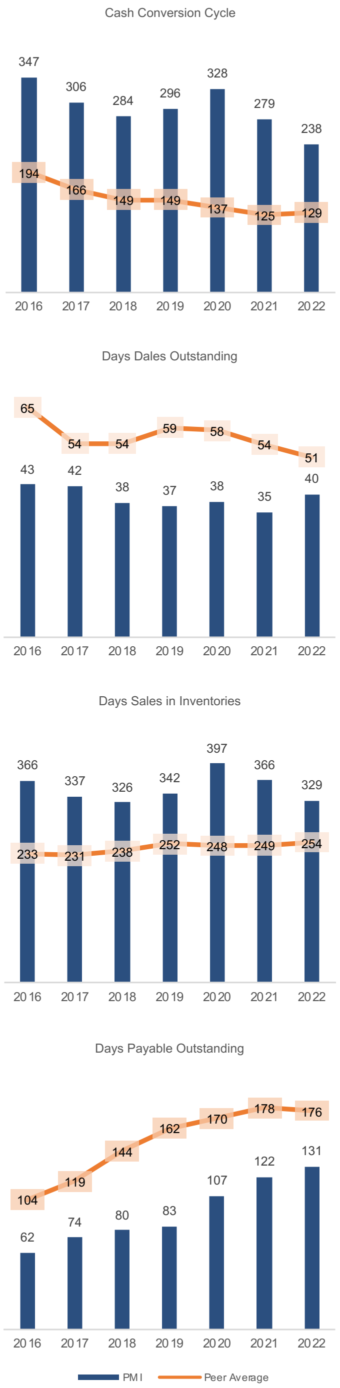
In terms of **capital expenditures**, PMI has **demonstrated fluctuations** in its capital deployment decisions. In 2017, the company's capital expenditures increased, followed by a continuous decrease from 2018-2020 and, thereafter, a rise in 2021 and 2022. Although there was a slight decline in 2018, PMI's CapEx figures throughout 2016-2018 remained relatively high, in order to support the expansion of the heated tobacco unit production capacity. Subsequently, in the 2019-2021 period, the firm's capital expenditures were lowered below the $1 billion mark, as a result of PMI's optimization efforts of its manufacturing infrastructures, which allowed the company to enjoy increased production efficiencies. Moreover, during this period, PMI has also more effectively leveraged its traditional tobacco infrastructures to integrate the production and commercialization of its heated tobacco segment. In 2022, the CapEx value increased to, approximately, $1.1 billion, associated with investments in smoke-free product manufacturing capacity, possibly to accommodate for the integration of Swedish Match's portfolio.

The **CapEx/Net Revenue ratio** precisely reflects PMI's increased efficiency across the historical period. From 2016-2018, this ratio ranged from 4.4% to 5.4%, however, since 2018, its value stabilized below 3%, only climbing to 3.4% in 2022.

As such, this **decreasing trend** may be indicative of PMI increasing, over the years, the efficiency of capital deployment in generating revenue.

Although PMI's CapEx/Net Revenue ratio has been decreasing over time, when **compared with its peers**, in 2022, the firm presented the **highest ratio**, at 3.4%, while the competitor average stood at 2.1%. We believe this difference is linked to PMI's ambitious expansion plans, aiming to development its competitive position in the infant oral smokeless and the underdeveloped heated tobacco sectors, which requires initial increased investment efforts. From our perspective, the higher ratio showcases PMI's goal of gaining a competitive edge by introducing its novel products in markets where these industries are absent or underdeveloped ahead of its peers.

Figure 15: Evolution of PMI's and peer average Cash Management metrics.



Source: Company Reports/Bloomberg

Cash Management

Throughout the historical period, it is noticeable that **PMI** has been determined in **improving its operational efficiency** as reflected by its **cash conversion cycle** (CCC), which decreased from 347 days in 2016 to 238 days in 2022. Although PMI has undergone positive changes, it still falls behind its peers, whose CCC values were all equal to or below 150 days, in 2022.

PMI has managed its **average collection period** more efficiently than its competitors, with values remaining fairly stable across the years, ranging from 35 to 43 days, while the peer group reported an average days sales outstanding (**DSO**) of 56 days.

In contrast, the company's days sales in inventory (**DSI**) have historically been **relatively higher** than of its peer group, with **average holding periods** of 352 days and 244 days, respectively. We believe the COVID-19 pandemic and its effects, such as supply chain disruptions and lower-than-expected average daily tobacco consumption, led to a build-up of PMI's inventory levels and, consequently to a higher holding period, in 2020. Since then, the firm has been able to handle its product stock more effectively and DSI have returned to its general downward trend, characterized by a decrease from 366 days in 2016 to 329 days in 2022.

In relation to **days payable outstanding** (**DSO**), this metric has **increased every year** of the historical period, rising from 62 days in 2016 to 131 days in 2022. This increase approximates PMI to the peer mean of 176 days in 2022 and can be mainly associated with extended payment terms from vendors, effective use of the firm's strong bargaining power over its suppliers and because of higher IQOS device purchases, which the company outsources. Nevertheless, in our view, PMI still has

Figure 16: Evolution of PMI's and peer average Cash, Current and Quick Ratios.

Source: Company Reports/Bloomberg

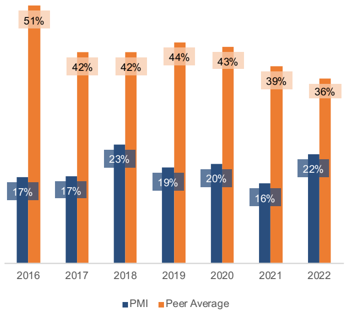
room to improve its efficiency in cash management to consolidate its competitive position within the industry.

Liquidity

From a **liquidity** standpoint, it is important to analyse the performance of the company's **cash**, **current** and **quick ratios**. All these ratios have shown a similar trend throughout the historical period, characterized by a **considerable increase in 2017** and an **overall deterioration since then**. The 2017 rise was mainly caused by a significant increase in PMI's cash and cash equivalents, related to higher proceeds from long-term debt issuances, and to a brief reduction in the company's current liabilities. The most relevant decreases in these ratios were registered in 2021 and 2022. On one hand, the 2021 drop was related primarily to a decline in the company's cash due to its 2021 acquisitions, higher dividend payments and share repurchases. On the other hand, the 2022 decrease was mainly caused by the surge in PMI's current liabilities for that year associated with the higher borrowings taken on by the company to acquire Swedish Match and an increase in its accrued liabilities.

In comparison with its peer group, with the exception of 2021 and 2022, PMI has historically presented cash, current and quick ratios relatively **in line with its competitors**, often staying above industry benchmarks. In 2021 and 2022, PMI's liquidity was affected mainly by its acquisitions, as explained previously. Notwithstanding, throughout the historical period, the peer group's cash, current and quick ratios averaged 0.21, 1.00, and 0.45, respectively, while PMI reported respective mean ratios of 0.32, 1.05 and 0.49.

Figure 17: Evolution of PMI's and peer average market Debt-to-Equity.

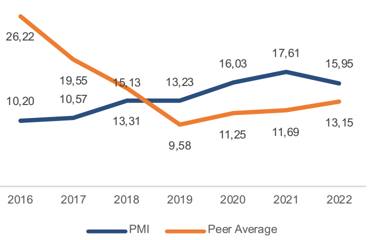


Source: Company Reports/Bloomberg

Solvency

PMI's **market Debt-to-Equity** has been **relatively steady** from 2016 to 2022, ranging between 15.9% and 21.6%. It is important to note that, throughout the report, we considered the total book value of financial debt to be a fair proxy of its respective market value. The only significant deviations that occurred throughout this time frame were in 2018, coinciding with a significant decline in the company's market capitalization resulting from an overreaction of public perception to lower-than-expected revenue growth, and in 2022, when the firm substantially increased its debt levels to acquire Swedish Match. Nonetheless, when **comparing with the peers'** average D/E, PMI has continuously maintained **considerably lower D/E values**. Moreover, the firm's **interest coverage ratio** shows an overall **rising trend**, increasing from 10.20 in 2016 to 15.95 in 2022. We recognize that this figure underscores PMI's healthy position regarding the payment of its interest costs, as

Figure 18: Evolution of PMI's and peer average Interest Coverage Ratio.



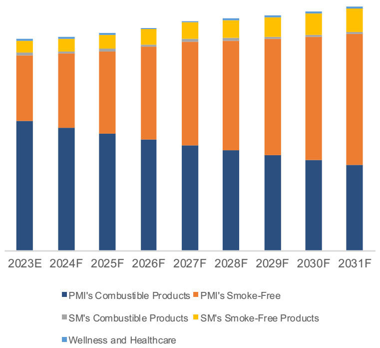
Source: Company Reports/Bloomberg

well as when comparing to its peers whose interest coverage ratio stood at 13.2 in 2022.

Forecasting Assumptions

Revenue Model

Figure 19: Evolution of PMI's Net Revenues from 2023 to 2031.



Source: Analyst Estimates

To predict future net revenue levels, a **top-down approach** was conducted. Revenue was segmented into **two primary categories**: those originating from Philip Morris International (**PMI**) and those associated with Swedish Match's (**SM**) business. Considering that SM was only integrated into PMI in the latest quarter of 2022, we have decided to distinguish between PMI and SM revenues for the identification of trends specific to each entity's product range. In addition, within this categorization, a **further breakdown** was undertaken separating PMI's and SM's revenues into **two subcategories**: revenues derived from **combustible products** and those originating from **smoke-free products**. This enables granular examination of revenue sources, aiding in the assessment of evolving consumer preferences and market dynamics within these specific product categories.

Apart from the abovementioned, revenues originating from the Wellness and Healthcare business were also forecasted.

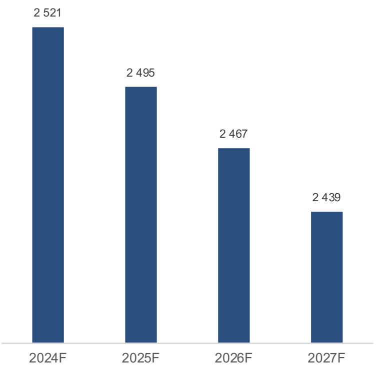
The forecast method was based on two main variables: market size in retail volume terms and market share projections. We acknowledge that tobacco product prices are likely to not remain constant in the future, mainly because of increased regulation, rising living standards, inflation, and other factors. Nonetheless, our projections rely on future consumption levels for two main reasons:

- Firstly, evidence has shown that, throughout time, when compared with other consumer goods, tobacco products are relatively **inelastic**, primarily due to their addictive nature. Price elasticity of demand for cigarettes has been estimated around -0.4 for high-income countries (a 10% increase in price results in a 4% decrease in consumption levels) and between -0.6 and -0.2 for middle-to-low-income countries. For example, in South Africa, between 1991 and 2016, cigarette net-of-tax prices increased by 245%, which resulted in a reduction in consumption of only 43%[1]. Therefore, even though price changes may impact consumer behaviour to some extent, their impact is limited.
- By considering the projections on future retail volume levels made by Euromonitor/Passport, the potential price fluctuations on consumption are being

[1] Blecher, E. (2019). *The economics and control of tobacco, alcohol, food products, and sugar-sweetened beverages.* Reducing Social Inequalities in Cancer: Evidence and Priorities for Research

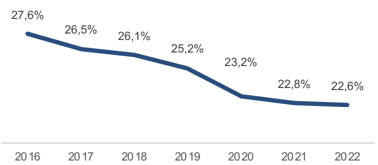
incorporated in the estimates, providing a more accurate and holistic measure to forecast Philip Morris International's net revenue outlook.

Figure 20: Projections of the retail volume of cigarettes (excluding U.S. and China, in billion sticks)



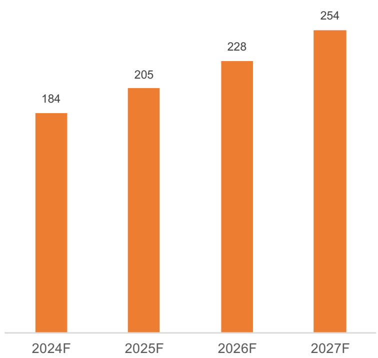
Source: Euromonitor/Passport

Figure 21: PMI Cigarette Global (excluding U.S. and China) Market Share (in %)



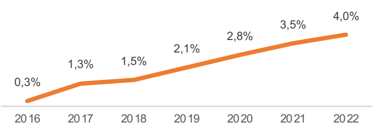
Source: Euromonitor/Passport/Company Reports/Analyst Estimates

Figure 22: Projections of the retail volume of heated tobacco sticks (excluding U.S. and China, in billion sticks)



Source: Euromonitor/Passport

Figure 23: PMI Heated Tobacco Units Global (excluding U.S. and China) Market Share (in %)



Source: Euromonitor/Passport/Company Reports/Analyst Estimates

- Philip Morris International

To develop the forecast of Philip Morris International's net revenues, we first considered the global projections made by Euromonitor/Passport on cigarette consumption and their estimates for heated tobacco stick consumption for the 2024-2027 period. This decision is due to cigarettes and heated tobacco sticks **representing most** of PMI's combustible and smoke-free volume sales, respectively, and, as such, their future consumption trends will dictate the company's product segment net revenues. Subsequently, the CAGR associated with these projections was adjusted according to how we believe PMI's market share will fluctuate in the future.

For the 2024-2027 horizon, Euromonitor/Passport anticipates a decline in global consumption of cigarettes at a CAGR of -1.1%. Due to PMI's strategic shift to build a smoke-free future, its **cigarette** market share has continuously declined throughout the historical period, decreasing from 27.6% in 2016 to 22.6% in 2022. Even though the company states that it seeks to maintain its international leadership position in the combustible tobacco market, **we believe** that the tendency for **PMI's market share** is to **further deteriorate** mainly due to two main factors:

- Their combustible product portfolio is tilted towards premium-priced brands which in periods of stricter regulatory and/or economic uncertainty suffer more heavily. This is because consumers tend to opt for low-priced alternatives offered by competitors during such times.
- PMI is suffering and will continue to suffer from the cannibalization phenomenon, reflected by the consistently increasing number of users who have switched to smoke-free alternatives, mainly *IQOS*. This metric has increased from 0.1 million users in 2015 to 19.7 million users as of the third quarter of 2023.

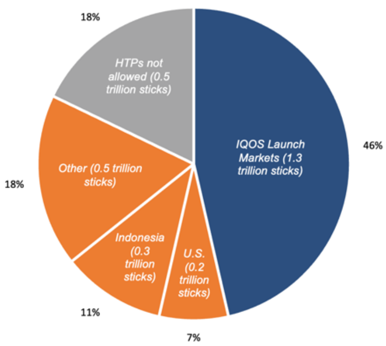
Taking this into consideration, to better reflect the expected decrease in PMI's cigarette market share, we assumed that its **combustible product** net revenues will shrink at a **CAGR** of **-5.0%** from **2024 onwards**.

According to Euromonitor/Passport estimates, the consumption of heated tobacco sticks is expected to rise at a CAGR of 11.3% throughout 2024-2027. PMI's investment efforts in the development and commercialization of smoke-free alternatives have resulted in a significant heated tobacco market share increase throughout the historical period, from 0.3% in 2016 to 4.0% in 2022. For the 2024-

2027 period, **we believe** the company's **heated tobacco market share** will **continue** its **expansion trend** for several reasons:

- As the company continues to heavily invest in the **global rollout** of ***IQOS ILUMA***, its innovative addition to the heated tobacco portfolio, it will be able to drive further growth both in markets where *IQOS* is already commercialized, as well as in markets where it has not yet been launched.

Figure 24: Cigarette and Heated Tobacco Units 2022 Industry Volume



Source: Company Reports

- *IQOS* is currently commercialized in only 46% of the cigarette and heated tobacco market, with 18% of it being inaccessible because of prohibitions on the sale of HTUs, which leaves **36% of the market still untapped**. By 2024, PMI will be launching its *IQOS* products in the **U.S**. which represents the **largest nicotine market by value** and where the company will be able to sell its blade products under a **modified risk claim**. Additionally, PMI will further expand their presence in this geography when the *IQOS ILUMA* receives its FDA authorization, which is anticipated to happen closer to 2026. Moreover, the company is already piloting *IQOS* in **Indonesia**, a very attractive geography due to its potential for being one of the largest cigarette markets by volume (300 billion units, in 2022). Besides these countries, given PMI's consistent track record of introducing *IQOS* products in new regions every year, we anticipate the company to continue this strategic approach, expanding in additional markets in the future.

Figure 25: Advertising Campaigns for new IQOS variants

Source: Company Reports

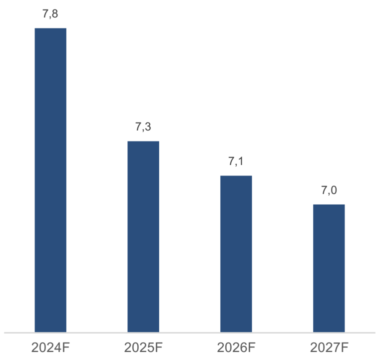
- The company anticipates a **diversification** of its ***IQOS* product portfolio**, including new offerings like *TEREA*, a selection of tobacco flavours, *DELIA*, a low-priced option akin to *TEREA* and *HEETS*, and *LEVIA*, a zero-tobacco heat stick. In our opinion, these new products will allow PMI to broaden its customer base and satisfy the different needs of consumers. More specifically, *DELIA* will attract smokers to whom affordability might be an issue, while *TEREA* will enable current and new *IQOS* users to experience a wider variety of real tobacco flavours. Lastly, *LEVIA* was purposely designed not only to attract consumers who wish to stay away from the tobacco substance, but also to potentially avoid certain flavour regulations and have levied taxation.
- As a leading cigarette manufacturer with an extensive worldwide presence, PMI has gained significant **expertise** in **manufacturing** and **regulatory** matters. Furthermore, the company has developed a sound **commercial** and **distribution infrastructure** for its traditional tobacco business. These attributes will ease the introduction of heated tobacco products in the new markets. Moreover, PMI's **brand reputation**, as well as its increasing investment to build the *IQOS* brand and superior respective consumer engagement will boost conversion rates and customer acquisition.

As such, to account for the expected expansion in heated tobacco market share, we assumed that from **2024-2027**, PMI's **smoke-free net revenues** will **grow** at a higher **CAGR** of **13.0%**. From **2028 onwards**, a **lower CAGR** of **6.5%** was assumed as we believe that in the longer term, peer action and their strategic response will affect PMI's performance.

- Swedish Match

Swedish Match's smoke-free portfolio is composed of nicotine pouches, snus, moist snuff, chewing tobacco products, and lighters, while cigars are its sole combustible product. Similarly to the forecast process of PMI's net revenues, firstly we considered projections made by Euromonitor/Passport on U.S. cigar consumption and their global estimates for nicotine pouch consumption for the 2024-2027 period. The reasoning behind this rationale is that, on one hand, SM's combustible products **only comprise cigars** and, on the other hand, **nicotine pouches** represent the **most contributing product subsegment** for the company's smoke-free volume sales. Thereafter, the CAGR suggested by Euromonitor/Passport's forecasts was adjusted to reflect our expectations regarding market share fluctuations.

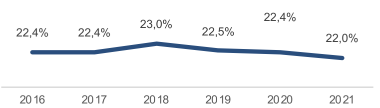
Figure 26: Projections of the retail volume of Cigars in the U.S. market (in billion units)



Source: Euromonitor/Passport

Euromonitor/Passport projects the U.S. cigar market volume to register a negative CAGR of -3.5% from 2024 up until 2027. SM's cigar business is present **solely in the U.S.**, where the company holds the second position for mass market cigars (excluding little cigars). From 2016-2021, the company reported a relatively stable market share with minor fluctuations, ranging between 22.0% and 23.0%. Given the stability in SM's past market share and, considering PMI's intention to simultaneously maintain their established position in combustibles and potentiate the smoke-free segment growth, **we believe** SM's **market share** in the **cigar** market will remain **constant**. Therefore, to account for this expectation, we assumed that SM's **combustible product** net revenues will **shrink** at the same rate of the industry's retail volume, corresponding to a **CAGR** of **-3.5%**.

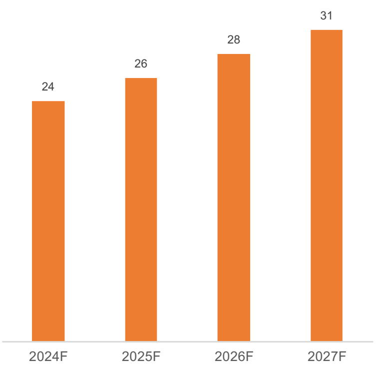
Figure 27: SM cigar Market Share in the U.S. Market (in %)



Source: Company Reports

In accordance with Euromonitor/Passport, the consumption of nicotine pouches is anticipated to rise at a CAGR of 9.1% from 2024 to 2027. **SM** is one of the **leaders** in both the U.S. and Scandinavian nicotine pouch markets, holding first and second position, respectively. Additionally, the company is also active in some European countries where market potential has **not been fully unlocked yet**, as the nicotine pouch market is still in its **early stage** of development. Due to the global nicotine pouch industry still being in its infancy, there is a lack of information regarding company market shares. Nonetheless, we believe that the following factors will determine the size and growth prospects of SM's smoke-free products:

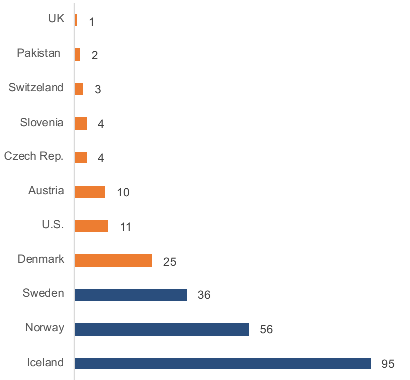
Figure 28: Projections of the retail volume of nicotine pouches (in billion units)



Source: Euromonitor/Passport

- SM's oral smokeless portfolio, now a constituent of PMI's smoke-free portfolio, has gained an important role in the achievement of PMI's mission to deliver a smoke-free future. The company is focused on improving its market position within the rapidly growing nicotine pouch market, mainly through its *ZYN* brand. As such, similar to the heated tobacco segment, PMI's infrastructures, commercial footprint, capabilities, and overall operational engine will facilitate SM's nicotine pouches' penetration and, consequently, potentiate their growth.

Figure 29: Nicotine Pouch average yearly consumption in selected geographies per legal age nicotine user (cans per year)



Source: Company Reports

- Although SM has a **significant presence in the U.S.**, this geography, like the global nicotine pouch market, is **still underdeveloped**. This is reflected by comparing the yearly average consumption of nicotine pouches between the U.S. and other established markets. In this region, where *ZYN* has only been commercialized nationwide since 2019, the yearly average consumption rate is of 11 cans per legal age nicotine user. When comparing this metric with Iceland, which does not have a long oral tobacco tradition and has a considerably smaller market size, the average consumption is more than eight times higher (95 cans). Pairing the *ZYN* brand equity already established by SM in the U.S. with the early state of this product in that market, we believe this region is considered the **main short-to-medium-term growth opportunity** for the oral smokeless product segment. In fact, PMI is planning, for the 2024-2026 period, to take action to exploit the potential of such opportunity. Therefore, we believe this factor will enhance overall SM's nicotine pouch growth.
- As of November 2023, SM's nicotine pouches were only currently being commercialized in a total of 30 countries, leaving **a considerable share of the global market unexplored**. Several considerable growth opportunities reside within this untapped potential, for instance, India and Pakistan. These countries have both a long tradition of oral tobacco use and represent some of the biggest nicotine markets in the world. For the medium-to-long-term, PMI anticipates to capitalize on these international opportunities, having already established the goal to **launch/re-launch SM's nicotine pouches** in a total of **40 additional markets** from 2023 onwards. To put in perspective, if we assume that PMI is able to achieve in its top-20 markets the market penetration/consumption levels equal to the underdeveloped U.S. market (11 cans per year), this would result in an additional retail volume of 50 billion cans. When compared with the current retail volume of 0.3 billion, this represents a substantial increase.

As previously mentioned, the nicotine pouch market is still in its early stages of global development, which results in past company market share information referring to a small period of time and having limited accuracy. This makes it difficult to precisely forecast SM's products' market share within the nicotine pouch industry.

Based on the points we presented previously, **we believe** the **outlook** for **SM**'s within the industry is **very positive**. Notwithstanding, to take into consideration the potential entry of new players and the possibility of PMI's competitors reacting, we take a **conservative approach** and assume SM's **smoke-free** net revenues will **grow** at the rate of the industry, equal to a **CAGR** of **9.1%**.

- Wellness and Healthcare

Despite the growth demonstrated between 2022 and 2023, PMI stated that it is focused on reprioritizing its strategy and resource allocation to capitalize in opportunities arising in the smoke-free product markets, mainly related to *IQOS* and *ZYN*. After unsuccessful clinical trials, slower-than-expected development of products and several controversial episodes related to Vectura Fertin Pharma, PMI decided to abandon the $1 billion target for healthcare business in 2025. Moreover, in its 2023 Investor Day report, the company stated that it expects **limited growth in Wellness and Healthcare segment's net revenues** and no increase in its investment levels. As such, we assumed that net revenues tied to the Wellness and Healthcare business segment would not present any future growth and are kept constant at the 2023 net revenue level of $322.8 million.

Operating Costs

PMI with its long history in the international tobacco industry has been able to enjoy economies of scale in the production of its traditional tobacco products. As the company invests in the novel smoke-free alternatives, specifically *IQOS* heated tobacco products and *ZYN* nicotine pouches, the company's gross margin is expected to amplify. The **cost of sales** associated with the abovementioned products has not been fully optimized yet, causing them to be higher when compared with cigarettes. Nonetheless, *IQOS* and *ZYN* bring in relatively higher revenue values in comparison to cigarettes. As a result, the gross margin associated with the smoke-free offering is considerably higher than that of PMI's flagship combustible product. As smoke-free alternatives grow as a proportion of PMI's net revenues and given its higher gross margin, we assumed that the cost of sales as a percentage of net revenue would decrease by 0.25% each year, from 2024 to 2027. From 2028 onwards, as the company starts to generate cost efficiencies, we believe that such metric will decrease by 0.75% each year of the remaining forecasting period.

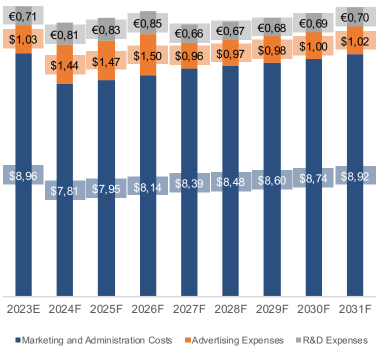
Figure 30: Evolution of PMI's cost of sales (in billion $).

Source: Analyst Estimates

PMI's **marketing, administration and research costs** are split between three primary categories: marketing and administrative costs, advertising expenses and research and development (R&D) expenses. Historically, marketing and administrative expenses were the most significant component of the total MAR figure, averaging 83,8% of the total value.

The **marketing and administration costs** comprise marketing costs (excluding advertising) and selling, general and administrative costs. Although PMI has been subject to increasing regulation on its marketing activities, the company still operates in several countries where these restrictions are not as strict or are ineffectively employed. Thus, it is hard to claim if these marketing expenses will be reduced anytime soon. Selling, general and administrative costs are expenses that, while may not be directly attributable to the production of goods are necessary to maintain the company's day-to-day operations. In fact, a large portion of these costs tends to be of fixed nature since it encompasses items such as rental expenses and executives' wages. Considering that marketing and administration costs remained stable in relation to net revenues throughout the historical period, at 21.4%, and that they are, in their majority, related to the company's operations we forecasted that they will maintain this ratio in the future.

Figure 31: Evolution of PMI's marketing, administration, and research costs (in billion $).



Source: Analyst Estimates

PMI's *IQOS* and *ZYN* future growth plans lead us to believe that the firm will increase its **advertising spending** in the short-term, aiming to capture consumers' attention. Therefore, from 2024 to 2026, we project an increase in advertising expenses as a percentage of net revenues by 1.5% from their 2022 level, reverting to their average historical ratio of 2.4% by 2027 and steadying thereafter.

In the last three years, PMI has dedicated 99% of its **R&D expense** to the smoke-free product portfolio. We believe that in the future R&D spending will stay committed to the smoke-free business as the company has stated they do not intend to further invest in the Wellness and Healthcare business. A critical factor for the success of PMI's smoke-free transformation and planned expansion is to be able to provide proof to regulatory authorities and the public that these products are actually of reduced risk. For that purpose, the company actively seeks to get authorizations for modified risk claims from regulators and is continuously innovating and testing its products to access more markets. Given this and the fact that R&D expenses as a proportion of net revenues have steadily increased in the last 5 years, it is forecasted that this proportion will gradually increase by 0.2% per year in the 2024-2026 period, reaching 2.6% in 2026. From 2027 onwards, this ratio will be kept at the historical average of 1.7% as the company strengthens its position in the new markets.

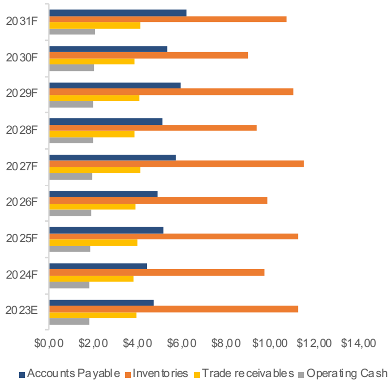
Income Tax

As an U.S. resident corporation, we expect PMI to be taxed at a **corporate rate** of **21%** from 2024 onwards, in accordance with the 2017 Tax Cuts and Jobs Act.

Working Capital

PMI reportedly states that their cash requirements include principal and interest payments on long-term debt, short-term accounts payable and accrued liabilities, purchase obligations for inventory and production costs, and operating lease liabilities. As the company does not present future levels of needed cash, **operating cash** is forecasted at 5% of net revenue, which should suffice to comply with the previously mentioned obligations.

Figure 32: Evolution of PMI's Working Capital Components (in billion $).



Source: Analyst Estimates

The forecasts of **accounts receivable**, **inventories** and **accounts payable** were based on the evolution of DSO, DSI and DPO and its comparison with those of PMI's peers.

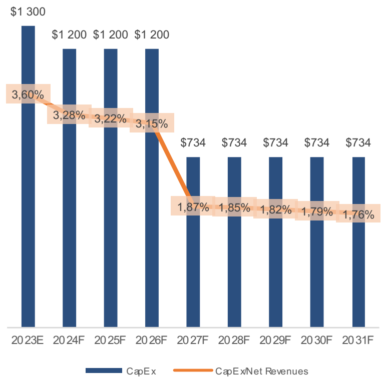
In regard to the average collection period, PMI has historically outperformed its peers with an average DSO of 39 days against a peer average of 56 days. We believe PMI will seek to maintain this comparatively higher efficiency and, thus, assume that DSO will slowly decrease from 2023 onwards, reaching their historical low of 35 days in 2031.

In contrast, PMI handles its inventories less efficiently when compared to its peers. In the past, the company reported an average DSI of 352 days, while the industry's mean was of 244 days. Considering the company's efforts to optimize their supply chain, we expect the recent downward trend in PMI's DSI to continue. As such, we forecast this metric to gradually decrease until 300 days in 2031, which although represents an improvement it still leaves the company falling short of its competitors. Our reasoning behind this lies in the fact that PMI increasingly relies on third-parties to produce its IQOS devices and other product parts, resulting in a more complex supply chain. While outsourcing can offer operational and cost efficiencies, it can also introduce challenges to inventory management and, consequently increase DSI. For instance, in unexpected market conditions, the company may have reduced flexibility and speed in reacting, possibly leading to overstocking.

From 2016 to 2022, PMI has been able to extend its average payable period every year. As of 2022, this metric was equal to 131 days, which was lower than the competitor average of 176 days. Notwithstanding, we believe PMI will be able to further increase its DPO by negotiating extended payment terms through leveraging its strong bargaining power over suppliers. Therefore, from 2023 onwards, we expect the company's average payable period to steadily increase, reaching the 2022 peer average of 176 days by 2031.

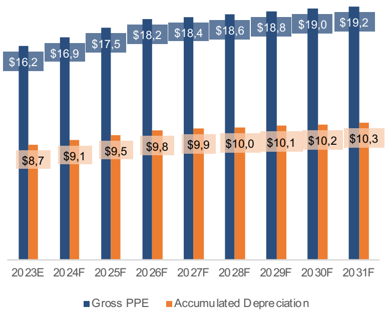
Capital Expenditures

Figure 33: Evolution of PMI's CapEx (in million $) and CapEx/Net Revenues ratio.



Source: Analyst Estimates

Figure 34: Evolution of PMI's Gross PPE and Accumulated Depreciation (in billion $)



Source: Analyst Estimates

PMI is planning on increasing investments behind smoke free product manufacturing capacity, related to its *IQOS* and *ZYN* brands. As we previously mentioned, the company is aiming to simultaneously introduce these products to new regions and foster their growth in underdeveloped markets. The firm disclosed that to support such capacity expansion, CapEx for the 2024 to 2026 period will remain around the 2023 expected level ($1.3 billion), totalling $3.5 – $3.7 billion. This spending will be directed to the **establishment of new manufacturing sites** and the **modernization** and **conversion** of current cigarette production lines to accommodate the new smoke-free products. As such, we forecasted a yearly average of $1.2 billion for the 2024-2026 period. From 2027 onwards, similarly to what occurred in the 2019-2021 period, we expect PMI's efforts to optimize its manufacturing infrastructures to flourish, resulting in CapEx being naturally lowered to the 2019-2021 average.

CapEx is the major determinant of changes in gross property, plant and equipment (PPE). Nonetheless, the value of **gross PPE** can be further influenced by several other factors such as disposals and revaluations. Due to their unpredictable nature, these type of changes in gross PPE were assumed to remain at their historical average for the forecasting period, equal to -$537 million. Bearing this in mind, the final gross PPE figure forecasted for each year, is equal to its beginning level plus estimated capital expenditures and expected value-affecting changes.

Throughout the historical period, the **depreciation expense** as a proportion of gross PPE has maintained a relatively stable figure, averaging 5.9%. As such, it is assumed that, in the forecasting period, this expenditure item will grow in line with the abovementioned historical ratio.

Valuation

Absolute Valuation – Discounted Cash Flow Model

As to reach the intrinsic value of Philip Morris International Inc., as of December 2024, the **discounted cash flow** (DCF) model is employed. We followed this model since it is one of the most commonly used approaches to value companies by practitioners, being considered the most accurate and flexible method and the foundation on which all other valuation approaches are built. Through the DCF model, PMI's enterprise value is estimated by discounting the company's future free cash flows (FCF) at the appropriate cost of capital, the **weighted average cost of capital** (WACC).

The DCF methodology is based on two main time periods: the forecasting period, in our case until 2031, where the firm's expected free cash flows are estimated for each year, and the terminal period, where the company's value is estimated beyond the forecasting period. With regards to the terminal period, the Gordon Growth Model is applied, assuming that PMI's cash flows are reinvested, and that the enterprise **grows at a constant rate in perpetuity**.

- Weighted Average Cost of Capital Assumptions

As mentioned previously, according to the DCF model, the future free cash flows to the firm are discounted by the WACC as it represents the rates of return required by the company's debt and equity holders blended together. The WACC calculation requires four main components: a target debt-to-equity ratio, the cost of equity, the cost of debt, and the corporate tax rate.

In 2022, PMI's market D/E ratio was significantly influenced by the borrowings taken on by the company to realize its acquisition of Swedish Match. Furthermore, the firm's management does not disclose an explicit target capital structure, solely mentioning their intention to deleverage in relation to the prior year. Targeting the current capital structure would be, in our opinion, both inconsistent with PMI's deleveraging plan and potentially prejudicial to the company's credit ratings. In fact, as of November 2023, Fitch revised PMI's long-term issuer default rating from stable to negative, ultimately, as a consequence of the higher 2022 debt burden. We believe that it is important for the company to return to its pre-acquisition D/E levels as a downgraded credit rating can potentially impair PMI's ability to raise future debt at attractive conditions. As such, we assumed that the firm will **target** a **D/E ratio** equal to its average capital structure for the past three years, equal to 20.0%.

Figure 35: Cost of Equity by components

Risk-free Rate	4,04%
Market Risk Premium	5,00%
Levered Beta	0,29
Cost of Equity	7,43%

Source: Analyst Estimates/FRED.com/Damodaran

The **cost of equity** was computed through the capital asset pricing model (**CAPM**), the most widely used risk and return model, which establishes a relationship between the risk and expected return by an investor using three key variables: the risk-free rate, the market risk premium and the beta of equity (systematic risk measure).

As for the **risk-free rate**, we assumed it to be equal to the yield on a 10-year U.S. government bond, which, according to FRED's databse, at 13/12/2023, was **4.04%**, given that it is denominated in the same currency as the cash flows. Although no asset is fully free from risk in real capital markets, U.S. government bonds are commonly considered as such since they are backed by the country's government, have a low risk profile and high liquidity.

The **market risk premium** was established at **5.00%**, which corresponds to the estimate provided by Professor Aswath Damodaran on his database of country risk premiums, updated on July 2023, on the U.S. equity risk premium.

In relation to the equity beta (levered), which is a measure of systematic risk, in other words, how a company's stock price responds to movements in the overall market, we estimated it through two approaches.

The first approach was the **regression method**, in which PMI's weekly stock returns were regressed against the returns of the **MSCI World index** (in USD) for a period of 3 years, with the slope of the regression being the beta. Given PMI's geographical presence and market exposure, the MSCI World index was considered as a proxy for the market portfolio due to it encompassing a broad range of developed market equities from various industries and from various countries, unlike a regional index. With regards to the time frame chosen, we compared the betas resulting from regressions done on 10, 7, 5, 3 and 2-year periods and verified that there was a noticeable difference between the 10, 7, and 5-year betas to the 3, and 2-year betas, which could be explained from the changes in PMI's business across time. As such we decided to opt for the 3-year beta, as to better reflect the risk associated with PMI's current business strategy. In addition, for the return interval, we chose weekly returns which have the advantage of yielding more observations than longer return intervals. However, this choice comes with the non-trading problem: the fact that assets do not trade on a continuous basis, and when there is non-trading on the asset, the beta estimated can be affected. The beta resulting from this regression method is equal to 0.68, having a 95% confidence interval of [0.50,0.86], which using the average 3-year PMI capital structure (D/E ratio of 20.03%) results in an unlevered beta of 0.59.

The second approach was the **peer group method**, which attains an unlevered beta by averaging the unlevered betas of PMI and its peers. The peer group considered is composed of Japan Tobacco Inc., British American Tobacco and Imperial Brands PLC. In order to compute the unlevered betas of each company, the regression method was applied, regressing each company's weekly stock returns on the MSCI World index returns for a 3-year period, and unlevering these betas by each company's 3-year average capital structure. The resulting average unlevered beta is equal to 0.38.

For the final computation of the cost of equity, the beta derived from the second approach was excluded due to being considered too low, influenced by Japan's low unlevered beta. Therefore, the regression beta, when relevered by applying PMI's target capital structure results in a **beta value** of **0.68**. Consequently, the **cost of equity** derived from employing the three estimated variables corresponds to **7.43%**.

Figure 36: PMI's Credit Ratings

	Long-term	Outlook
Moody's	A2	Stable
S&P	A-	Stable
Fitch	A	Negative

Source: Company Reports/Fitch/Moody's/S&P

PMI's **cost of debt** was computed through a **default spread approach**. Given PMI's most recent credit ratings of Moody's, S&P and Fitch, the corresponding

Figure 37: Cost of Debt by components

Risk-free Rate	4,04%
Default Spread	1,00%
Before-tax Cost of Debt	5,04%
Tax Rate	21,00%
After-tax Cost of Debt	3,98%

Source: Analyst Estimates/FRED.com/Damodaran

Figure 38: Estimated default spreads by credit rating

Moody's rating	Fitch Rating	Default spread (bps)
Aaa	AAA	0
Aa1	AA+	25
Aa2	AA	50
Aa3	AA-	70
A1	A+	85
A2	A	100
A3	A-	115
Baa1	BBB+	150
Baa2	BBB	175
Baa3	BBB-	200
Ba1	BB+	240
Ba2	BB	275
Ba3	BB-	325
B1	B+	400
B2	B	500
B3	B-	600
Caa	CCC	700
Ca	CC	850
C	D	1,000

Source: Modified from Damodaran (2012)

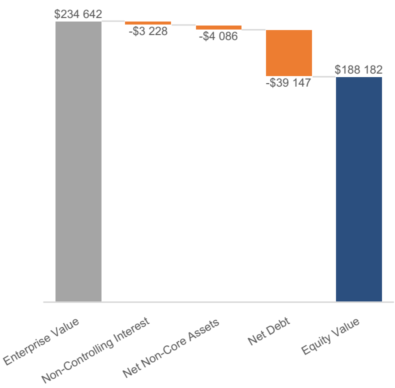
Source: Damodaran

Figure 39: Final WACC computation

D/V Target	16,69%
E/V Target	83,31%
Target D/E	20,03%
Cost of Equity	7,43%
After-tax Cost of Debt	3,98%
WACC	6,86%

Source: Analyst Estimates

Figure 40: Equity Bridge: From Enterprise Value to Equity Value (in million $)



Source: Analyst Estimates

default spread was derived according to Damodaran (2012), equivalent to 100 basis points. Applying the risk-free rate previously established for the cost of equity, the before-tax cost of debt equals 5.04%. When considering the U.S. corporate tax rate of 21%, the after-tax cost of debt totals **3.98%**.

Having gathered all the needed inputs for the **WACC** calculation, its final value was derived at **6.86%**.

- ### Implied Share Price

In order to reach the enterprise value of PMI's core operations, the unlevered core future free cash flows were discounted by the WACC, as well as to obtain the company's terminal value. The terminal growth rate (g) employed in the Gordon Growth Model corresponds to Goldman Sachs's prospect on the long-term (2070-2079) world real GDP growth rate, at 1.70%. We chose this global growth rate due to PMI's extensive international presence, covering more than 180 markets, which exposes it to changing macroeconomic conditions on a global scale.

Aggregating the sum of the discounted FCF of the forecast period and the present value of the terminal value, one reaches an **enterprise value** (EV) of $234.6 billion. To calculate the equity value, which will be used to compute the market value of one PMI share, **Net Debt** ($39.1 billion) and **Non-controlling Interests** ($3.2 billion) are subtracted from the EV and the **Net Non-core Assets** (-$4.9 billion) are added to this figure. By dividing the equity value by the total number of shares outstanding (1552 million), an intrinsic share price of **$121.25** is attained, as of December 2024.

Given the current share price of $94.70, as of Dec. 15 2023, and an estimated cash dividend of $5.38, the DCF's implicit share price corresponds to a **total expected return** of approximately **33.7%**, with capital gains of 28.0% and a dividend yield of 5.9%. Solely considering the DCF valuation, this expected return leads us to issue a **BUY** recommendation for PMI's stock.

- ### Sensitivity Analysis

The discounted cash flow valuation methodology hinges on several critical assumptions. Therefore, we performed a **sensitivity analysis** to assess the impact of different key input adjustments on PMI's stock valuation. By doing so, we are able to test the reliability of our model, while identifying which indicators have the most significant influence on its outcome and which are less relevant.

We developed two main sensitivity analyses. The first tested the influence of **changes** in the **raw equity beta** and **the default spread** on the **WACC**. This analysis enabled us to define an adequate WACC range for the second sensitivity assessment, which depicts how PMI's **share price** varies relative to **adjustments** in two pivotal assumptions of the DCF: the **WACC** and the terminal growth rate (***g***).

Figure 41: Results of first sensitivity analysis: Raw Equity Beta and Default Spread on WACC.

		Default Spread				
		-36%	-15%	0%	12%	21%
PMI 3y Reg. Beta		0,39%	0,80%	**1,00%**	1,20%	1,70%
-36%	0,50	6,03%	6,09%	**6,11%**	6,14%	6,21%
-15%	0,59	6,41%	6,46%	**6,49%**	6,51%	6,58%
0%	**0,68**	**6,78%**	**6,83%**	**6,86%**	**6,88%**	**6,95%**
12%	0,77	7,16%	7,21%	**7,24%**	7,26%	7,54%
21%	0,86	7,53%	7,59%	**7,61%**	7,64%	7,71%

Source: Analyst Estimates

Regarding the first analysis, we assumed that the raw equity beta could take values in the range of [0.50; 0.86]. This interval corresponds to the 95% confidence interval obtained from regressing PMI's weekly stock returns against the returns of the MSCI World index for the past three years. Simultaneously, the default spread was assumed to vary in the same magnitude as the raw equity beta, which results in a range of [0.39%; 1.70%]. The choice behind these two key variables lies in the fact that the company possesses some form of control over them, when compared with other inputs. More specifically, we believe that such factors are the ones that PMI could influence through its financing and investment choices. For instance, PMI may have less control over other WACC-impacting components, such as the risk-free rate, the market risk premium and the tax rate due to their macroeconomic nature. Given this, the WACC resulting from our analysis ranges from [6.03%; 7.71%].

Figure 42: Results of second sensitivity analysis: WACC and g on share price

		Terminal Growth Rate				
		12%	6%	0%	-6%	-12%
WACC		1,91%	1,81%	**1,70%**	1,60%	1,50%
-12%	6,03%	$152,49	$148,81	**$145,30**	$142,07	$138,99
-6%	6,44%	$138,07	$135,08	**$132,23**	$129,60	$127,07
0%	**6,86%**	**$126,05**	**$123,60**	**$121,25**	**$119,07**	**$116,97**
6%	7,28%	$115,58	$113,54	**$111,59**	$109,77	$108,01
12%	7,71%	$106,64	$104,94	**$103,29**	$101,76	$100,27

Source: Analyst Estimates

In the second sensitivity analysis, the WACC values we considered were the ones attained from the previous assessment. Similar to the previous approach, the interval for the terminal growth rate (*g*) was defined by taking movements of similar magnitude to those reflected in the WACC range. The share price resulting from this analysis ranges between [$100.27; $152.49]. On one hand, holding *g* constant, a 3% change in WACC's value yields an average share price change of $5.1. On the other hand, holding WACC constant, an adjustment of the same magnitude in *g* results in an average share price change of $1.1. As expected, considering that the WACC is applied to discount both the cash flows of the forecasting period and the continuing value, while *g* solely influences the terminal value, the share price is more sensitive to changes in the former than the latter.

Considering the estimated cash dividend of $5.38, the share price resulting from the DCF analysis would have to equal or fall below $98.8 for our BUY recommendation to change. Therefore, it is interesting to note that for the WACC and *g* ranges considered, **such situation would not occur**, confirming the robustness of our BUY recommendation for the spectrums analysed.

- Monte Carlo Simulation

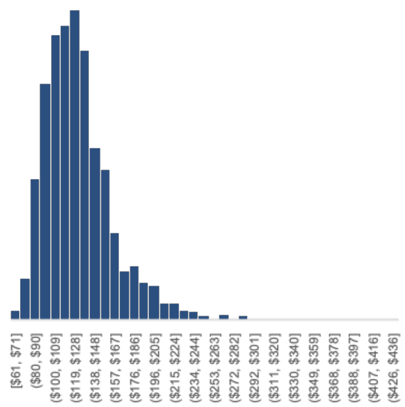
In this section, we conducted a **Monte Carlo simulation** as to complement our discounted cash flow valuation of PMI and to explore possible scenarios not envisioned by our sensitivity analysis. The simulation constitutes a stochastic approach that acknowledges for the uncertainty and variability in financial valuation. Through the Monte Carlo simulation, we generate thousands of possible scenarios, each representing a unique combination of random key input values, which results in a multitude of potential share price outcomes.

The following parameters influencing our final valuation were defined as the most impacting and as, such, integrated in our simulation: the different CAGRs we assumed for the growth of PMI's and SM's net revenues, the decrease we expect in PMI's cost of sales as proportion of net revenues for the 2024-2027 period and the one applied from 2028 onwards, the WACC and the terminal value growth rate. We specified a spectrum of values for each variable which **included estimates** that **we perceive as unlikely to occur** in the future or **inaccurate**. In other words, the Monte Carlo simulation could, for instance, generate a scenario in which: i) PMI and SM fail to experience robust growth in their smoke-free segment; ii) their combustible segments register a positive growth trend, iii) PMI's is unable to expand their gross margins; iv) the firm's WACC rises significantly from our assumed value of 6.86%; v) the terminal growth rate is lower than our expected 1.7%.

Figure 43: Results of randomly selected Monte Carlo simulation.

Max.	$	429,94
Min	$	61,12
Mean	$	127,70
St. Dev.	$	34,68

Frequency of BUY	82,30%
Frequency of HOLD	9,50%
Frequency of SELL	8,20%



Source: Analyst Estimates

By randomly selecting one of the simulations created and analysing its results, we gained a more nuanced understanding of the robustness of our DCF analysis and on the impact of parameter changes in the company's intrinsic value. Our simulation consisted of a total of 2000 iterations, each resulting from a different combination of the previously mentioned input variables, which generated 2000 possible PMI share prices. The share prices attained range between [$61.12; $429.94] with an **average of $127.70** and **standard deviation of $34.68**. Through the histogram plotted, it is possible to infer that the outcomes were mostly concentrated around the [$119; $128] class. Moreover, considering PMI's current share price, out of the resulting scenarios, **82.3%** corresponded to a **BUY** recommendation, **9.5%** indicated a **HOLD** recommendation while the remaining **8.2%** represented a **SELL** recommendation. We acknowledge that in 17.7% of all scenarios, the investor recommendation might be subject to changes and that the standard deviation presents a considerable figure. Nonetheless, it is worth mentioning that the vast majority of the outcomes, even with scenarios we perceive as unlikely having the possibility to occur, aligns with our BUY recommendation.

Relative Valuation – Multiples Approach

After employing a discounted cash flow analysis for valuing Philip Morris International, we applied a **relative valuation based on comparables** to provide us with insights on how the market values our company in comparison to its peers. Additionally, this approach might enable us to test the quality and validity of our DCF model.

The comparable companies considered in this valuation are those forming the previously established peer group: British American Tobacco (BAT), Imperial Brands PLC (Imperial) and Japan Tobacco Group, Inc. (JT). The multiples selected to perform the valuation were computed based on the most recent financial data of each firm, retrieved from Bloomberg. We were able to draw several conclusions from our analysis:

Figure 44: Current Multiple Valuation: PMI vs. peer group (in million $)

	Market Cap	Net Income	P/E
PMI	$ 146 640	$ 8 014	18,3x
BAT	$ 65 683	$ 10 559	6,2x
Imperial	$ 20 321	$ 2 857	7,1x
JT	$ 52 309	$ 3 468	15,1x

	Enterprise Value	Sales	EV/Sales
PMI	$ 191 338	$ 34 279	5,6x
BAT	$ 114 051	$ 34 002	3,4x
Imperial	$ 30 556	$ 22 184	1,4x
JT	$ 53 468	$ 20 238	2,6x

	Enterprise Value	EBITDA	EV/EBITDA
PMI	$ 191 338	$ 13 652	14,0x
BAT	$ 114 051	$ 16 862	6,8x
Imperial	$ 30 556	$ 4 951	6,2x
JT	$ 53 468	$ 6 316	8,5x

	Enterprise Value	EBIT	EV/EBIT
PMI	$ 191 338	$ 11 591	16,5x
BAT	$ 114 051	$ 15 478	7,4x
Imperial	$ 30 556	$ 4 186	7,3x
JT	$ 53 468	$ 5 044	10,6x

Source: Bloomberg/Analyst Estimates

- The **Price-to-Earnings** (P/E) multiple harmonic mean equalled 9.5x, which corresponds to an implied share price of $26.82. **PMI's** P/E ratio is the **highest** among its peers at 18.3x, followed by JT at 15.1x. This multiple is not considered one of the most effective when doing a cross-sectional comparison, due to it being distorted by the firms' capital structure. Moreover, PMI's comparatively higher P/E ratio can have several interpretations. We believe it may be associated with the fact that investors have **optimistic expectations** regarding PMI, anticipating that the company will have strong future earnings growth. Considering the **different capital structures** verified among the sector and the substantially lower average industry P/E, which we believe does not reflect PMI's future growth potential, we have decided **to not include** this multiple in our analysis.
- PMI stands out among its competitors due to its market capitalization value being more than two times larger than its closest peer which, in turn, drives its enterprise value to comparatively higher figures. The enterprise's **higher-than-average valuation** can be associated to multiple factors. It can be the product of overly confident projections, low operational risk exposure, and to the fact that the market anticipates a positive outlook for PMI. As we mentioned previously, from our perspective, it may be the case that the market has high expectations in regard to PMI's future. As a result, PMI registers notably higher enterprise value-based multiples, more specifically the **EV-to-Sales**, the **EV-to-EBITDA**, and the **EV-to-EBIT**. The sector's harmonic mean of these ratios is 2.5x, 8.0x, and 9.4x, respectively, which corresponds to a share price of $33.77, $48.38, and $47.78, respectively.

A relative valuation based on current multiples has several limitations such as its **overly simplified nature** and the fact that it **does not factor** in the **future**. The specified issues reduce the reliability of this valuation outcome in our specific context, due to our belief that PMI will enjoy future earnings/margins growth resulting from its planned strategic shift and expansion. Moreover, as we've been discussing, the companies selected for the peer group, although considered comparable to PMI do not perfectly replicate the company's size, capital structure, operational efficiency, strategic plans, among others.

The limitations of this methodology coupled with the aforementioned comparability issues lead to an **underestimation of PMI's fair market value**. In other words, the application of any of the enterprise value-based multiples (EV/Sales, EV/EBITDA and EV/EBIT) we obtained would lead, in our perspective, to an **erroneous valuation outcome**. In fact, it is possible to observe this distortion by comparing the considerably lower implied share prices from the multiple valuation to PMI's current share price equal to $94.70, and to the stock's 52-week range of [$87.47; 105.39].

Final Recommendation

The **final target share price** we derived was of **$121.25**. Considering an investment as of December 15, 2023, at a price of $94.70, an estimated cash dividend of $5.38 and no expected share repurchases, we anticipate a **total return** of **33.7%**. This total expected return is composed of an expected capital gain of 28.0% and dividend yield of 5.7%. As the total expected return lies above 10%, we issue a **BUY recommendation** on PMI's stock.

PMI's intrinsic valuation provided by our discounted cash flow analysis was the sole methodology considered to arrive at the aforementioned final share price. The reasoning behind the **exclusion of our relative valuation**, as we mentioned previously, is based on two main factors. Firstly, the dissimilarities between PMI and its peer group we highlighted earlier create a comparability challenge, which results in a misjudgment of our company's true value. Furthermore, the multiple valuation approach is static and, thus, does not consider PMI's future potential. Throughout our report, we have outlined our growth expectation for PMI based on the company's investment and expansion into the novel smoke-free industry. By scaling up its operations, launching its innovative products in untapped markets, and further exploring underdeveloped markets, we believe the enterprise will experience future earnings growth and realize operational efficiencies. As such, by **deciding to consider the DCF** implied share price as the target FY24, we are able to incorporate the insights we obtained from our comprehensive analysis of PMI, given the more nuanced and holistic valuation approach provided by this model.

Risks and ESG

Risk Analysis

In the following section, we have identified potential negative industry and company developments that we believe represent **the main risks** to the investment thesis presented.

Uncertainty regarding the rollout of smoke-free products: Our investment thesis assumes that the rollout of smoke-free alternatives will be successful. Nevertheless, several hurdles during its introduction may negatively affect the company's overall performance, whether the impact is temporary or permanent. The following issues are some of the possible challenges PMI can encounter: unexpected/rigid regulation, for instance, marketing/sale restrictions and significant taxation; reluctance by consumers to adopt these new alternatives; competitor reaction through the introduction of rival products. We believe PMI's continuous efforts in proving its reduced-risk claims, its ability to cater to customers' preferences and to differentiate its products will effectively minimize these problems.

Currency risk fluctuations: As a global company, PMI is exposed to currency exchange rate fluctuations. PMI's business is conducted primarily in local currency and then, for reporting purposes, translated into U.S. dollars based on the average exchange rates during the reporting period. The strength of the home currency relative to foreign currencies can impact the company's metrics. A stronger home currency can have an impact on reported net revenues, operating income, and EPS because the local currency translates into fewer U.S. dollars. Moreover, the existence of capital controls or foreign currency exchange constrains can affect subsidiaries financial conditions, cash flows, net earnings, and profitability. Nonetheless, we believe that thus far PMI has effectively managed this risk by largely employing derivative financial instruments as part of its hedging strategy.

War in Ukraine: In 2022, Russia and Ukraine collectively accounted for 11% of the total shipment volume of cigarettes and heated tobacco units, contributing roughly 8% to Philip Morris International's net revenues. Apart from that, these nations were also integral to PMI's manufacturing process, housing manufacturing facilities for the company. Since the beginning of the conflict, PMI has suspended planned investments in both countries and scaled down their manufactured operations in Russia. We believe that so far PMI has been effective in its efforts to minimize the adverse impact caused by the geopolitical conflict and, as such, assumed that this impact would have no material effect in our model. However, if the depth and length of the conflict heightens, several consequences such as legal actions, nationalization of assets, supply chain disruptions and adverse effects on macroeconomic and security conditions, currency exchange rates, and financial markets are likely to arise.

ESG Analysis

As a result of heightened social, governmental, and consumer attention on the broader impact of the corporations, an **ESG analysis** has become a critical element to include in our report. As such, formulating an investment decision should also encompass ESG considerations since these are critical for investors not only from a risk-management point of view but also from a long-term value perspective. In the following table we will present a summary of our analysis of Philip Morris International's actions towards the ESG framework when comparing it to the firms included in its peer group.

	Goal	Metric	Analysis
Environmental	Climate Change: Energy Usage	% of Energy Used that comes from renewable sources (in GWh)	By focusing on sourcing renewable energy and producing self-generated renewable energy, PMI has reduced its dependence on fossil fuel. In 2020, 29.0% of the energy consumed by the company came from renewable sources, rising to 35% in 2022. This places PMI as the frontrunner in renewable energy usage within our peer group. In 2022, comparable companies sourced, on average, 23.8% of total energy from renewable sources.
	Climate Change: Air Quality	Total Scope 1 and 2 CO2 Emissions intensity ratio (tons per $M net revenue)	PMI's commitment towards carbon neutrality is evident by the constant decrease of Scope 1 and 2 CO2 emissions. In 2020, the company emitted around 18.89 tons of CO2 emissions per million dollars of net revenues generated. This metric evolved to 15.82 tons/$M net revenue in 2022, which stands below the industry average of 17.99 tons/$M net revenue in emissions.
	Circular Economy: Waste	Total Waste Generated (tons per $M net revenue	PMI strives to convert raw materials into products as efficiently as possible. Nonetheless, in 2022, it produced roughly 119.2 thousand tons of waste, which represents a brief decrease of 600-ton from 2020 and an increase of 5.200-ton from 2021. This positions PMI as the company within our peer group with highest waste generated per $1M net revenue with 5.54 tons in 2022, notably higher than the peer group average of 3.27 tons.
Social	Health and Wellbeing	Lost time incident (LTI) rate per 200,000 hours worked	PMI's facilities have specialized teams that ensure safety and health standards to mitigate the occurrence of work-related accidents. The effectiveness of such efforts is illustrated by its decreasing Lost Time Incident (LTI) rate, which remained below average in the period of analysis. In 2020, PMI recorded an LTI of 0.08, which decreased to 0.07 in 2022. This makes PMI the safest work environment among its peers, whose average LTI was 0.26 in 2022.
	Equity & Inclusion	Mean Gender Pay Gap Waterfall in %	Considering PMI at a global scale in 2022, male workers received 30% higher compensation than female workers. This signifies a substantial gender pay gap compared to the analyzed peer group (exc. JT which does not disclose gender pay gap information), which stands at 23%. However, it's crucial to note that excluding Indonesian paid-rate employees, PMI's female workers are, on average, paid 0.6% more than men.
	Diversity	Women in Management Roles in %	PMI remains committed in building a more diverse and inclusive workplace. Since 2020, female representation in management roles has increased from 20.3% to 26.7% in 2022. However, this figure still falls below the average ratio when compared to BAT and IB, which boost women's participation in management roles at 29.0%. Yet, if we incorporate Japan Tobacco into the analysis, PMI might surpass the peer group average, considering that JT aimed for a 10% target ratio in 2023.
Governance	Executive Compensation	Remuneration System	Out of the peer group analysed, PMI is the only company that has established a performance-based compensation program. The program aims to support the business and the company's financial and strategic objectives. As such, executive compensation heavily relies on the success of the transformation to smoke-free products and drives material and measurable progress in prioritized areas for the company.
		CEO or Equivalent Pay Ratio (Median Employee)	In 2022, PMI reported that its CEO (or equivalent) received, on average, 80 times more than its median full-time employee. While a higher pay ratio can serve as a tool to attract and motivate top managerial talent, excessively high ratios can negatively impact company morale and equality standards. Nonetheless, PMI's pay ratio stood below the average pay ratio in the peer group (exc. JT which does not disclose information regarding executive compensation), equal to 96.3.
	Dedication	Board Meeting Attendance	The attendance rate of board meetings is an indicator of diligent commitment of board members and effective decision-making. However, throughout the analysis period, PMI consistently recorded a board meeting attendance rate below the industry peers' average. 75% of PMI's board members attended every meeting over the years. In contrast, the peer average attendance rate started at 98.1% in 2020 and progressively increased to 99% in both 2021 and 2022.

Appendix

Financial Statements

Reformulated Balance Sheet (In Millions of USD)	2022	2023E	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F
Core Activity										
Current Operating Assets	18 185	18 800	17 190	18 900	17 505	19 439	17 078	19 051	16 792	18 862
Operating Cash	1 588	1 808	1 828	1 861	1 906	1 965	1 985	2 013	2 047	2 088
Trade receivables	3 850	3 976	3 828	4 001	3 901	4 124	3 863	4 110	3 872	4 142
Other Receivables	906	876	886	902	924	952	962	975	992	1 012
Inventories	9 886	11 248	9 755	11 244	9 881	11 504	9 374	11 061	8 989	10 729
Derivative Contracts designated as Hedging Instru	717	329	329	329	329	329	329	329	329	329
Other current assets (excluding Derivative Contra	1 238	564	564	564	564	564	564	564	564	564
Non-Current Operating Assets	41 311	37 795	37 541	37 286	37 028	36 552	36 075	35 934	35 789	35 638
Property Plant and Equipment	15 443	16 206	16 869	17 532	18 195	18 392	18 589	18 786	18 983	19 180
Accumulated Depreciation	8 733	8 743	9 101	9 458	9 816	9 922	10 029	10 135	10 241	10 347
Goodwill	19 655	16 509	16 509	16 509	16 509	16 509	16 509	16 509	16 509	16 509
Other Intangible Assets	6 732	6 117	5 558	4 997	4 434	3 868	3 300	3 068	2 832	2 591
Equity Investments	4 431	4 691	4 691	4 691	4 691	4 691	4 691	4 691	4 691	4 691
Other non current assets	3 180	2 028	2 028	2 028	2 028	2 028	2 028	2 028	2 028	2 028
Deferred Income Taxes	603	986	986	986	986	986	986	986	986	986
Total Operating Assets	59 496	56 595	54 731	56 186	54 532	55 991	53 153	54 985	52 580	54 501
Current Operating Liabilities	17 093	17 787	17 621	18 576	18 650	19 869	19 393	20 413	20 053	21 193
Accounts Payable	4 076	4 744	4 433	5 162	4 922	5 732	5 114	5 946	5 351	6 206
Accrued Liabilities	11 621	11 464	11 596	11 803	12 089	12 463	12 593	12 765	12 980	13 240
Marketing and selling	695	-	-	-	-	-	-	-	-	-
Employment costs	1 125	-	-	-	-	-	-	-	-	-
Product Warrants	104	-	-	-	-	-	-	-	-	-
Taxes, except Income Taxes	7 440	-	-	-	-	-	-	-	-	-
Other	2 257	-	-	-	-	-	-	-	-	-
Derivative Contracts designated as Hedging Instru	356	500	500	500	500	500	500	500	500	500
Income Tax	1 040	1 079	1 092	1 111	1 138	1 173	1 185	1 202	1 222	1 246
Non-Current Operating Liabilities	4 302	3 651	3 158	2 766	2 622	2 492	2 376	2 271	2 177	2 093
Employment Costs	724	698	698	698	698	698	698	698	698	698
Deferred Income Taxes	1 956	1 757	1 578	1 417	1 273	1 143	1 027	922	829	744
Income Taxes and Other Liabilities (Transition Tax	1 622	1 196	882	651	651	651	651	651	651	651
Total Operating Liabilities	21 395	21 438	20 779	21 342	21 271	22 361	21 768	22 684	22 230	23 286
Invested Capital in Core Activity	38 101	35 157	33 952	34 844	33 261	33 630	31 385	32 302	30 350	31 215
Non-Core Activity										
Current Assets	156	78	78	78	78	78	78	78	78	78
Derivative Contracts not designated as Hedging Ir	156	78	78	78	78	78	78	78	78	78
Non-Current Assets	410	134	134	134	134	134	134	134	134	134
Excess Pension Assets	410	134	134	134	134	134	134	134	134	134
Total Non-Core Assets	566	212	212	212	212	212	212	212	212	212
Current Liabilities	2 171	1 931	1 931	1 931	1 931	1 931	1 931	1 931	1 931	1 931
Accrued Liabilities	1 990	1 819	1 819	1 819	1 819	1 819	1 819	1 819	1 819	1 819
Dividends Payable	1 990	1 819	1 819	1 819	1 819	1 819	1 819	1 819	1 819	1 819
Derivative Contracts not designated as Hedging Ir	181	112	112	112	112	112	112	112	112	112
Non Current Liabilities	1 303	2 366	2 366	2 366	2 366	2 366	2 366	2 366	2 366	2 366
Unfunded pension liabilities	1 077	2 153	2 153	2 153	2 153	2 153	2 153	2 153	2 153	2 153
Unfunded postretirement liabilities	226	214	214	214	214	214	214	214	214	214
Total Non-Core Liabilities	3 474	4 298	4 298	4 298	4 298	4 298	4 298	4 298	4 298	4 298
Invested Capital in Non-Core Activity	-2 908	-4 086	-4 086	-4 086	-4 086	-4 086	-4 086	-4 086	-4 086	-4 086
Financial Activity										
Current Assets	1 619	-	-	-	-	-	-	-	-	-
Excess Cash	1 619	-	-	-	-	-	-	-	-	-
Total Financial Assets	1 619	-	-	-	-	-	-	-	-	-
Current Liabilities	8 248	-	-	-	-	-	-	-	-	-
Short-Term Borrowings	5 637	-	-	-	-	-	-	-	-	-
Current Portion of Long-Term debt	2 611	-	-	-	-	-	-	-	-	-
Non-Current Liabilities	34 875	-	-	-	-	-	-	-	-	-
Long-term debt	34 875	-	-	-	-	-	-	-	-	-
Total Financial Liabilities	43 123	-	-	-	-	-	-	-	-	-
Net debt	-41 504	-38 465	-39 147	-40 184	-40 824	-41 654	-42 044	-42 874	-43 347	-43 938
Equity	-6 311	-7 394	-9 281	-9 426	-11 649	-12 110	-14 744	-14 658	-17 082	-16 808

Reformulated Income Statement (In Millions of U Core Activity	2022	2023E	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F
Net Revenues	31762	36152	36568	37218	38122	39300	39710	40252	40931	41751
Cost of Sales	-10314	-11832	-11877	-11995	-12191	-12469	-12302	-12168	-12066	-11995
% of net revenues	-32,47%	-32,73%	-32,48%	-32,23%	-31,98%	-31,73%	-30,98%	-30,23%	-29,48%	-28,73%
Gross Profit	21448	24320	24691	25223	25931	26831	27408	28085	28865	29757
% of net revenues	67,53%	67,27%	67,52%	67,77%	68,02%	68,27%	69,02%	69,77%	70,52%	71,27%
Marketing, Administration and Research Costs	-8013	-10695	-10066	-10245	-10494	-10015	-10119	-10257	-10430	-10639
Marketing and Administration Costs	-6594	-8958	-7811	-7950	-8143	-8394	-8482	-8598	-8743	-8918
Advertising Expenses	-777	-1030	-1443	-1469	-1504	-961	-971	-984	-1001	-1021
R&D Expenses	-642	-707	-812	-827	-847	-660	-666	-676	-687	-701
Impairment of Goodwill and Other Intangibles	-112	-680	-	-	-	-	-	-	-	-
EBITDA	13323	12945	14625	14978	15437	16816	17289	17827	18435	19117
% of net revenues	41,95%	35,81%	39,99%	40,24%	40,49%	42,79%	43,54%	44,29%	45,04%	45,79%
Amortization of Intangibles	-159	-517	-460	-460	-460	-460	-460	-123	-125	-128
Depreciation Expense	-918	-1119,5	-998	-1037	-1077	-1088	-1100	-1112	-1123	-1135
EBIT	12246	11309	13167	13481	13901	15268	15729	16593	17187	17855
Provision for Income Taxes	-2363,5	-2374,8	-2765,0	-2831,0	-2919,2	-3206,2	-3303,1	-3484,4	-3609,2	-3749,5
Effective Tax Rate	19,3%	21,0%	21,0%	21,0%	21,0%	21,0%	21,0%	21,0%	21,0%	21,0%
Equity investments and securities, net	137	207,1	108,9	108,9	108,9	108,9	108,9	108,9	108,9	108,9
NOPAT	**10019,5**	**9140,9**	**10510,7**	**10758,8**	**11090,5**	**12170,4**	**12535,0**	**13217,0**	**13686,2**	**14214,1**
Non-Core Activity										
Pension and other employee benefit costs	-24	-54	-73	-73	-73	-73	-73	-73	-73	-73
Non Core Activity Before Taxes	-24	-54	-73	-73	-73	-73	-73	-73	-73	-73
Non Core Taxes	4,6	11,3	15,4	15,4	15,4	15,4	15,4	15,4	15,4	15,4
Non Core Activity After Taxes	-19,4	-42,4	-57,8	-57,8	-57,8	-57,8	-57,8	-57,8	-57,8	-57,8
Financial Activity										
Interest expense, net	-588	-1046	-1939	-1857	-1889	-1931	-1951	-1993	-2017	-2046
Interest expense	-768	-	-1973	-2025	-2058	-2099	-2119	-2161	-2185	-2214
Interest income	180	-	168	168	168	168	168	168	168	168
Interest Tax Shield	113,5	219,6	407,1	390,0	396,8	405,6	409,7	418,5	423,5	429,7
Financial Result	**-474,5**	**-826,0**	**-1531,5**	**-1467,1**	**-1492,6**	**-1525,7**	**-1541,2**	**-1574,2**	**-1593,1**	**-1616,6**
Other Comprehensive Income										
Other comprehensive earnings (losses), net of inco	-	-	-	-	-	-	-	-	-	-
Change in currency translation adjustments:	-1268	-665,0	-	-	-	-	-	-	-	-
Change in net loss and prior service cost:	1060	59,0	-	-	-	-	-	-	-	-
Change in fair value of derivatives accounted for a	262	149,0	-	-	-	-	-	-	-	-
Other Comprehensive Income	**54,0**	**-457,0**	-	-	-	-	-	-	-	-
Total Comprehensive Income	**9579,6**	**7815,5**	**8921,3**	**9233,9**	**9540,0**	**10586,9**	**10936,0**	**11584,9**	**12035,4**	**12539,7**

Cash Flow Statement (In Millions of USD) Core Activity	2022	2023E	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F
NOPAT	10019,5	9140,9	10510,7	10758,8	11090,5	12170,4	12535,0	13217,0	13686,2	14214,1
Depreciation and Amortization	1077,0	1636,5	1458,2	1497,4	1536,6	1548,3	1559,9	1234,8	1248,5	1262,7
Δ PPE	-542,0	-753,1	-305,3	-305,3	-305,3	-90,7	-90,7	-90,7	-90,7	-90,7
Net Capex	1619,0	2389,6	1763,5	1802,7	1841,9	1639,0	1650,7	1325,5	1339,2	1353,4
Δ NWC	671,8	-79,4	-1444,1	755,3	-1469,1	715,2	-1885,0	953,6	-1899,8	930,6
Δ Other Non Current Assets	17541,0	-4269,3	-559,0	-560,8	-563,2	-566,4	-567,5	-232,2	-236,1	-240,8
Δ Other Non Current Liabilities	1181,0	-651,0	-492,8	-392,2	-144,3	-129,6	-116,4	-104,6	-93,9	-84,4
Core Free Cash Flow	**-7554,3**	**12085,4**	**11715,7**	**9866,7**	**12673,2**	**11801,3**	**14780,4**	**12300,3**	**15637,5**	**13349,3**
Unlevered Core Free Cash Flow	**-7554,3**	**12085,4**	**11715,7**	**9866,7**	**12673,2**	**11801,3**	**14780,4**	**12300,3**	**15637,5**	**13349,3**
Non-Core Activity After Taxes	-19,4	-42,4	-57,8	-57,8	-57,8	-57,8	-57,8	-57,8	-57,8	-57,8
Δ Non Operating Assets	206,0	-354,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Δ Non Operating Liabilities	-741,0	823,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Non-Core Free Cash Flow	**-966,4**	**1135,2**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**
Unlevered Non-Core Free Cash Flow	**-966,4**	**1135,2**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**	**-57,8**
Unlevered Free Cash Flow	**-8520,7**	**13220,6**	**11657,8**	**9808,9**	**12615,3**	**11743,4**	**14722,5**	**12242,5**	**15579,6**	**13291,4**
Financial Result	-474,5	-826,0	-1531,5	-1467,1	-1492,6	-1525,7	-1541,2	-1574,2	-1593,1	-1616,6
Δ Net Debt	16623,9	-3039,5	682,2	1037,4	640,3	829,7	389,5	830,0	472,9	591,6
Δ Equity	1897,0	-1082,7	-1887,1	-145,3	-2222,9	-460,5	-2634,8	86,7	-2424,2	273,3
Comprehensive Income	9525,6	8272,5	8921,3	9233,9	9540,0	10586,9	10936,0	11584,9	12035,4	12539,7
Financing Cash Flow	**8520,7**	**-13220,6**	**-11657,8**	**-9808,9**	**-12615,3**	**-11743,4**	**-14722,5**	**-12242,5**	**-15579,6**	**-13291,4**

Disclosures and Disclaimers

Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by Henrique Manuel Miranda Ferreira and João Salgado Mano, Master in Finance students of Nova School of Business and Economics ("Nova SBE"), within the context of the Field Lab – Equity Research.

This report is issued and published exclusively for academic purposes, namely for academic evaluation and master graduation purposes, within the context of said Field Lab – Equity Research. It is not to be construed as an offer or a solicitation of an offer to buy or sell any security or financial instrument.

This report was supervised by a Nova SBE faculty member, acting merely in an academic capacity, who revised the valuation methodology and the financial model.

Given the exclusive academic purpose of the reports produced by Nova SBE students, it is Nova SBE understanding that Nova SBE, the author, the present report and its publishing, are excluded from the persons and activities requiring previous registration from local regulatory authorities. As such, Nova SBE, its faculty and the author of this report have not sought or obtained registration with or certification as financial analyst by any local regulator, in any jurisdiction. In Portugal, neither the author of this report nor his/her academic supervisor is registered with or qualified under COMISSÃO DO MERCADO DE VALORES MOBILIÁRIOS ("CMVM", the Portuguese Securities Market Authority) as a financial analyst. No approval for publication or distribution of this report was required and/or obtained from any local authority, given the exclusive academic nature of the report.

The additional disclaimers also apply:

USA: Pursuant to Section 202 (a) (11) of the Investment Advisers Act of 1940, neither Nova SBE nor the author of this report are to be qualified as an investment adviser and, thus, registration with the Securities and Exchange Commission ("SEC", United States of America's securities market authority) is not necessary. Neither the author nor Nova SBE receive any compensation of any kind for the preparation of the reports.

Germany: Pursuant to §34c of the WpHG (*Wertpapierhandelsgesetz*, i.e., the German Securities Trading Act), this entity is not required to register with or otherwise notify the *Bundesanstalt für Finanzdienstleistungsaufsicht* ("BaFin", the German Federal Financial Supervisory Authority). It should be noted that Nova SBE is a fully-owned state university and there is no relation between the student's equity reports and any fund raising programme.

UK: Pursuant to section 22 of the Financial Services and Markets Act 2000 (the "FSMA"), for an activity to be a regulated activity, it must be carried on "by way of business". All regulated activities are subject to prior authorization by the Financial Conduct Authority ("FCA"). However, this report serves an exclusively academic purpose and, as such, was not prepared by way of business. The author - a Master's student - is the **sole and exclusive responsible** for the information, estimates and forecasts contained herein, and for the opinions expressed, which exclusively reflect his/her own judgment at the date of the report. Nova SBE and its faculty have no single and formal position in relation to the most appropriate valuation method, estimates or projections used in the report and may not be held liable by the author's choice of the latter.

The information contained in this report was compiled by students from public sources believed to be reliable, but Nova SBE, its faculty, or the students make no representation that it is accurate or complete, and accept no liability whatsoever for any direct or indirect loss resulting from the use of this report or of its content.

Students are free to choose the target companies of the reports. Therefore, Nova SBE may start covering and/or suspend the coverage of any listed company, at any time, without prior notice. The students or Nova SBE are not responsible for updating this report, and the opinions and recommendations expressed herein may change without further notice.

The target company or security of this report may be simultaneously covered by more than one student. Because each student is free to choose the valuation method, and make his/her own assumptions and estimates, the resulting projections, price target and recommendations may differ widely, even when referring to the same security. Moreover, changing market conditions and/or changing subjective opinions may lead to significantly different valuation results. Other students' opinions, estimates and recommendations, as well as the advisor and other faculty members' opinions may be inconsistent with the views expressed in this report. Any recipient of this report should understand that statements regarding future prospects and performance are, by nature, subjective, and may be fallible.

This report does not necessarily mention and/or analyze all possible risks arising from the investment in the target company and/or security, namely the possible exchange rate risk resulting from the security being denominated in a currency either than the investor's currency, among many other risks.

The purpose of publishing this report is merely academic and it is not intended for distribution among private investors. The information and opinions expressed in this report are not intended to be available to any person other than Portuguese natural or legal persons or persons domiciled in Portugal. While preparing this report, students did not have in consideration the specific investment objectives, financial situation or particular needs of any specific person. Investors should seek financial advice regarding the appropriateness of investing in any security, namely in the security covered by this report.

The author hereby certifies that the views expressed in this report accurately reflect his/her personal opinion about the target company and its securities. He/ She has not received or been promised any direct or indirect compensation for expressing the opinions or recommendation included in this report.

The content of each report has been shown or made public to restricted parties prior to its publication in Nova SBE's website or in Bloomberg Professional, for academic purposes such as its distribution among faculty members for students' academic evaluation.

Nova SBE is a state-owned university, mainly financed by state subsidies, students tuition fees and companies, through donations, or indirectly by hiring educational programs, among other possibilities. Thus, Nova SBE may have received compensation from the target company during the last 12 months, related to its fundraising programs, or indirectly through the sale of educational, consulting or research services. Nevertheless, no compensation eventually received by Nova SBE is in any way related to or dependent on the opinions expressed in this report. The Nova School of Business and Economics does not deal for or otherwise offer any investment or intermediation services to market counterparties, private or intermediate customers.

This report may not be reproduced, distributed or published, in whole or in part, without the explicit previous consent of its author, unless when used by Nova SBE for academic purposes only. At any time, Nova SBE may decide to suspend this report reproduction or distribution without further notice. Neither this document nor any copy of it may be taken, transmitted or distributed, directly or indirectly, in any country either than Portugal or to any resident outside this country. The dissemination of this document other than in Portugal or to Portuguese citizens is therefore prohibited and unlawful.