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.

PHILIP MORRIS IN A DYING INDUSTRY - THE CREATIVE DESTRUCTION OF THE CIGARETTE

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

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Abstract

This report represents an equity valuation of Philip Morris International Inc., one of the leading tobacco firms worldwide. For this, an intrinsic valuation in form of a DCF model and a relative valuation based on multiples and transactions was conducted. A target share price of $108.16 was derived which depicts a Buy recommendation and a total upside potential including a dividend of 10.79%. The firm was valued especially in light of its shifting business model and a clear focus towards Risk-Reduced Products going forward. Additionally, scenario and sensitivity analyses were performed.

Keywords: Philip Morris International, Equity Research Valuation, Tobacco, Reduced-Risk-Products

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This report is part of the equity research report “A dying industry – The creative destruction of the cigarette” (annexed), developed by Arthur Meltendorf and Rafael Martins and should be read as an integral part of it.

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Introduction

The following report is part of a joint report, which can be found in the annex. This individual report covers predominantly an analysis of the key risks and key value drivers of Philip Morris International (PMI) and a large part of the intrinsic valuation including an analysis of the underlying assumptions.

Sections not covered in this individual report are the market analysis and competitive landscape as well as the relative valuation carried out in form of trading and transaction multiples.

This individual part aims to give a brief overview of the company's business model and key factors affecting its business in order to thoroughly guide through the projections that result in the expected final share price of the intrinsic valuation.

The company overview covers PMI's historical development and a description of its status quo regarding the most important KPIs surrounding its business. Continuing, the three biggest risks for PMI - the regulatory risk, currency risk, and third-party risk - were identified and the firm's exposure to those risks analysed. This analysis was carried out with a particular focus on investors as it acts as a recommendation on which developments investors should have an eye on going forward in order to manage their risks as they pose a risk to the investment thesis.

Further, to take the various worldwide markets PMI operates in into consideration each geography of PMI was examined with respect to its very own revenue drivers. The goal is to identify factors that unlock or reduce value for PMI. This evaluation of emerging trends, patterns, and market structures builds the foundation of the assumptions made in the subsequent revenue forecast. The revenue forecast depicts the center of our financial projections. It is of utmost relevance to our financial model. It aims at combining all key aspects from market developments and sociographic trends to pricing analyses into meaningful revenue projections of PMI. The following financial projections and consideration of the Swedish Match AB (SWM) acquisition are completing the 3-statement model and intend to provide transparency on the underlying assumptions of our model to investors. The individual report concludes with thorough examinations, with the intent of testing the viability of the DCF-model's key suppositions in scenario and sensitivity analyses.

In conclusion, this part aims at demonstrating how we expect Philip Morris to translate its business strategy, its current starting point, and investments into early category leadership in innovative products leading to our valuation and hence our BUY Valuation.

Company Overview

Company Description

Philip Morris International (PMI) is one of the five worldwide leading tobacco brands operating across 180 countries, divided into six operating regions – European Union, Eastern Europe, Middle East & Africa, East Asia & Australia, South & Southeast Asia, and Americas. It is headquartered in New York, U.S. but has an additional operational headquarter in Lausanne, Switzerland. The company's headquarter will be moved to Stamford, Connecticut end of 2022. PMI's historical roots are going back to 1846 to London where it was firstly established in 1881. After changing its name to Altria in 2003 Philip Morris International was spun-off from the U.S. business. Therefore, PMI is not responsible for the U.S. market anymore. PMI currently employs 69,900 employees and owns 39 production facilities globally.

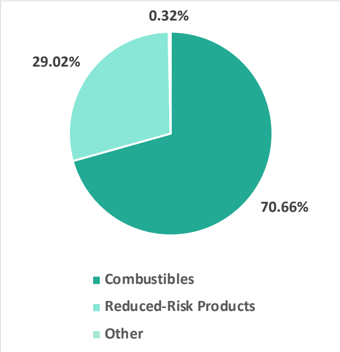

Figure 1: Share of Net Revenues 2021 by Product Segment
Source: Annual Report

In 2016 the new vision was announced to deliver a smoke-free future after the company's initial efforts to produce Risk-Reduced Products (RRPs) and opening its first facility in Italy in 2014. Specifying their vision, an announcement in 2021 formulated the goal to become majority smoke-free in 2025 in terms of net revenues. With their exit from Russia end of 2022, they adjusted their goal to 2026. RRPs refer to products that potentially are less harmful than cigarettes and are characterized by a lack of combustion. Next to RRPs big efforts are put into exploring the consumer healthcare and wellness market to go beyond nicotine. These efforts are exemplified by PMI's acquisitions of Vecture Group PLC, Fertin Pharma, and OtiTopic.

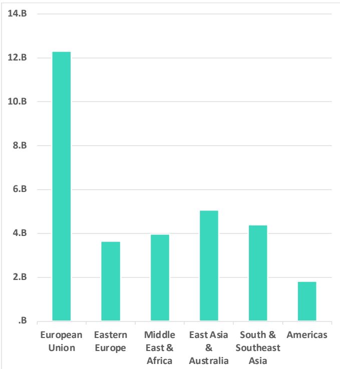

Figure 2: Net Revenues 2021 by Geography
Source: Annual Report

To date, the revenues are split into 70.7% combustibles, 29.0% RRPs, and 0.3% beyond nicotine. Its combustible portfolio consists of its flagship brand Marlboro and other well-known brands including Parliament, Philip Morris, L&M, and Dji Sam Soe. Revenues in the RRP sector are mostly generated by IQOS devices and HEETS. PMI estimates to have around 150 million cigarette customers and 21 million IQOS users. IQOS is so far only offered in 70 markets worldwide. Despite that and being sold only since 2014, the Heated Tobacco Units (HTU) make up already 3.5% of the 27.3% market share that PMI holds across the worldwide market, excluding the U.S. and China. With this shift into new product categories, a fundamental shift in revenue generation and business model comes along. Since the traditional business was primarily focused on manufacturing cigarettes and selling them through third parties, it posed a clear B2B business model without any direct contact points to the final customers. Especially the devices are nowadays marketed through direct consumer interaction transforming the business model progressively towards a B2C business model as PMI starts to market its products through appropriate flagship stores. By now selling innovative devices as complementary products to its tobacco products PMI taps into additional revenue streams.

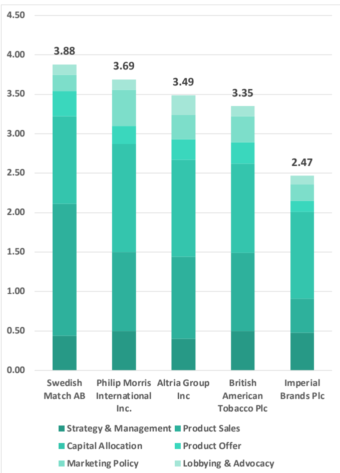

Figure 3: Tobacco Transformation Index 2022 (Scale of 1-5)
Source: Tobacco Transformation Index

Overall, PMI poses a healthy company with a credit rating of A, a stable positive operating margin of roughly 40% and net revenues of around $30 billion a year. PMI's Debt/Equity Ratio is currently at 23.22%, after the all-cash acquisition of Swedish Match. Its focus on the premium segment in most markets enables increased brand loyalty and price inelasticity. PMI generates roughly 50% of its revenues in the premium segment, which is strongly higher than the averaged 25% of its competitors. Its pricing power can also be seen by comparing its shipment volumes to net revenues. While shipments of combustibles went down with a CAGR of 5.10%, net revenues only went down by 3.10% CAGR in the last 5 years. In the same period revenues as well as shipment units of RRPs went up by 65% CAGR.

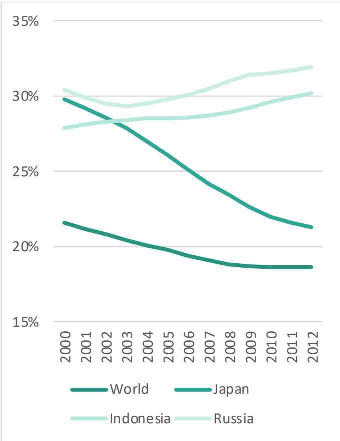

Figure 4: Share of People Who Smoke Every Day in PMI's Top-3 Regions
Source: IHME

On May 11th PMI announced its plans to acquire Swedish Match AB, a smokeless tobacco company with a portfolio ranging from snus to cigars, lights, and matches. On Nov. 7th it became public that PMI plans to acquire 90% of SWM and take the company completely private failed. However, it convinced 83% of SWM's shareholders with its all-cash offer of SEK 116 per share. On Nov. 28th another announcement was made that PMI was able to convince further shareholders and now obtains 93.1% of SWM which allows them to request the delisting of SWM[1]. This acquisition is part of PMI's strategy becoming majority smoke-free but also to expand into the U.S. market as SWM built-up a great presence there. 85% of SWM's revenues are attributable to the U.S. and Scandinavian markets. In 2021 it reported net sales of ca. two billion USD at a 40% operating margin. The operating profit is specifically driven by its snus products, accounting for 74% of its operating profits.

Key Risks

Regulatory Risk

When it comes to an industry as heavily regulated as the tobacco industry, investors should always be cautious of so-called fat-tail risks. These are risks with a low probability but potentially big impact which include but are not limited to risks of advertising or selling bans, changes in taxation, or restrictions in the use of materials. As PMI is an international player there is the unfavourable effect of dealing with those risks in various markets but on the other hand, it diversifies away the country-specific risks and diminishes the effects of country-specific unfavourable regulatory decisions on PMI. The current risk is split into risk centered around cigarettes and risk centered around RRPs. As they pose a new regulatory case and countries are at varying stages when it comes to regulation RRPs should be watched extra close. So far regulations have been beneficial for Philip Morris as RRPs are usually subject to more favourable taxation and were not considered equal to cigarettes. If current taxation changes, the company might be forced to partially absorb these negative price impacts in order to further attract smokers to switch and to preserve its market share in a still relatively young market. Following the trend of producing less harmful products, regulatory risks can be expected to further decline in the future after an initial increase in risk due to uncertainty surrounding the introduction of new products to the market.

Currency Risk

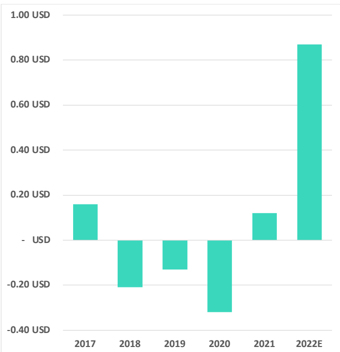

Figure 5: Currency Impact in USD on EPS of PMI
Source: Analysts

While Philip Morris reports in U.S. Dollar its functional currency is the Euro. Due to this and its operations across 180 markets worldwide it is exposed significantly to currency risks as its operations are handled mostly in local currency. The EPS were affected by up to 7% (0.32$) at its highest during the last five years which emphasises the importance of acknowledging the risk for Philip Morris. The risk lies in a strengthening of the U.S. Dollar against other currencies, especially the Euro, or vice versa a weakening of foreign currencies against the U.S. Dollar. Particularly in times of economic distress, this poses a high risk as currencies of weaker economies often lose in value against the U.S. Dollar. Thus, Currency risk is a constant and potentially very damaging risk to the company. In order to manage this, the company leverages derivative financial instruments as part of its hedging strategy. Additionally, Philip Morris

[1] PMI, 2022, Press Release, Available at: https://www.pmi.com/media-center/news/PMI-progresses-toward-sole-ownership-of-swedish-match

currently inherits somewhat of a natural hedge with 30% of its revenues and 25% of its costs being denominated in Euros.

In conclusion, we do not consider the currency risk critical to Philip Morris' business thanks to effective risk management in place and offsetting of the remaining positive and negative impacts of smaller scale in the long run.

Third-Party Risks

One additional risk investors and PMI must be aware of is its exposure to third parties related to the sourcing of its materials and services. Historically, this risk has been mostly limited to the sourcing of tobacco, filters, and paper. By building a wide network of suppliers and insourcing large parts of the manufacturing process the company lowered the bargaining power of individual third parties and increased its independency from singular parties. Thus, by managing third-party risks well, PMI was able to constantly lower its third-party risks concerning its material supplies. With its shift towards RRPs PMI however, experiences an increase in these risks. Particularly with respect to the production of the electronic devices, PMI is increasingly reliant on third-party services and their respective suppliers. PMI does not own this manufacturing process within its supply chain increasing its dependence with regards to electronic devices. From a financial perspective, these outsourcings seem reasonable as PMI does not have the capabilities to produce these devices with the same efficiencies. It, however, gives away control and increases dependencies. It could create problems down the line as future agreements might be less favourable for PMI, and quality might suffer. Additionally, the company might not be able to react to changing market conditions with full flexibility. Thus, it will be important for investors to monitor continuously PMI's efforts of insourcing the manufacturing process of electronic devices. Currently, the focus lays on widening its electronic supplier base with a particular focus on its Asian supplier network[2].

Value Drivers & Forecasts

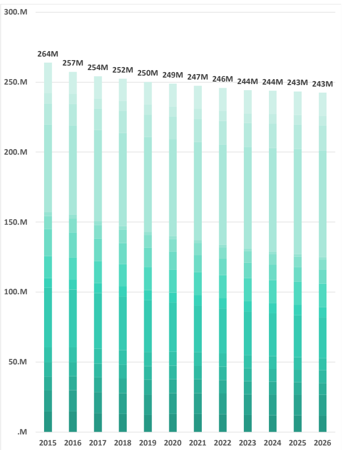

Figure 6: Smokers 2015 - 2026 for PMI's Top-15 Operating Countries
Source: Euromonitor

The key value drivers of PMI are the number of smokers and their respective average consumption per year, the sales price per unit, PMI's market share and their switching rate from combustibles to RRPs. All these factors are driving revenues for combustibles as well as RRPs simultaneously. Based on a constant market share assumption the number of smokers per region multiplied by the average consumption of users in these region results in the shipment units of PMI. Since all previously mentioned key drivers vary between geographies a bottom-up approach was chosen to take geography-specific trends into consideration. This bottom-up approach investigates the key drivers for all countries PMI reports for individually. For all other countries constituting just small markets for PMI weighted averages of its direct neighbour countries were used. This reflects trends well within certain regions while deviations should not have much of an impact as it only accounts for less than one-third of PMIs shipment units. For two-thirds of PMIs shipment units, we thereby were able to replicate growth trends and key value drivers as accurately as possible.

[2] PMI, 2021, Sustainable Supply Chain Management, Available at: https://www.pmi.com/sustainability/reporting-on-sustainability/sustainable-supply-chain-management-progress-2020

European Union

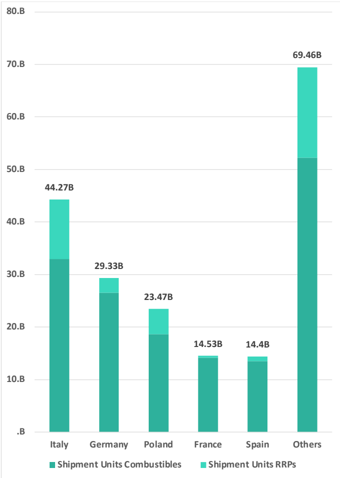

Figure 7: PMI Shipment Units in the European Union
Source: Annual Report

Within the European Union PMI is focused primarily on the premium segment with its flagship brand Marlboro and its Heated Tobacco Units with 16.5% and 6% market share respectively of the total market. Thus, resulting in higher prices compared to all other operating areas of PMI for its combustibles as well as its RRPs. While cigarette prices are stable, just showing minimal price increases each year, prices for RRPs are decreasing significantly with competitors joining the market and pressure for PMI to incentive smokers to migrate to their RRPs. Price movements are moving antagonistic to its user numbers. RRPs are gaining more users with decreasing prices and vice versa for cigarettes. This switch towards RRPs however is favourable for PMI due to greater operating margins for RRPs which offsets the negative effects of the decreasing number of smokers in all European key markets. Overall switching rates are high in the European Union with up to 5% of smokers switching towards RRPs thanks to Italy and Poland as key markets for IQOS. For 2022 RRPs are expected to make up 40% of total net revenues, which puts the European Union in the second-best spot across all geographies. The European Union represents a key market for PMI to reach its goal of becoming majority smoke-free until 2025/2026.

Eastern Europe

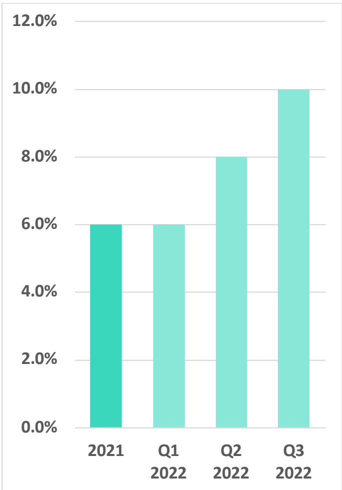

Figure 8: Share of Russia and Ukraine on Net Revenues of PMI
Source: Quarterly Report

With Russia making up two-thirds of shipments units in Eastern Europe the war in the Ukraine has massive impacts on overall revenue. PMI announced its exit from manufacturing and selling in Russia until year-end of 2022. This will result in a loss of roughly 6% of its company-wide net revenues. Russia and Ukraine made up 65% and 5% of shipment units respectively in the Eastern Europe Area. Considering the exit from Russia altogether the analysis of the Russian market is only used as a proxy for neighbour countries. Eastern Europe posed initially a very promising market with RRPs making up 30% of shipment units already and this trend is expected to continue. In the last 5 years, the smoking population declined by 20% or 8M people. Eastern Europe will most likely become PMIs smallest region revenue wise which is unfortunate since it was leading with promising switching rates towards RRPs. As a direct impact of that Emmanuel Babeau, the company's Chief Financial Officer, stated that the goal of becoming majority smoke-free will be reached one year later than previously announced.

Middle East & Africa

Revenues in Middle East & Africa are primarily driven by its biggest markets in Turkey, Saudi Arabia, and Egypt. It's one of only two markets with increasing numbers in the smoking population. This, however, does not translate well into the RRP volume. Switching rates are neglectable but first markets Saudi Arabia and Egypt are tapping into RRPs with shipments of above 100M units, the minimum amount needed to be reported at PMI. Price levels are similar to most other regions of PMI, although we see a slight shift towards the premium segment with Marlboro gaining significant market share in the last years. A key factor hindering stronger revenue growth is a higher estimated prevalence of illicit trade, especially in the biggest markets Turkey and Egypt.

East Asia & Australia

The East Asia & Australia market really stands out by its high average consumption of cigarettes per smoker. While the number of smokers is declining, the market size remains stable. This may also have to do with East Asia as a pioneer for RRPs. Switching rates are stable and persistent around 5%. Japan is the first country in which IQOS has more shipments than combustibles. Net revenues of RRPs are already making up 45% of total net revenues for that region. Unfortunately for PMI, the East Asian and Australian market are from a regulatory perspective a bit tougher with increasing excise taxes in Japan and Australia.

South & Southeast Asia

In South & Southeast Asia, PMI focuses heavily on its combustibles with RRPs not taking off yet in any of their markets in that region. Without any noticeable presence of RRPs, the sales prices as well as the switching rates are staying relatively stable and no great changes in the market are seen. One key driver changing and on a downward trend since 2015 is the average consumption per smoker. This effect on PMIs net revenues is however offset by an overall growing smoking population, especially in Indonesia. Overall, the South & Southeast Asian market is yet a very stable and consistent market partially due to the absence of HTUs.

Americas

The American Business is the smallest area in net revenues, also due to the fact that PMI is not selling the United States after its spin-off from Altria. With the Mexican's market growing smoking population and the adverse effect in Argentina we are seeing different trends within that economical area. However, market sizes remained very stable in both regions. BAT and PMI together are controlling the American market (excl. U.S.) very much with 40% market share respectively.[3] Despite that and their respective approach towards a smoke-free future, the adoption of RRPs is up until 2022 neglectable. This is partially due to a sales ban in Argentina for IQOS devices but also due to PMI not rolling out IQOS across America completely yet. Adoption rates and net revenues may grow strongly with PMI rolling out RRPs completely as interest especially in younger generations seems to be there according to studies[4].

Wellness & Healthcare

PMI's Wellness & Healthcare product is treated separately from its core operations and geographies. It firstly reported revenues in 2021 of $101 million and is expected to grow to $265 million in 2022. This reflects mainly revenues of the acquired companies Fertin Pharma A/S and Vectura Group PLC. From 2022 onwards these revenues are expected to grow with the overall wellness and consumer healthcare market with growth rates between 4-9%. The global consumer healthcare market is anticipated to grow to $400 billion in 2027[5].

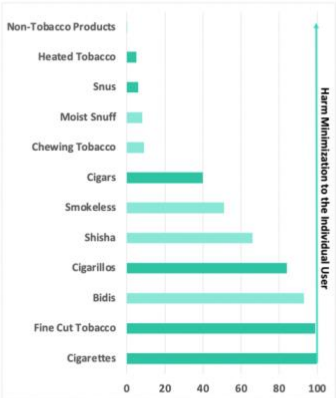

Figure 9: Relative Risk Assessment (PMI & SWM products in bold)
Source: Tobacco Transformation Index 2022

Valuation

Before jumping into the valuation a few clarifications regarding the measures used across product segments within the subsequent parts. Following conversions were used within PMI reports as well as within this equity research report: one cigarette equals one heated tobacco unit; 0.73g make-your-own tobacco; 0.60g make-your-own volume tobacco; 0.75g pipe tobacco; 0.60g roll-your-own tobacco; one cigarillo or one cigar respectively[6].

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[3] Euromonitor, 2022, Company Shares of Cigarettes in Latin America
[4] PAHO, 2018, Tobacco Control Report of the Americas 2018
[5] Euromonitor, 2022, Consumer HealthCare Market Size
[6] PMI, 2022, Annual Report and Studies

Revenue Forecast

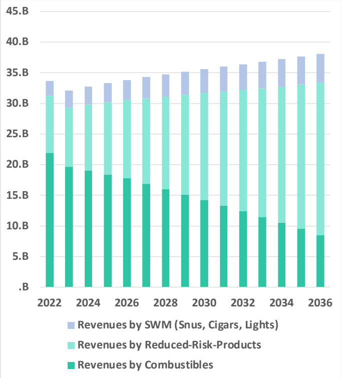


Figure 10: Forecasted Net Revenue Streams by Product Segment
Source: Analysts

For the revenue forecast and all further projections a time horizon of ten years until 2031 was chosen with an extended forecasting period of five years extending the forecasting period until 2036. The length of this time horizon was chosen to completely reflect the revenue shift from PMI towards reduced-risk products. Within this time horizon, it was broadly distinguished between the growth until 2026, the year in which PMI aims at becoming majority smoke-free, and its development thereafter. This will be reflected in the respective assumptions. As PMI is operating in a non-cyclical industry there were no adjustments to seasonality taken. The projections are split across operating geographies and product segments. As PMI reports annual sales on a country level for its biggest markets an approach was chosen that forecasts the revenue per country for its 15 biggest markets individually and for other regions according to its closest neighbour countries. This way individual developments and trends per country and region could be taken into consideration. This provides overall the most realistic forecast. These 15 markets accounted in 2021 for 65% of combustible revenues and 73% of RRP revenues while other regions accounted for 35% and 27% respectively. While forecasts were made on country-level, some assumptions were made on a regional level (e.g., European Union). Besides a segmentation in geographies, the revenue forecast was split for each country and region into its combustible and its RRP product segment.

Net revenues of PMI were historically relatively stable but slightly increasing within the last years despite unfavourable market trends for PMI. This is particularly due to the rapid growth of its RRPs. While the combustible products show a decreasing trend in revenues throughout the last five years until 2021 of -2.44% annually the RRP segment has grown by 20.15% annually in the same period. Thereby, its share on total revenues developed from 12.66% in 2017 to a staggering 29.12% in 2021. This trend is expected to continue.

The following calculations were made per country simultaneously if not stated otherwise. Dependent on market size and the number of smokers we were able to calculate an estimate of how many cigarettes one customer of PMI smokes per year. We assumed that PMI's customers show similar behaviour to other smokers in the market. To make this number more tangible we converted it into average units smoked per day. Dividing in the next step the shipment units of PMI in that country by the average amount of units smoked per year we were able to get a rough estimate of the size of its customer base. With these calculations, we got a good picture of the developments of the most important factors and drivers of our revenue within the period between 2015 and 2021. As we were lacking market size estimates for 2022 and beyond the average consumption per smoker had to be estimated based on overall sentiment within that country and the past development of that KPI. Based on our judgement of these influences we let the average consumption grow by -1%, 0%, or 1% depending on whether we anticipate a negative, neutral, or positive trend. Since this factor has changed relatively modestly for most countries in the past these small growth rates were chosen. Knowing the average consumption per customer, customer numbers had to be anticipated to conclude PMI's shipment size. The size of the overall smoking population is projected using macro- and socio-economic data analysis by Passport/Euromonitor until 2027. From 2027 onwards we expect the smoking population to grow with the CAGR of the tobacco smoking prevalence trends per country. These trends have been monitored by the WHO since 2005, are forecasted until 2025 and are

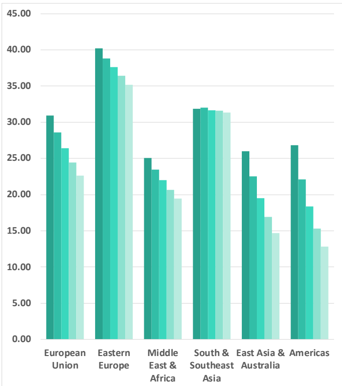


Figure 11: Smoking Prevalence for PMI's Operating Regions 2005-2025
Source: WHO

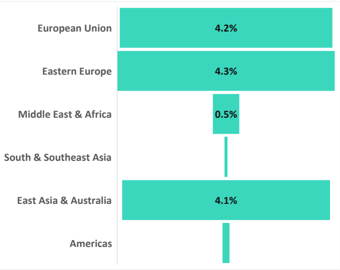


Figure 12: PMI Avg. Switching Rates 2019-2022 from Combustibles to RRPs
Source: Analysts

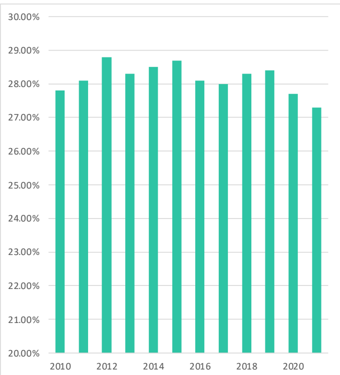


Figure 13: PMI Market Share 2010-2021 excl. China and U.S.
Source: Annual Report

showing very constant CAGRs since then. For most countries, these show a declining smoking prevalence as the historical numbers have shown as well. Next to the growth rates of average consumption overall and the smoking population, conversion rates from combustibles to RRPs were estimated as these decrease PMI's combustible customer numbers and increase RRP customer numbers. Historical numbers have been shown to vary between regions drastically. The Eastern Europe regions showed an average rate of 4.30% between 2019-2022, while the South & Southeast Asia area only has shown rates of 0.06% on average. The only thing all regions had in common was the increasing number of RRP users and respective switching rates towards these products within the last years. Calculated switching rates can only be understood as estimates since dual use of products, reverted users, and insufficient research on switching behaviour due to the immaturity of the market limit the accuracy. First studies in Japan and Italy, however, have shown that 93% or 90% of IQOS users have been regular tobacco users at the time of starting using RRPs. So far, we have seen little adoption of non-smokers. Thus, we project RRP user numbers only to be affected by customers switching from combustibles and overall smoking population growth trends. Until 2026 we expect a constant growth in switching rates of 5% which is in line with growth rates in previous years as PMI is very much on its way to reaching its goal of becoming majority smoke-free until 2026. We additionally project that PMI will boost its conversion rates to a minimum of 2% per year until 2026 through incentive programs or marketing spending. In order to achieve its goals, we believe PMI will try to actively shape its conversion rates because they will also need to make sure they grow their RRP user traction before competitors are cutting into their market share. We predict that this minimum conversion rate will grow to 4% by 2031 and 6% thereafter. With greater awareness, the rate of people switching will naturally increase. As mentioned before, PMI will also incentivize users as they strive to become completely smoke-free in first countries 10-15 years from now[7]. Natural tailwinds of an increase in conversion rates are the rollout of RRPs in all markets, since they are end of 2021 only available in 71 markets, and the spreading awareness since as of the end of 2020 PMI projected that only 36% of its customers are aware of the benefits of its IQOS products[8]. Thus, we predict that next to the minimum conversion rate the growth rate of the conversion rate will grow from 2027 onwards annually by one percentage point leading to a 15% growth rate in 2036. All the above assumptions related to the shipment units are subject to one mutual rationale: the assumption of constant market share of PMI. The market share of PMI is not expected to change within the forecast period which lets their customer numbers grow mostly in line with market movements and sociographic trends. This assumption is based on several factors including marketing constraints in the tobacco industry, high entry barriers, and great brand loyalty. The high entry barriers regarding regulation and increasing marketing constraints led to a lack of relevant challenger brands leaving the current market players with their respective market shares. The near absence of marketing has prevented brand switching and enhanced brand loyalty. Particularly in the premium segment in which PMI operates brand loyalty usually exhibits higher levels. PMI's reported market share has since 2010 only moved between 27.3% at its lowest and 28.8% at its highest, excluding the China and U.S. market. Overall, it poses a CAGR of -0.2% since 2010, showing no long-lasting adjustments to its market share. This is consistent with our assumptions and observed market dynamics.

[7] Harvard Business Review, 2020, How Philip Morris Is Planning for a Smoke-Free Future, Available at: https://hbr.org/2020/07/how-philip-morris-is-planning-for-a-smoke-free-future
[8] PMI, 2021, Studies on Access to Smoke-Free Products, Available at: https://www.pmi.com/sustainability/reporting-on-sustainability/access-to-smoke-free-products---progress-2020

Figure 14: EBIT Margins 2021 by Geography
Source: Annual Report

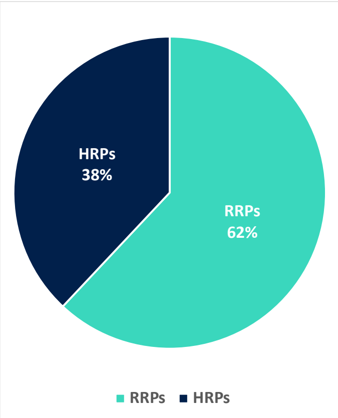


Figure 15: 2019-2021 Average Marketing Expenditures Split for BAT, Altria, PMI, SWM, Imperial, JTC
Source: Tobacco Transformation Index 2022

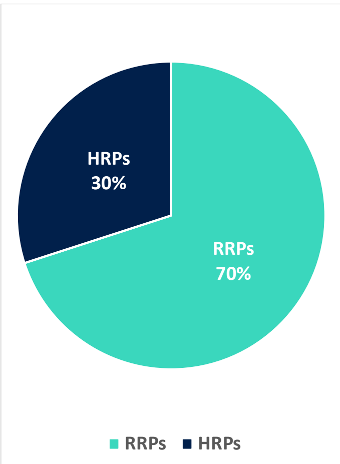


Figure 16: 2019-2021 Average R&D Expenditures Split for BAT, Altria, PMI, SWM, Imperial, JTC
Source: Tobacco Transformation Index 2022

The tobacco industry has considerable pricing power due to its oligopolistic market structure. The combination of an addictive product with very few substitutes on the market due to few market players controlling the market ensures steady demand levels. This results in PMI products generally being price inelastic. The WHO claims that a price increase of 10% will negatively affect the demand by 4% and 5% in high-income countries and low- to middle-income countries respectively[9]. Pricing decisions are thus rather actively driven by PMI and its competitors than by the customer side. We assumed that pricing for combustibles will slightly rise by 1% until 2026 and annually increase by 0.2% percentage points thereafter. Factors driving these price increases are firstly PMI's interest to offset lower units sold by price increases and secondly PMI's interest in incentivizing users to migrate to RRPs. These price increases seem realistically executable since PMI will deal in the combustible sector increasingly with heavier smokers who resist switching to other products, showing higher price inelasticity, as they will be the last ones to switch towards RRPs. The RRPs we expect to decline in price by 2% annually until 2026 with the growth rate improving by 0.2% percentage points annually thereafter. This leads to PMI achieving steady market prices from 2036 onwards. This initial higher decline in prices is due to increasing competitive pressure with several companies including PMI trying to capture great market share while the market is still in an early phase. Additionally, we see PMI decreasing the prices to close the price gap to the combustible product segment. It is anticipated that PMI and its competitors will proactively reduce this price gap to dissuade regulators from closing the price gap through higher taxation. The assumption that the price changes are smooth over time, and we do not see sudden price movements related to particular events is expected since tobacco companies are known for protecting customers from significant price increases that may tempt them to quit. Instead, price adjustments are passed onto the clients in smaller steps throughout a longer period[10].

Financial Projections

While PMI reports a marginal increase in gross profit margins from 66% to 71% from 2017 to 2021 the EBIT margins only increased from 40% to 41%. This is an indication of the slight relative shift in costs from the cost of sales towards other operating expenses. This has to do with R&D and marketing expenses becoming more and more important while pioneering new products. COGS now make up 50% of total costs. From 2022 onwards we expect this new percentage breakdown to continue. No further cost shifts are expected thereafter as the hot phase of R&D and marketing is over, and PMI transitions into a phase of constant deployment of R&D resources.

The cost of sales reportedly consist of raw materials, namely tobacco leaves, and other direct materials, shipping costs and labour and manufacturing costs including costs of devices. Based on the historical cost split into these four mentioned categories (35% tobacco, 30% labour and manufacturing, 28% direct materials, 8% shipping) one can derive that roughly 0.91 grams of tobacco were used per cigarette. Assuming wastages in the manufacturing process and that not all total tobacco was used only for cigarettes but for other products, this estimate roughly aligns with the 0.8 grams disclosed by the OECD[11]. Assuming the same amount used for Risk-Reduced Products like HEETS a decrease in tobacco used is forecasted due to lower volumes

[9] WHO, 2015, Report on The Global Tobacco Epidemic
[10] Z.D. Sheikh, J.R. Branston, A.B Gilmore, 2021, Tobacco Industry Pricing Strategies
[11] OECD, 2022, Tobacco Consumption, Available at: https://stats.oecd.org/fileview2.aspx?IDFile=8e59b835-8196-426e-9297-15bc1dab652c#:~:text=%2D%20One%20cigarette%20is%20considered%20equivalent%20to%201%20gram%20of%20tobacco.

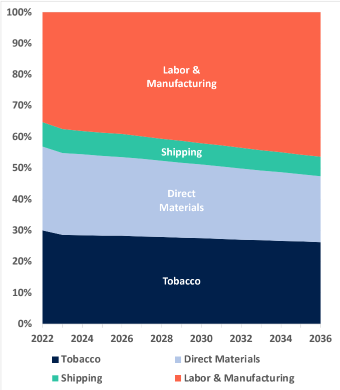


Figure 17: Forecasted Distribution of COGS for PMI excluding. SWM
Source: Analysts

produced offset by growing tobacco prices. Due to global cost inflation and supply chain interruptions due to COVID-19 and the war in Ukraine an annual 2% increase is expected for all materials used except tobacco. Tobacco costs overall remained relatively flat since 2017 and are anticipated to stay flat until 2024 according to World Bank Data. Thus, tobacco prices are only expected to grow by 1% annually. Expenses for tobacco thus stay stable over the forecasting period. As do direct materials as they are assumed as a ratio of tobacco costs since both raw materials are used in line with one another. Total shipping costs, accounted for as costs per unit, will slightly decrease due to the previously mentioned lower unit volumes at stable costs per unit. In adverse to that labour and manufacturing costs are expected to increase despite savings through increased efficiency shown by the dismission of 11,000 employees during the last four years. These savings were and are supposed to be offset by an increase in manufacturing complexity due to the deviation away from cigarettes to more complex products and the energy cost inflation. The cost of sales remain overall very stable as efficiency measures and lower volumes balance out with rising prices.

With Philip Morris' change in its strategy and product mix, capital expenditures were inevitable. PMI's Capex since 2013 mostly underpin capacity expansion initiatives, particularly for RRPs and respective new equipment needed. Initial investments of annually roughly $1 billion have been taken spikings in 2017 and 2018. Since then, PMI slowed down on their Capex. The Capex over Net Revenue ratio halved from 5% to 2.5% with an increase expected in 2022 bringing it to slightly more than 3%. Going forward we believe that Capex will grow with the net revenues since no further big lifts are expected with the heavy initial investments already being taken and new equipment already bought. General similarities in production and distribution additionally indicate that no further massive investments are needed and that moderate growth rates for Capex seem logical. Depreciation and amortization are anticipated to grow as a ratio of the Capex since higher Capex will directly result in higher depreciations and vice versa. The average Capex of the last year is used as a reference since depreciation should not be overinfluenced by singular outliers but rather be represented by the most recent average of capital expenditures. PP&E is growing modestly over the projected period with a CAGR of 3.20%.

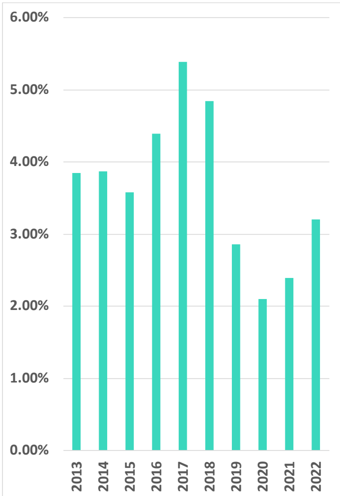


Figure 18: Capex over Net Sales Ratio PMI
Source: Analysts

PMI managed to lower its working capital requirements over the last years, mainly due to net effects on inventory, accrued liabilities and other current assets.

Regarding inventories, this primarily reflects the build-up of finished goods and other raw materials in the supply chain due to the COVID-19 pandemic in 2020 which are now being slimmed down again. Despite this, we observe PMI lagging behind its competitors, requiring 62% more days to sell its products compared to the average of peers. Especially the amount of finished goods inside the inventory highlights the need for sales efficiency and production process optimization. In the long run, we expect PMI to improve on these factors as current resource optimization and operating efficiency measures are being deployed under PMI´s sustainability efforts. As such, the average holding period is expected to approximate 322 holding days although still falling back on its peers as the more complex internationalization of PMI impedes to improve a lot.

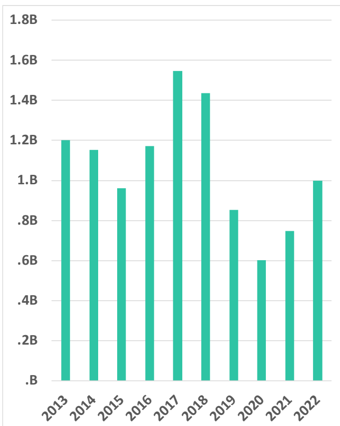


Figure 19: Capital Expenditures PMI
Source: Analysts

Furthermore, a positive impact on working capital can be related to higher trade payables primarily due to higher IQOS instrument purchases in 2021. Moreover, recently there has been great improvement in building up a better supplier network and favourable contractual conditions which led to an increasing payable period of 140 days up from 85 days in 2019.

Looking at its competitors, this can be stated as an above-average performance as only BAT tops this with an average payable period of 327 days. For the future, we see this to enhance in a positive direction mainly due to greater bargaining power and network-building measurements which will allow the average payable period to stabilize at 140 days.

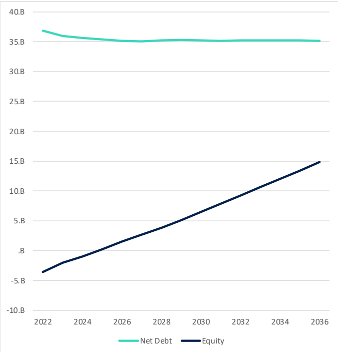


Figure 20: Net Debt to Equity of PMI
Source: Analysts

On the other hand, higher trade accounts receivable can be primarily attributed to lower utilization of factoring arrangements to sell trade accounts receivable with cumulative trade receivables sold totalling $11.8 billions and $11.5 billion for 2021 and 2020, respectively. Normally PMI sells short-term trade receivables under two types of arrangements to financial institutions on an ongoing basis without recourse in order to optimize cash and liquidity management and reduce credit risk. Although this loss was insignificant over the previous three years, it is recorded as a loss on sale of trade receivables within marketing, administrative, and research expenses. This loss represents the difference between both the carrying value of trade receivables sold and the amount of cash generated. The lower factoring utilization rate is further reflected in a slightly higher average collection period which increased from 37 days in 2018 to 40 days in 2021. Although PMI clearly manages its receivable collection better than its main competitors BAT, JTI, IB and KG&T, looking at ITC and Altria, there could be potential for improvements. Nevertheless, we expect PMI`s collection period to not deviate much from the past. As such, the average collection period will adjust slowly back to its 2018 figure with 37 days.

Operating cash is anticipated to account for 3% of revenues. In order to meet its short- and long-term liquidity needs for its many contractual obligations and commitments, including principal payments, accounts payable and accrued liabilities, purchase obligations for inventories as well as for operating lease liabilities and liabilities related to transition tax, PMI is keeping significant sums of cash. As such, its cash to sales ratios is twice to three times higher than the median of its competitors.

Furthermore, there is no change in treasury shares expected through repurchases. Even though PMI announced in mid-2021 a three-year repurchase program of up to $7 billion, it later in May 2022 announced the suspension of that same repurchase program due to its acquisition plans with SWM. Before that, there were no repurchases done in 2022.

Swedish Match

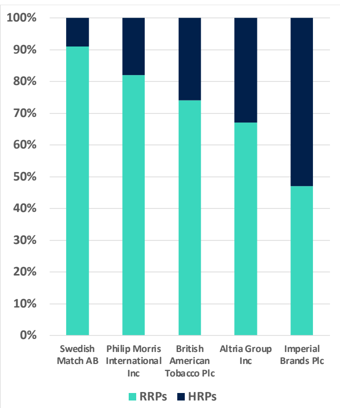


Figure 21: 2021 Capital Allocation Split between RRPs and HRPs
Source: Tobacco Transformation Index 2022

With the acquisition of 93.1% of SWM's shares, the consolidation method will be used to account for PMI's interest in SWM. Thus, SWM's income statement and balance sheet were forecasted. For 2022 to 2024 estimates published by SWM were expected. As they are based on the projections of eleven separate experts and analysts covering SWM we assessed them as credible. With a CAGR of 13.61% from 2017 to 2022 net sales are definitely on an upwards trajectory. From 2024 sales are expected to grow with the snus market of 5.5%, SWM's core product segment. From 2028 onwards this growth rate is anticipated to decline annually by 0.5% percentage until reaching 3% growth in perpetuity. Cost of sales and SG&A expenses are growing as a percentage of revenue as they were also historically increasing in line with net revenues and no changes in their composition are expected.

With SWM's high EBIT margins of above 40%, PMI added an additional profit driver to its portfolio. SWM has increased its profitability every year since 2016. That results in overall higher core results and offsets nicely the exit from Russia which affected 6% of PMIs net revenues. As an extra it allows PMI to reach its goal to become majority smoke-free in 2027, which is only one year after their expectations. In 2026 they are expected to miss that goal by 3 percentage points. Net income attributable to minority interest is expected to grow with the net income due to the 6.9% ownership in SWM that does not belong to PMI. Within the consolidation of the balance sheets, goodwill and non-controlling interest had to be adjusted. The goodwill was calculated to be the difference between the price paid for these 93.1% and the book value of equity for SWM that PMI would own. Due to SWM's negative book value of equity at acquisition, goodwill projections have made a big leap. Non-controlling interest has undergone a genuine jump as well as we added the fair market value of the Non-Controlling Interest – 6.9% of the fair value of SWM. The fair market value was inferred from the price paid by PMI for the acquired 93.1%.

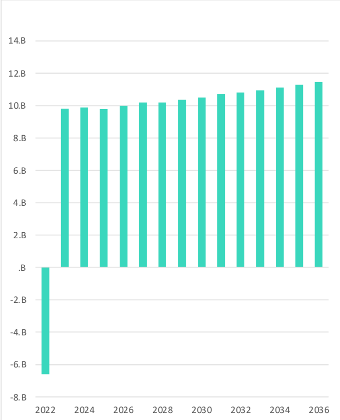


Figure 22: Unlevered Free Cash Flow Forecast
Source: Analysts

WACC Calculations / Cost of Capital

Since it is not anticipated that the capital structure will shift dramatically, the Discounted Cash Flow Method (DCF) is an appropriate method to estimate the share price of PMI. Accordingly, the weighted average cost of capital (WACC) must be derived to discount the anticipated FCFs. The Cost of Equity were calculated in accordance with the CAPM model. As the risk-free rate the 10Y U.S. Treasury Yield is used as of 01.12.2022. U.S. T-Bills were used as they are theoretically free of risk since they are backed by the U.S. government and the U.S. government debt market being the largest and most liquid market globally leads to a fairly priced market. The market risk premium was derived from Damodaran, last updated on Jan. 05, 2022, for the U.S. market. Calculations determining the beta were done regressing against the MSCI World (in USD) and using a period of maximum five years. All betas over a period of respectively one, three, or five years were between 0-1 strengthening the picture of PMI as a defensive stock showing less volatility than the market. The beta over three years of 0.77 depicted the lowest R-squared and thus was chosen for further cost of equity calculations. The upper and lower bounds are 0.71 and 0.84 respectively. Peers showed similar but slightly lower betas. The median of PMI's peer was projected at 0.61 with Japan Tobacco International depicting an outlier at 0.34. With this, cost of equity of 6.95% were calculated.

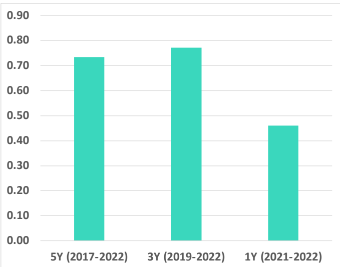


Figure 23: PMI's Betas over different time horizons
Source: Analysts

Fitch affirmed PMI's A Rating on Nov. 10, 2022, after its quarterly results and succeeded bidding offer to SWM. According to Damodaran, the link between interest coverage ratios and ratings results in a default spread of 1.14% for U.S.-based non-financial A-rated companies. Together with a taxation of debt of 21%, this results in a cost of debt of 3.81%. The WACC calculated is 6.36%.

Further sensitivity analysis was conducted as the WACC plays a vital role in our DCF valuation and is subject to several assumptions regarding beta, debt structure, and market premiums. Especially with a focus on the risk-free rate, depicted by the 10Y U.S. Treasury Bond, as this one has undergone relatively strong volatility in recent months from between 3.49 and 4.22 just within the period of November to the beginning of December.

DCF Valuation / Intrinsic Valuation

For the intrinsic valuation of PMI, the Discounted Cash Flow Model (DCF) was used. DCF Valuation provides the most accurate portrayal of the company's underlying fundamental value. As such, this method is best at determining the true worth of a business. Thus, the unlevered Free Cash Flows are discounted by the WACC, and the terminal value is calculated with the

WACC of 6.36% and terminal growth rate of 1.47%. The terminal growth rate has stabilized in the last five years of the extended forecasting period. The terminal growth rate was determined by multiplying the RONIC with the Reinvestment Rate. The RONIC was used since due to the change in PMI's business model and its ongoing transformation the future growth is expected to be directly dependent on incremental invested capital. We expect that future investments have different returns from the existing investments. ROIC and RONIC, therefore, differ from one another. Adding non-core operations and subtracting minority interests and net debt as of 2023 to the core enterprise value of $215,703 million results in an equity value of $173,869 million translating into a share price of $112.16. The terminal value depicts an overall 54% of PMI's enterprise value. Due to this and its reliance on the terminal growth rate and WACC, the sensitivity of the equity value to these indicators was observed and analysed (seen in Appendix).

Sensitivity Analysis

The sensitivity of the Equity Value on the WACC and the growth rate in perpetuity shows especially the dependence on an appropriate WACC. A deviation of the terminal growth rate by 0.1 percentage points only affects the expected share price to increase or decrease respectively by $2.88 at its best keeping the WACC constant. However, a deviation of the WACC by 0.2 percentage points increases or decreases the share price by $8.96. Investors, therefore, might want to keep an eye on the development of the WACC going forward and the risk-free rate as the WACC is highly dependent on the development of the risk-free rate itself. As described above current market conditions are increasing the volatility of the risk-free rate currently.

Sensitivity Analysis of Equity Value as Share Price

		Terminal Growth Rate								
		1.07%	1.17%	1.27%	1.37%	1.47%	1.57%	1.67%	1.77%	1.87%
WACC	5.56%	130.41	132.45	134.60	136.84	139.19	141.67	144.26	147.00	149.88
	5.76%	123.67	125.50	127.41	129.40	131.49	133.68	135.98	138.39	140.93
	5.96%	117.48	119.12	120.83	122.62	124.48	126.43	128.47	130.60	132.84
	6.16%	111.78	113.26	114.79	116.39	118.06	119.80	121.62	123.52	125.51
	6.36%	106.51	107.85	109.23	110.67	112.17	113.73	115.36	117.06	118.83
	6.56%	101.63	102.83	104.09	105.39	106.74	108.14	109.60	111.13	112.72
	6.76%	97.09	98.18	99.32	100.49	101.72	102.98	104.30	105.67	107.10
	6.96%	92.85	93.85	94.88	95.95	97.06	98.21	99.40	100.64	101.92
	7.16%	88.90	89.81	90.75	91.72	92.73	93.77	94.85	95.97	97.14

Figure 24: Sensitivity of Equity Value (as Share Price) to WACC and Terminal Growth Rate
Source: Analysts

Additionally, the sensitivity of PMI's revenues to the switching rates was examined as it determines not only the number of people switching but moreover the period until which we see a major shift in user behaviour. This analysis was done for each of the six geographies for 2025, 2030, and 2035 respectively. The results varied only slightly between the geographies. The effects were the highest in 2025, as further in the future a 1% increase or decrease in switching rates affects a smaller customer base only. In 2025 an increase or decrease in switching rates by 1% led to an increase or decrease in net revenues of approximately 1% mostly. For 2030 and 2035 the effect of an increasing or decreasing conversion rate became neglectable.

The factors the revenue projections are most sensitive to are the pricing assumptions of PMI's portfolio mix. Looking at the sensitivities of net revenues in 2025 on the initial growth rates of the prices, however, we see low sensitivities to these input factors. Net revenues in 2025 are only changing by a maximum of 0.5% if RRP pricing growth rates change by 0.4 percentage points ceteris paribus or if combustible pricing growth rates change by 0.2 percentage points. But net revenues are more sensitive to changes in the expected annual change in growth rates from 2027 onwards. Here, net revenues in 2030 are expected to change by above 2% if the respective growth rates change by 0.4 percentage points or 0.2 percentage points.

PRICE SENSITIVITY OF NET REVENUES 2025 TO INTIAL GROWTH RATE									
	RRP Pricing YoY Growth Rate until 2026								
Combustible Pricing YoY Growth	-2.80%	-2.60%	-2.40%	-2.20%	-2.00%	-1.80%	-1.60%	-1.40%	-1.20%
0.60%	-1.67%	-1.43%	-1.20%	-0.96%	-0.72%	-0.48%	-0.24%	0.00%	0.24%
0.70%	-1.49%	-1.25%	-1.02%	-0.78%	-0.54%	-0.30%	-0.06%	0.18%	0.42%
0.80%	-1.31%	-1.07%	-0.84%	-0.60%	-0.36%	-0.12%	0.12%	0.36%	0.60%
0.90%	-1.13%	-0.89%	-0.66%	-0.42%	-0.18%	0.06%	0.30%	0.54%	0.78%
1.00%	-0.95%	-0.71%	-0.48%	-0.24%	0.00%	0.24%	0.48%	0.72%	0.96%
1.10%	-0.77%	-0.53%	-0.30%	-0.06%	0.18%	0.42%	0.66%	0.90%	1.15%
1.20%	-0.59%	-0.35%	-0.11%	0.12%	0.36%	0.60%	0.84%	1.08%	1.33%
1.30%	-0.40%	-0.17%	0.07%	0.31%	0.54%	0.78%	1.02%	1.27%	1.51%
1.40%	-0.22%	0.01%	0.25%	0.49%	0.73%	0.97%	1.21%	1.45%	1.69%

Figure 25: Price Sensitivity of Net Revenues 2025 to the Initial Growth Rate
Source: Analysts

PRICE SENSITIVITY OF NET REVENUES 2030 TO GROWTH OF GROWTH RATE UNTIL 2030									
	RRP Pricing Growth Rate of Growth Rate (in % points)								
Combustible Pricing Growth Rate of Growth Rate (in % points)	-0.60%	-0.40%	-0.20%	0.00%	0.20%	0.40%	0.60%	0.80%	1.00%
-0.25%	-6.09%	-5.03%	-3.95%	-2.86%	-1.75%	-0.62%	0.52%	1.68%	2.85%
-0.15%	-5.66%	-4.60%	-3.52%	-2.42%	-1.31%	-0.19%	0.95%	2.11%	3.29%
-0.05%	-5.22%	-4.16%	-3.08%	-1.99%	-0.88%	0.25%	1.39%	2.55%	3.72%
0.05%	-4.79%	-3.72%	-2.65%	-1.55%	-0.44%	0.68%	1.83%	2.98%	4.16%
0.15%	-4.35%	-3.28%	-2.20%	-1.11%	0.00%	1.13%	2.27%	3.43%	4.60%
0.25%	-3.90%	-2.84%	-1.76%	-0.67%	0.44%	1.57%	2.71%	3.87%	5.04%
0.35%	-3.45%	-2.39%	-1.31%	-0.22%	0.89%	2.02%	3.16%	4.32%	5.49%
0.45%	-3.00%	-1.94%	-0.86%	0.23%	1.34%	2.47%	3.61%	4.77%	5.94%
0.55%	-2.55%	-1.49%	-0.41%	0.68%	1.79%	2.92%	4.06%	5.22%	6.39%

Figure 26: Price Sensitivity of Net Revenues 2030 to Growth Rate of Growth Rate
Source: Analysts

Scenario Analysis

Adding to the sensitivity analysis a scenario analysis was conducted. The focus lays particularly on projecting a different speed in customer transformation or PMI's abilities to act on that customer transformation resulting in slower or faster adoption of RRPs and other smoke-free products. For that worst-case, base-case, and best-case scenarios were projected and compared. For each scenario different switching rates, growth rates for combustible and RRP prices, growth rates of SWM, and material price changes were assumed.

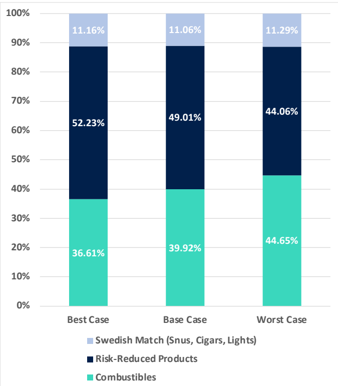


Figure 27: Comparison of Scenario Analysis
Source: Analysts

In the best-case scenario, we see initially and going forward higher switching rates as a sign of customers adopting faster to smoke-free products and PMI pushing its customer transition more than expected. Furthermore, we see a slower consolidation of the RRP market and lighter sales price decreases for RRPs and greater price increases in combustibles. Overall, a higher pricing power for PMI is assumed. For the worst-case scenario on the other hand a slower adoption to RRPs was expected resulting in lower switching rates and higher price decreases in RRPs for PMI in order to make smoke-free products more attractive to its customers.

The recommendation in a best-case scenario stays at Buy, as a total return of 46.3% is anticipated. In the worst case, the recommendation would switch to Sell as a negative return of -4.9% is expected. Share prices would adjust to $144.26 and $91.91 respectively

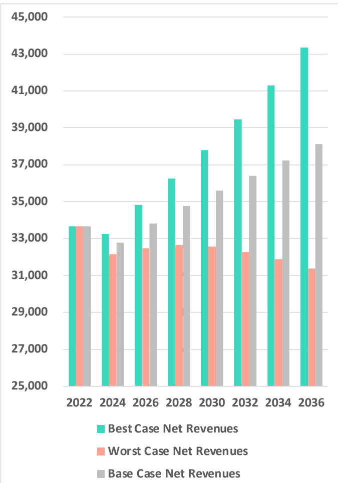


Figure 28: Comparison of Scenario Analysis in Revenues
Source: Analysts

This shows that an ideal scenario has a far more severe outcome than a worst-case scenario has on PMI. This could be because in the event of a failure to transform customer demand or a lack of internal transformation of its own into the RRP product segment, PMI will only fall back on its historical core business of cigarettes. Since the cigarette business is relatively stable and market players have a great deal of control over pricing even when the market is struggling, the worst-case scenario does not affect PMI as severely. Nevertheless, will a declining market cut into PMI's combustible business. However, with ideal market development in PMI's favour and PMI leveraging these advantageous market conditions the potential is immense. Especially the price development of RRPs needs to be kept an eye on as this determines the profitability of RRPs and shows if RRPs are able to do more than just replicate cigarette operating margins.

This also shows the industry's major economic advantages, which, when transferred to smoke-free products, can be a powerful driver of shareholder returns.

PHILIP MORRIS INTERNATIONAL

COMPANY REPORT

TOBACCO

16 DECEMBER 2022

STUDENT: ARTHUR MELTENDORF | RAFAEL MARTINS

49364@novasbe.pt | 48399@novasbe.pt

A Dying Industry

The creative destruction of the cigarette

- With our analysis we anticipate a price target **FY23 of $108.16**. This provides an upside to investors in **total expected return of 10.79%** compared to share prices as of December 2022 Hence, our recommendation is **BUY**.
- PMI has recognized the need to transform its business away from cigarettes early. It has done so through acquisitions and internal growth, **spending over $18.5 billion** and achieving a **29% revenue contribution from alternative products**.
- The positive investment thesis roots in PMI's market and price leadership and successful translation into its risk-reduced product portfolio. The acquisition of SWM enables further direct customer contact and emphasises the commitment with which PMI tries to gain early category leadership in new markets.
- Leveraging its pioneer advantage PMI secured roughly **75% of the market share in HTUs**, and with Swedish Match, it owns **50% of the tobacco-free oral nicotine** market while maintaining its constant **28% market share in cigarettes**.
- The investment rationale is exposed to the risk of sociodemographic trends outpacing PMI's ability to disrupt itself and lowered health risk concerns with future alternative products increasing competition and destroying oligopolistic market structures.

Company description

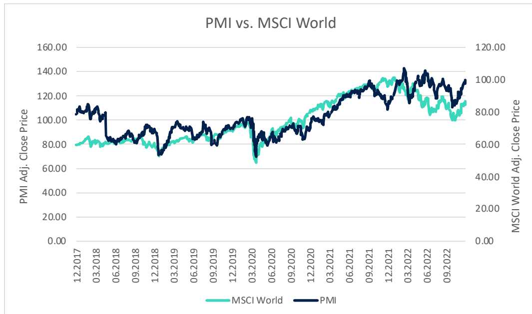
Philip Morris International Inc. is an international tobacco company diversifying away from its core nicotine products. Its portfolio is primarily made up of cigarettes and risk-reduced products such as heat-not-burn, vapor and oral nicotine products. The company was incorporated in 1987 and is headquartered in New York, New York.

Recommendation:	**BUY**
Price Target FY23:	**$108.16**
Price (as of 16-Dec-22)	**$102.46**

Reuters: PM.N, Bloomberg: PM:US

52-week range ($)	82.85-112.48
Market Cap ($m)	158,231
Outstanding Shares (m)	1,550
Total Expected Return	10.79%

Source: Bloomberg, Analyst Estimations



Source: Analysts

(Values in $ millions)	2021	2022E	2023F
Net Revenues	31,304	33,672	32,072
EBITDA	13,872	15,006	14,530
Net Profit	10,937	9,620	9,356
EPS	5.83	5.90	5.73
P/E	13.5x	16.5x	17.9x
EV/Sales	5.5x	5.9x	6.4x
EV/EBITDA	12.5x	13.2x	14.2x
EV/EBIT	13.4x	14.7x	15.6x
ROIC	50%	50%	28%
Net Capex	801	1,953	1,351
Depreciation & Amortization	998	1,563	1,312

Source: Company Data, Analysts Estimations

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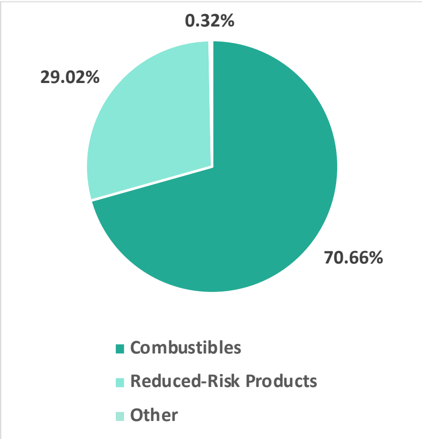

Figure 1: Share of Net Revenues 2021 by Product Segment
Source: Annual Report

Company Overview

Company description

Philip Morris International (PMI) is one of the five worldwide leading tobacco brands operating across 180 countries, divided into six operating regions – European Union, Eastern Europe, Middle East & Africa, East Asia & Australia, South & Southeast Asia, and Americas. It is headquartered in New York, U.S. but has an additional operational headquarter in Lausanne, Switzerland. The company's headquarter will be moved to Stamford, Connecticut end of 2022. PMI's historical roots are going back to 1846 to London where it was firstly established in 1881. After changing its name to Altria in 2003 Philip Morris International was spun-off from the U.S. business. Therefore, PMI is not responsible for the U.S. market anymore. PMI currently employs 69,900 employees and owns 39 production facilities globally.

In 2016 the new vision was announced to deliver a smoke-free future after the company's initial efforts to produce Risk-Reduced Products (RRPs) and opening its first facility in Italy in 2014. Specifying their vision, an announcement in 2021 formulated the goal to become majority smoke-free in 2025 in terms of net revenues. With their exit from Russia end of 2022, they adjusted their goal to 2026. RRPs refer to products that potentially are less harmful than cigarettes and are characterized by a lack of combustion. Next to RRPs big efforts are put into exploring the consumer healthcare and wellness market to go beyond nicotine. These efforts are exemplified by PMI's acquisitions of Vecture Group PLC, Fertin Pharma, and OtiTopic.

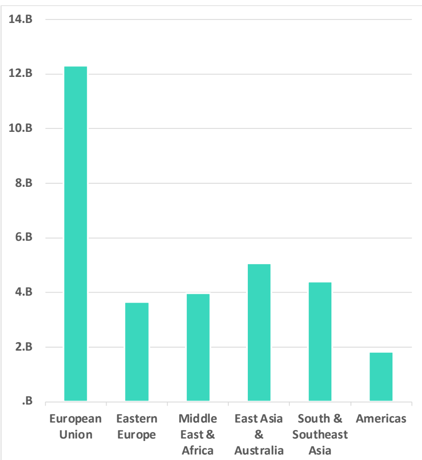

Figure 2: Net Revenues 2021 by Geography
Source: Annual Report

To date, the revenues are split into 70.7% combustibles, 29.0% RRPs, and 0.3% beyond nicotine. Its combustible portfolio consists of its flagship brand Marlboro and other well-known brands including Parliament, Philip Morris, L&M, and Dji Sam Soe. Revenues in the RRP sector are mostly generated by IQOS devices and HEETS. PMI estimates to have around 150 million cigarette customers and 21 million IQOS users. IQOS is so far only offered in 70 markets worldwide. Despite that and being sold only since 2014, the Heated Tobacco Units (HTU) make up already 3.5% of the 27.3% market share that PMI holds across the worldwide market, excluding the U.S. and China. With this shift into new product categories, a fundamental shift in revenue generation and business model comes along. Since the traditional business was primarily focused on manufacturing cigarettes and selling them through third parties, it posed a clear B2B business model without any direct contact points to the final customers. Especially the

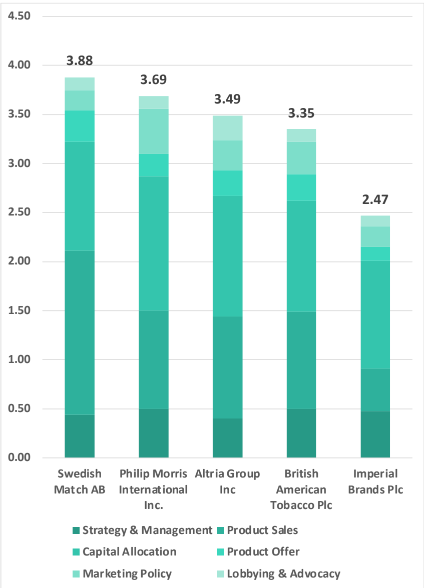

Figure 3: Tobacco Transformation Index 2022 (Scale of 1-5)
Source: Tobacco Transformation Index

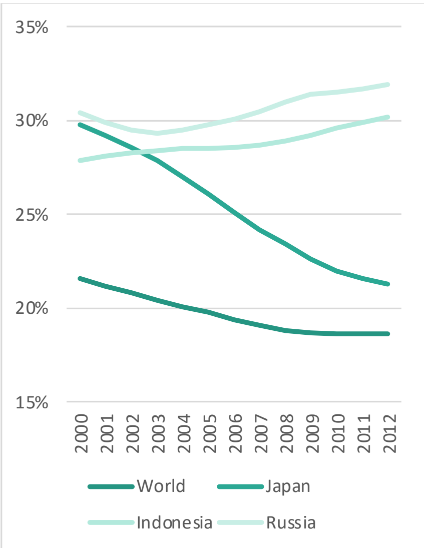

Figure 4: Share of People Who Smoke Every Day in PMI's Top-3 Regions
Source: IHME

devices are nowadays marketed through direct consumer interaction transforming the business model progressively towards a B2C business model as PMI starts to market its products through appropriate flagship stores. By now selling innovative devices as complementary products to its tobacco products PMI taps into additional revenue streams.

Overall, PMI poses a healthy company with a credit rating of A, a stable positive operating margin of roughly 40% and net revenues of around $30 billion a year. PMI's Debt/Equity Ratio is currently at 23.22%, after the all-cash acquisition of Swedish Match. Its focus on the premium segment in most markets enables increased brand loyalty and price inelasticity. PMI generates roughly 50% of its revenues in the premium segment, which is strongly higher than the averaged 25% of its competitors. Its pricing power can also be seen by comparing its shipment volumes to net revenues. While shipments of combustibles went down with a CAGR of 5.10%, net revenues only went down by 3.10% CAGR in the last 5 years. In the same period revenues as well as shipment units of RRPs went up by 65% CAGR.

On May 11th PMI announced its plans to acquire Swedish Match AB, a smokeless tobacco company with a portfolio ranging from snus to cigars, lights, and matches. On Nov. 7th it became public that PMI plans to acquire 90% of SWM and take the company completely private failed. However, it convinced 83% of SWM's shareholders with its all-cash offer of SEK 116 per share. On Nov. 28th another announcement was made that PMI was able to convince further shareholders and now obtains 93.1% of SWM which allows them to request the delisting of SWM[1]. This acquisition is part of PMI's strategy becoming majority smoke-free but also to expand into the U.S. market as SWM built-up a great presence there. 85% of SWM's revenues are attributable to the U.S. and Scandinavian markets. In 2021 it reported net sales of ca. two billion USD at a 40% operating margin. The operating profit is specifically driven by its snus products, accounting for 74% of its operating profits.

Market Overview

Reaching $912 billion in value in 2022, an increase of around $25 billion compared to 2021, the global tobacco market is projected to reach a market size of $1.04 trillion in 2027, at an estimated CAGR of 2.64%. Among the top five countries one finds China, the US, Germany, Indonesia and the UK which make up around half of global tobacco products consumption including cigarettes, smoking tobacco, cigars and cigarillos, and e-cigarettes. Due to increasing

[1] PMI, 2022, Press Release, Link

Figure 5: Tobacco Retail Value Worldwide (in USD millions)
Source: Euromonitor

Figure 6: Top 5 Tobacco Consuming Countries
Source: Statista

Figure 7: Heated Tobacco Retail Value Worldwide (in USD millions)
Source: Euromonitor

consumer health awareness and increased regulation in Europe, tobacco consumption in that region has declined in recent years, while sales growth has been mainly driven by emerging markets. [2]

Altogether, more people are being protected through effective regulatory measures such as tobacco taxes, smoke-free public areas, access restrictions, and health education, yet the number of smokers worldwide is projected to stay stable. Further, companies remain profitable and report around $60 billions in profits as declining sales volumes are offset by higher prices as well as by declining raw material prices for tobacco which will further offer the industry cost-saving potential in the future.[3]

Moreover, this is enforced through an ominous focus on increasing their customer base and an attempt to diversify their product offerings through a surge of unprecedented innovations. Market players are putting hopes in acquiring newly merit companies in order to appeal to a new generation of costumers with products such as newer variants of e-cigarettes. However, the shift to lower-risk products such as e-cigarettes can be afforded by sustained high revenues as the industry's cost base is maintained under control through modernized production such that factories employ fewer and fewer workers, making costs fall and profitability to further rise. With this being said, global tobacco consolidation continues through privatisation, acquisitions and mergers, resulting in five companies, namely the China National Tobacco Corporation (CNT), British American Tobacco (BAT), Philip Morris, Japan Tobacco International (JTI), and Imperial Brands (IB), to control more than 80% of the global cigarette market.[4]

Although, these figures do not include the HTU market, with both tobacco heating devices and consumables, which was worth an additional $28.8 billion in 2021. While the market remains small, accounting for only 2.4% of the global nicotine market, it is growing, and with increasing regulatory concerns about vapor, it is expected to grow even faster. Competition is a game of winners and losers, and PMI has placed itself in a market that, unlike vaping, has quickly consolidated into an oligopoly.[5]

Macro-Environment

This analysis should provide detailed information on the prevailing macroeconomic environment of the tobacco industry as well as highlight challenges PMI faces.

[2] Tobacco Products, Worldwide Statista, 2022
[3] Report: Global Tobacco, Vital Strategies, 2022, Link
[4] Product Sales, The Tobacco Atlas, 2022, Link
[5] Philip Morris Is Disrupting Itself Into Greater Profitability, Seeking Alpha, 2022, Link

Political conditions have an important role to play in defining the drivers that may affect the long-term profitability of the tobacco players in a particular market. As multinational companies, they operate in numerous of countries and therefore are exposed to various types of political environments and political system risks.

Figure 8: Political Tobacco Measurements and Evolution of PMI stock price
Source: Yahoo Finance

Looking at Europe for instance, we see the EU Commission preparing a legislative proposal to revise the 2011 EU Tobacco Tax Directive, which could include unfavourable definitions and tax treatment for new types of tobacco categories and nicotine-containing products, including HTUs and e-cigarettes. Currently, the EU excise tax is at least 60% of the weighted average retail selling price and translated into hard numbers this would correspond to a minimum price of €109 per 1000 cigarettes in Nov. 2022 and €117 in 2023. The newly proposed minimum excise tax on cigarettes would potentially increase this price to €180, representing a 53.8% real increase over the existing minimums.[6]

Further, evidence shows that a price rise of 10% is associated with a consumption decrease of up to 8% in low- and middle-income countries.[7] As such, taxation plays a central role in reducing tobacco use, also to discourage youth smoking, and is an effective tool for governments to address public health, illicit trade, and environmental problems[8]. Nevertheless, it is expected that HTUs will be taxed at a lower rate with a minimum tax rate of either €91 per 1000 sticks or 55% of their retail price. This in fact, could accelerate the switching rate from cigarettes to HTUs as these would provide smokers with a cheaper alternative.

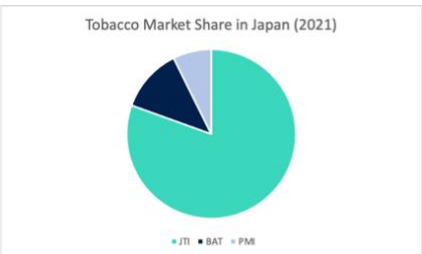

Figure 9: Tobacco Market Share in Japan (2021)
Source: Statista

Moving to Asia, we further observe how governments are shaping the market. Although in this case presenting a negative example as some governments are promoting local producers and as such enforcing dominance of local players. For instance, the Japanese government holds one-third of the shares of JTI which in turn makes the company benefit from light regulation as calls for stricter smoking bans have often been met with resistance from government organizations.[9] Moreover, this is highlighted by the fact that the Ministry of Finance sets tobacco prices for Japanese growers to ensure fair prices in order to protect them, while on the other hand JTI pays a pittance for leaf from developing countries. This leads to market distortions in favour of local companies and unfair market conditions for foreign players.[10]

Wide geographic involvement also come together with the exposure to different macroeconomic factors such as the inflation rates, interest rates, exchange rates

[6] The Smoke Free Partnership Statement: Delay of the EU Tobacco Tax Proposal, Smoke Free Partnership, 2022, Link
[7] Tobacco Control, The World Bank, 2003, Link
[8] Excise Duty on Tobacco, European Commission, 2011, Link
[9] Olympics' legacy for tobacco control in Japan, Tobacco Induced Diseases. 2019, 17A5. doi:10.18332/tid/111611.
[10] Council Releases Determinations for 2017 Tobacco Cultivation, Japan Tobacco Inc, 2016, Link

Figure 10: Current smoking prevalence of low- and mid-income countries (2022)
Source: Thebmj

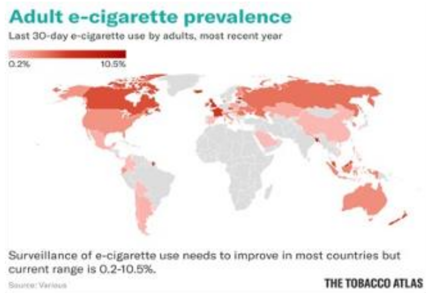

Figure 11: Adult e-cigarette prevalence worldwide
Source: The Tobacco Atlas

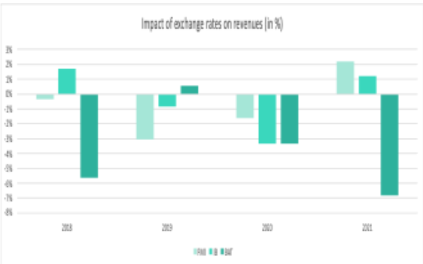

Figure 12: Impact of Exchange Rates on Revenues for Philip Morris, Imperial Brands and British American Tobacco
Source: Annual Reports

and business cycles which indeed define aggregate demand and investment in an economy. Along with the availability of products and accurate information about them, economic conditions have great implications on changes in adult consumers' preferences.

One can observe that economic wealth is negatively correlated to smoking prevalence. For instance, considering low- and mid-income countries, it is found that smoker prevalence is higher in low-income countries compared to mid-income counties.[11] This is further highlighted when comparing smoking tendencies in developed countries, such as Germany, where one percentage point increase in the regional unemployment rate is associated with a 0.7 percentage point increase in the tendency to smoke.[12] In addition, in uncertain economic times, adult consumers may move to buy cheaper brands, and sales of high-end and mid-priced brands and profitability could be significantly adversely affected.[13] As such, a decreasing smoking tendency in economic wealthy countries lead to a higher focus and concentration of alternative products, i.e., e-cigarettes in these regions.

Despite this, the current high inflationary environment gives big tobacco companies an advantage. Tied with rising cigarette taxes, this implies that cigarette prices are less sensitive to rising input costs. For example, a 10% increase in raw material prices means an overall increase of 2% or less making it easier to charge nicotine-addicted customers more.[14]

Moreover, since tobacco firms usually operate on a multinational basis, they primarily generate revenues in local currency, which then must be translated for financial reporting purposes. As foreign currencies may fluctuate significantly against this could affect companies' profitability to some extent. As the graph visualizes, the impact of foreign exchange rate translation on revenues varies from (-6.8%) to 2.2%. Although this is difficult to predict and to compare as it particularly depends on the different geographic exposure which differs from one individual company to another.

The culture of a society and how that society behaves affect the organization's culture in a particular environment. Public shared beliefs and attitudes play a large role in how brand marketers understand the customers of a particular market and how they structure the marketing message to their consumers.

[11] Patterns of tobacco use in low- and middle-income countries, BMJ, 2022, Link
[12] Smoking and the Business Cycle: Evidence from Germany, Institute of Labor Economics, 2017, Link
[13] 2021 Annual Report, Philip Morris, 2021
[14] Inflation gives Big Tobacco a handy drag, Reuters, 2022, Link

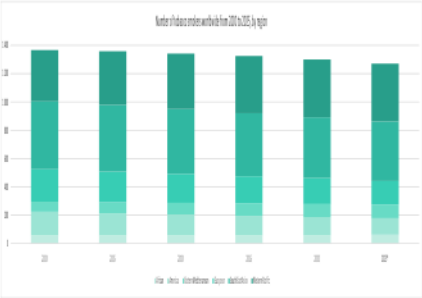

Figure 13: Number of Tobacco Smokers Worldwide by Geographies from 2000 to 2025F
Source: WHO Global Report on Smoking Prevalence

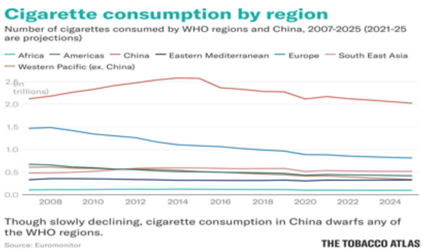

Figure 14: Cigarette Consumption by Region from 2007 to 2025E
Source: The Tobacco Atlas

2021	Total (16 countries)			LMICs (6 countries)		
	HRPs	*RRPs*	*Ratio*	*HRPs*	*RRPs*	*Ratio*
British American Tobacco	16	13	81%	6	4	67%
Philip Morris International	15	11	73%	6	2	33%
Imperial Brands	12	6	50%	4	0	0%
Japan Tobacco Group	15	7	47%	5	0	0%
KT&G	3	1	33%	2	0	0%

Figure 15: Product Portfolio of leading Tobacco Companies (2021)
Source: Smoke-Free World

With arising global health concerns around the use of tobacco published by the WHO, the acceptance of smoking fell in society and as such lead to a decline in tobacco consumption. These factors are expected to continue to weight on sales of combustibles in many geographies around the world. Despite the continuous efforts of discouraging smoking, the number of smokers worldwide is projected to continue fairly stagnant through 2025 from the current estimate of 1.3 billion. While consumption is declining steadily in higher income countries, it is predicted that it will increase in some low to medium income countries. It shows that regions with greater tobacco control measures and higher awareness of related health issues, e.g. in Americas, Europe and South East Asia, display sinking consumption rates, but given Africa's rapid population growth and rising life expectancy in Western Pacific combined with focused marketing measures in these geographies, the number of smokers will increase and as such offset the expected small global decline in tobacco consumption.[15] Furthermore, Heated Tobacco Products (HTP) are becoming quite popular in different geographies as they provide a less harmful alternative to existing smokers but evidence shows that the dual use of both HTPs and combustibles is actually very common under alleged quitters. In this case, the public health benefits of dual consumption appear to be extremely small, as the harm of continuing to smoke even a few cigarettes each day is high and under certain conditions can be more harmful than smoking alone.[16]

As just sneak peeked, technology is transforming the cigarettes industry as more substitutes enter the market that focus on changing customer values and government regulations. Out most, the speed at which technologies disrupt the industry is crucial as fast speed of technological diffusion may give a firm little time to cope and be competitive in the newly emerging market.

Following this, some tobacco companies among PMI laid out a smoke-free vision where one day smoke-free products will replace cigarettes. As such, in recent years, many newer consumer tobacco and nicotine products were gradually introduced to the market, including electronic nicotine delivery systems (ENDS), also known as e-cigarettes. In total, these so-called risk-reduced products can be categorized in six different groups, namely cartridges, e-liquids, HTPs, non-tobacco nicotine pouches, nicotine-replacement therapy products, and Swedish-style snus. This was primarily driven by new players which entered the cigarettes

[15] Product Sales, The Tobacco Atlas, 2022, Link
[16] E-cigarettes & HTPs, The Tobacco Atlas, 2022, Link

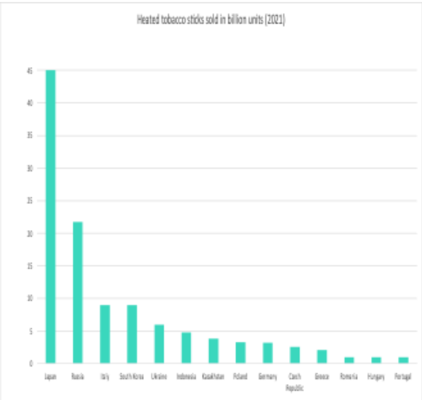

Figure 16: Heated tobacco stick sold per country in 2021 (in billion units)
Source: Tobacco Tactics

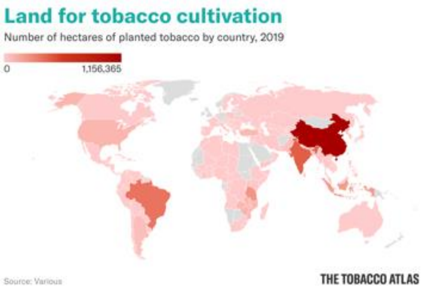

Figure 17: Worldmap of Tobacco Cultivation (2019)
Source: The Tobacco Atlas

Figure 18: Tobacco Leaf Production by HDI country groups and China from 1961 until 2019 (in million tons)
Source: The Tobacco Atlas

market and drove innovation, which in fact increases competitive pressure by lower pricing strategies and cost reductions.[17]

Although, we'll see that one obstacle to faster harm reduction is the fact that tobacco corporations cannot legally offer RRPs in some nations because of state restrictions.[18] In addition, a constrained or uncertain regulatory environment correlates with limited availability of RRPs, and per capita available income correlates strongly with the prevalence of RRPs.[19]

Different markets have different norms or environmental standards that are required to operate in those markets and should be carefully evaluated as tobacco farming undoubtedly has many negative impacts, including damage to the environment (e.g., deforestation, destruction of watersheds, etc.), impoverishment of farmers and workers, damage to health and child labour, and more.[20]

Looking at the tobacco leaf cultivation map, one finds that global production is quite concentrated in Asia and in Americas, but above all in China and mid-income countries where the daily average temperature is between 20 and 30 °C in order to guarantee optional tobacco growth. Furthermore, dry periods are necessary for the maturation and harvesting of leaves as the plant is sensitive to waterlogging and requires well-aerated and drained soil. The effects of climate change, such as glacial retreat, increasing precipitation as well as lake flooding damages the plants and leads to death.[21] To then compensate the volatile harvest yield, more and more farming land is need which in turn needs further investments leads to increasing costs.[22]

Moreover, the most damaging to the public environment is the tobacco industry's often successful attempts to undermine tobacco control efforts through prosperity on behalf of tobacco farmers. However, tobacco prices are typically low and primarily controlled by a few large multinational tobacco-buying companies. Recent research even demonstrates that most smallholder tobacco farmers struggle economically and miss out on economic opportunities as they have to dedicate many hours in this exceptional labour-intensive crop with high opportunity costs. With these in mind, some governments pose challenges to the tobacco industry as they have started national programs helping farmers to divest from any participation in tobacco cultivation. Simply by investing in supply and

[17] Harm Reduction,Tobacco Tactics, 2022, Link
[18] What Are Tobacco Companies Selling Where Reduced-Risk Products Are Legal?, Smoke-free World, 2022, Link
[19] The Unsmoke screen: the truth behind PMI's cigarette-free future, The Bureau of Investigative Journalism, 2022, Link
[20] Tobacco and its environmental impact: an overview, WHO, 2017, Link
[21] Tobacco, FAO, 2022, Link
[22] Recent patterns of crop yield growth and stagnation, Ray DK, Ramankutty N, Mueller ND, West PC, Foley JA., 2012

value chains, they are helping farmers to find new markets for their other goods. The most successful example of change can be observed in Indonesia, where former tobacco farmers growing local non-tobacco crops are now consistently making more money than they did growing tobacco.[23]

Furthermore, the industry faces legal challenges as some countries and institutions are not always stable enough to protect a company's intellectual property rights. Market players need to carefully consider this aspect before entering such markets, in particular with their RRPs, as this may lead to the theft of the company's intangible assets and thus to an overall competitive advantage.

The volatile legal environment around the industry can have further negative implications on the emerging RRP businesses. This is highlighted by ongoing lawsuits between BAT and PMI that have been raging in Japan, Korea, the US and the UK. The dispute centers on the heating blade technology used in the IQOS and Glo devices, with both parties suing each other over the technology of their heating devices. In fact, the cases concern not only the "heat-not-burn" technology, but also the classic e-cigarette. While BAT won same patent suits against PMI products in 2021, the Düsseldorf Regional Court recent found that BAT infringed a Philip Morris patent resulting in a sales stop for Glo heating devices.[24] Moreover, one must state that the U.S. federal decided to put a hold on the Food and Drug Administration's ban on sales of Juul Labs Inc's e-cigarettes allowing it to be again marketed in the U.S..[25]

Figure 19: Example of plain packaging
Source: Tobacco Tactics

Nevertheless, one can see the biggest implications on traditional tobacco business through the restrictions on public smoking. For instance, regional authorities and municipalities either imposed or recommended prohibitions on smoking or in the example of South Africa even halted the distribution of tobacco products, e-cigarettes, and HTUs for several months during the COVID-19 pandemic.[26] In addition, key markets such as Australia, France, Saudi Arabia and Turkey, plain packaging legislation has already been passed that prohibits the placement of brands, logos, and colours on packaging, aside from the trade mark and tobacco type but including RRPs. The adoption of such regulation in further markets limits competitive differentiation and can affect customer retention measurements negatively. Also, in some markets, one can observe complete bans on advertising and display of tobacco products.[27] Moreover, New Zealand's

[23] Growing, The Tobacco Atlas, 2022, Link
[24] Philip Morris and Hoyng ROKH Monegier strike back against BAT's Glo products, Juve Patent, 2022, Link
[25] Federal appeals court puts FDA ban on Juul e-cigarette sales on hold, Reuters, 2022, Link
[26] The temporary ban on tobacco sales in South Africa, Tobacco Control BMJ, 2021, Link
[27] Plain packaging update: new legislation in France, while Australia shakes off legal challenge, ELF, 2016, Link

plan to become smoke-free by banning tobacco sales as well as Denmark's consideration of doing similar, illustrates the upmost legal challenges.[28]

Operating Environment

Figure 20: Cigarette Market: Retail Volume Share by Market Player
Source: Statista

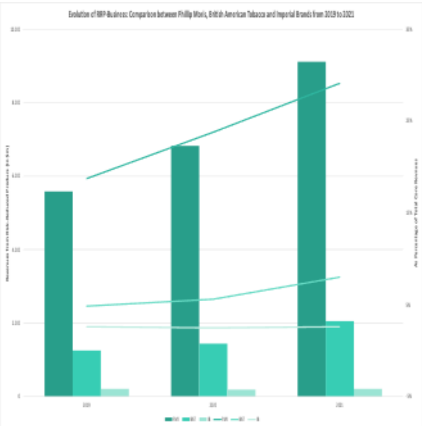

Figure 21: Evolution of RRP Business: Comparison between PMI, BAT and IB from 2019 to 2021

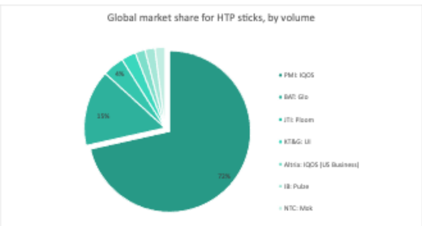

Figure 22: HTP Market: Retail Volume Share by Market Player and Device
Source: Tobacco Tactics

Turning to PMI's competitive environment, one finds three major global players, a number of local tobacco corporations, and, occasionally, government-owned tobacco companies, particularly in the Maghreb, China, and Southeast Asia. Furthermore, industry consolidation and privatization of state-owned companies have further led to a general increase in competitive pressure resulting in six tobacco companies to generate 86% of cigarette retail volume sales globally in 2020.[29] CNT is the largest cigarette producer at 48% retail volume share, followed by the five publicly traded tobacco companies: BAT, PMI, JTI, IB, and Altria. With the exception of CNT, leading players in the market demonstrate global presence and focus on leveraging opportunities in emerging markets to expand their existing portfolio. In fact, cigars and cigarillos are the category with the smallest differences in retail volume share between the top five, with JTI leading the way with 16% and BAT in fifth place with 9%. For smoking tobacco, JTI is also in first place, while three of the world's other leading cigarette manufacturers are also in the top five. When it comes to heated tobacco, there are only five companies in total with PMI leading the evolving market with a 79% volume share as IQOS has driven the company's success in the heated tobacco market in several countries around the world.[30] But especially the newly acquired companies, including Snus AG and Swedish Match, should help in realizing a faster transition as tobacco-free oral nicotine products belong to the fastest-growing RRP category.[31]

However, other traditional tobacco companies are as well recognized among the top producers in the various non-cigarette categories aiming for a tobacco harm reduction, although only PMI, BAT and JTI have set time-bound and measurable goals to reduce smoking. For instance, BAT's target for tobacco harm reduction is to generate £5 billion in RRP revenues by 2025 and PMI committee to generate 50% of its net revenues from RRPs by the same time.[32] Since PMI's commitment of becoming a smoke-free company until 2025 things have switched slowly as its current smoke-free product portfolio makes up only 29 % of total net revenues. Although this can be seen as extremely progressive when comparing it to BAT or IB. Other market players include JTI having a 4% market share and

[28] New Zealand bans future generations from buying tobacco under new laws, Reuters, 2022, Link
[29] 2021 Annual Report, Philip Morris, 2021
[30] Global Trends In Nicotine, Smoke-free World, 2021, Link
[31] Philip Morris Is Disrupting Itself Into Greater Profitability, Seeking Alpha, 2022,
[32] 2021 Annual Reports, Philip Morris, and British American Tobacco, 2021

selling its Ploom HTP mainly in Japan, though not displaying current portfolio composition in latest reports. Further, KT&G has a 3% market share and signed a partnership with PMI in 2020 to market its smokeless products which is a sign of PMI's competitive strength. Altria in fact has the right to sell IQOS in the United States. Admittedly, PMI and Altria are in a patent dispute with R.J. Reynolds over IQOS, resulting in the prohibition of importing or selling the system in the United States. However, there are signs that the company is winning that dispute. With a 15% market share, BAT is the only serious competitor. Nevertheless, PMI's net revenues are more diversified as BAT still generates more than 90% through combustibles. With respect to IB, next to greater product diversification regarding RRP products, PMI further benefits from a larger size and greater geographic exposure. While IQOS is available in 70 markets, BAT's and IB's HTPs are only available in less than 20 markets, making PMI the only market player with real scale.[33]

Figure 23: Evolution of PMI's Heated Tobacco Products
Source: Philip Morris

With new players entering the cigarettes market and driving innovation, PMI is under increasing competitive pressure. With this in mind, it is essential to build effective barriers to secure competitive advantage. But especially in the dynamic environment with more and more substitutive products and services shaping the market, it is significant to provide a value proposition that is distinctly different from the industry's current offerings. This can imply a switch of focus from product-oriented offerings to more service-oriented ones as new entrants fear dynamic industries where incumbent players such as PMI regularly reset product standards through new and breakthrough products and services.

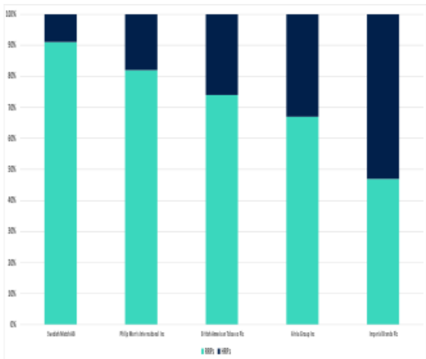

Figure 24: Total Capital and R&D Budget Spending between RRPs and HRPs segement from SWM, PMI, BAT, Altria and IB
Source: Tobacco Transformation Index

In the recent years, competitors have aggressively shifted their budget towards RRPs, while making significant investments to expand its HTP production capacity. As such, tobacco firms have made significant efforts in adaption to changing customer needs and regulations resulting in an intense fighting for market share in this evolving market. Therefore, PMI's spending now focuses on the development of three new RRP platforms for HTP, cartridges and nicotine salts which could give them a leading position of marketed RRPs.[34] Moreover, the global spread of banning advertising of cigarettes has made the industry somehow uncompetitive as it is almost impossible to grow market share without communicating product information. This will also have an impact on heated tobacco, as the brands associated with smoking are familiar to smokers who want a lower-risk approach to nicotine. By building sustainable solutions like the VEEV or the well-known IQOS branding, PMI can stand out and differentiate itself from its competitors. Looking at the graph, one can observe that PMI is

[33] 2022 Index Ranking Report, Tobacco Transformation Index, 2022, Link
[34] Our product portfolio, Philip Morris, 2022, Link

putting way more effort into this compared to its competitors that are clearly lagging behind.

	Target Company	Geography	HRPs versus RRPs	Main Business Activity	Year	Deal Value (USD MN)	Stake (%)
Altria Group Inc	Burger Söhne Holding	Switzerland	RRPs	Non-tobacco nicotine pouches	2019	372.0	80%
	Helix ROW (subsidiary of Helix Innovations GmbH) and Helix Innovations LLC	Canada, USA	RRPs	Non-tobacco nicotine pouches	2019-2021	250.0	20%
British American Tobacco Plc	Brascuba Cigarrillos SA	Brazil, Cuba	HRPs	Cigarettes	2019	26.7	-
	AYR Ltd	UK	RRPs	Closed systems	2019	18.7	-
	Twisp Proprietary Ltd	South Africa	RRPs	E-liquids	2019	33.3	-
	VapeWild Holdings LLC	USA	RRPs	E-liquids	2019	48.0	-
	Dryft Sciences LLC (Dryft)	USA	RRPs	Non-tobacco nicotine pouches	2020	150.0	-
Philip Morris International Inc	AG Snus Aktieselskab (and its Swedish subsidiary, Tobacco House of Sweden AB)	Denmark	RRPs	Snus and non-tobacco nicotine pouches	2021	27.0	100%
	Fertin Pharma AS	Denmark	RRPs	NRT products	2021	82.1	100%

Figure 25: M&A Activity in the Tobacco Industry
Source: Tobacco Transformation Index

Moreover, several big players used acquisitions to support their RRP portfolios. While there were eleven M&As during 2017-2019 related to combustibles, there was only one acquisition of a cigarette company but ten acquisitions of RRP companies in the last three years. With the acquisition of Fertin Pharma A/S and Vectura Group PLC, PMI laid a building block for the development of competencies in areas beyond tobacco and nicotine. This in fact, ensures a shift to more service-oriented customer offerings in order to further differentiate itself and hold market position. Additionally, the acquisition of AG Snus and its Shiro nicotine pouch as well as the Kapten snus brands will give PMI a foundation of building scale in this new business segment and the opportunity to increase its market size in further RRP segments.[35]

Besides that, innovations do not only bring new customers, but also give existing customers a reason to remain loyal to PMI. With its current strategy of placing HTUs in the center of operations, they are able to additionally diversify their revenue stream while augmenting switching barriers for its customers. Previously each sale was practically a one-time sale with no need or incentive to further engage with PMI as a company. But with the introduction of devices needed for smoking HEETS, customers are incentivized to further use PMI's products, which increases customer stickiness and lastly ties the customer to the company.

In this context, one of the company's biggest challenges is defending its innovative products against intellectual property litigation, as competitors who lag behind in R&D and innovation try to disrupt PMI's business by copying their solutions. Successfully, PMI defended its existing RRP products against IP challenges in all rulings outside of the U.S. and hopes to resume U.S. supply in the first half of 2023. This gives the evolving RRP business, especially for IQOS, huge upwind.[36]

Almost every company in the cigarettes industry buys its raw materials, e.g., paper and tobacco, from multiple suppliers making the tobacco leaf industry highly fragmented. Currently, PMI purchases tobacco from 29,000 tier 1 suppliers throughout the world in 180 markets, but only 25% through direct sourcing, although this has been increasing over the years. As such, the company still depends on independent tobacco suppliers. Thus, this could pose some implications on the company as the use of raw materials make up around 60% of PMI's total cost structure. Consequently, ensuring a stable network of dedicated

[35] 2021 Annual Report, Philip Morris, 2021
[36] PMI argues against IQOS ban, tobaccoreporter, 2022, Link

suppliers by establishing further third-party manufactures can be crucial. In fact, PMI has put large efforts into supplier engagement and launched several partnerships between its third-party suppliers and NGOs to create and put into action projects related to sustainability and working conditions, which should strengthen further strategic alliances.[37]

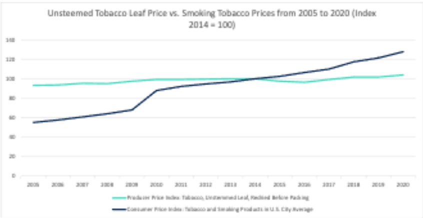

Figure 26: Tobacco Producer vs Consumer Prices (Index: 2014 = 100)
Source: FRED

Nonetheless, suppliers are often not in a bargaining position to control prices at all allowing cigarette makers to drive prices. As illustrated by the graph, prices of unfabricated tobacco leaves have been stable over the last decades or even slightly fallen since 2014. In contrast, we observe consumer prices for tobacco and smoking tobacco to have increased by over 20% since 2014. As such, it is more essential to create a sustainable supplier network to guarantee adequate access to raw materials, i.e., with regards to aggravated agricultural conditions due to climate change and the also mentioned exodus of tobacco growers.

On the other end of the supply chain, we find demanding costumers that want to get the best deals available and pay as little as possible for them. The more concentrated and powerful this costumer base becomes the greater their bargaining power and the more it pressures on the company's margin.

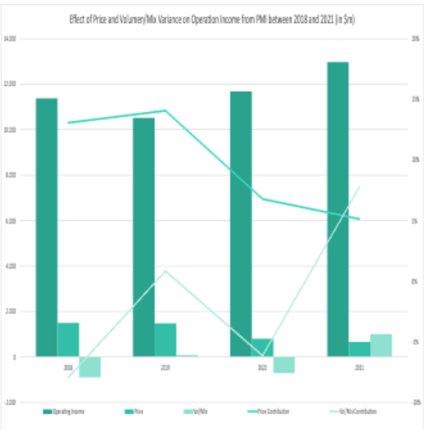

Figure 27: Effect of Price and Volume/Mix Variance on Operating Income for PMI between 2018 and 2021 (in USD millions)
Source: Annual Reports

However, in the traditional cigarette market, demand persists despite the known health risks of tobacco use. Since nicotine is addictive, demand is difficult to stop. Consequently, as seen before, companies have been able to raise prices to compensate for taxes imposed on them or to offset a downturn in demand. As highlighted by the graph, PMI's pricing power played an essential role compared to volume and sales mix in order to ensure profit grow even while being in a shrinking combustibles market. Further, smokeless tobacco seems to offer less exposure to nicotine without compromising on the more meditative reasons why people smoke. As such it is expected that this can be further leveraging with smokeless tobacco.[38]

PMI already build a large customer base through its well-established brands like Marlboro, Parliament, Chesterfield, and L&M which hold the top market share position in almost all its markets. The positioning through a wide range of strong brands help gathering loyal customers which helps in two ways. On the one side, it reduces the bargaining power of the costumers as well as reluctance in times of price increases.[39] And on the other side, it enables PMI to streamline its sales by using existing brand awareness in order to promote its RRPs. Further rapid

[37] Toward sustainable tobacco sourcing: PMI partnerships in Malawi, wbcsd, 2018, Link
[38] Philip Morris Is Disrupting Itself Into Greater Profitability, Seeking Alpha, 2022
[39] Building leading brands, Philip Morris, 2021, Link

innovation of new services and products will limit bargaining power of buyers as well as have the effect of reducing the churn to its competitors.

Key Risks

Regulatory Risk

When it comes to an industry as heavily regulated as the tobacco industry, investors should always be cautious of so-called fat-tail risks. These are risks with a low probability but potentially big impact which include but are not limited to risks of advertising or selling bans, changes in taxation, or restrictions in the use of materials. As PMI is an international player there is the unfavourable effect of dealing with those risks in various markets but on the other hand, it diversifies away the country-specific risks and diminishes the effects of country-specific unfavourable regulatory decisions on PMI. The current risk is split into risk centered around cigarettes and risk centered around RRPs. As they pose a new regulatory case and countries are at varying stages when it comes to regulation RRPs should be watched extra close. So far regulations have been beneficial for Philip Morris as RRPs are usually subject to more favourable taxation and were not considered equal to cigarettes. If current taxation changes, the company might be forced to partially absorb these negative price impacts to further attract smokers to switch and to preserve its market share in a still relatively young market. Following the trend of producing less harmful products, regulatory risks can be expected to further decline in the future after an initial increase in risk due to uncertainty surrounding the introduction of new products to the market.

Currency Risk

While Philip Morris reports in U.S. Dollar its functional currency is the Euro. Due to this and its operations across 180 markets worldwide it is exposed significantly to currency risks as its operations are handled mostly in local currency. The EPS were affected by up to 7% (0.32$) at its highest during the last five years which emphasises the importance of acknowledging the risk for Philip Morris. The risk lies in a strengthening of the U.S. Dollar against other currencies, especially the Euro, or vice versa a weakening of foreign currencies against the U.S. Dollar. Particularly in times of economic distress, this poses a high risk as currencies of weaker economies often lose in value against the U.S. Dollar. Thus, Currency risk is a constant and potentially very damaging risk to the company. In order to manage this, the company leverages derivative financial instruments as part of its hedging strategy. Additionally, Philip Morris currently inherits somewhat of a

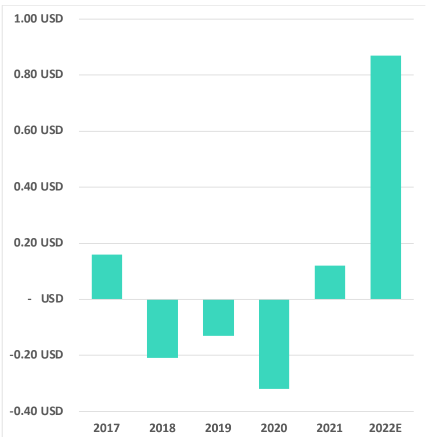

Figure 28: Currency Impact in USD on EPS of PMI
Source: Analysts

natural hedge with 30% of its revenues and 25% of its costs being denominated in Euros.

In conclusion, we do not consider the currency risk critical to Philip Morris' business thanks to effective risk management in place and offsetting of the remaining positive and negative impacts of smaller scale in the long run.

Third-Party Risk

One additional risk investors and PMI must be aware of is its exposure to third parties related to the sourcing of its materials and services. Historically, this risk has been mostly limited to the sourcing of tobacco, filters, and paper. By building a wide network of suppliers and insourcing large parts of the manufacturing process the company lowered the bargaining power of individual third parties and increased its independency from singular parties. Thus, by managing third-party risks well, PMI was able to constantly lower its third-party risks concerning its material supplies. With its shift towards RRPs PMI however, experiences an increase in these risks. Particularly with respect to the production of the electronic devices, PMI is increasingly reliant on third-party services and their respective suppliers. PMI does not own this manufacturing process within its supply chain increasing its dependence with regards to electronic devices. From a financial perspective, these outsourcings seem reasonable as PMI does not have the capabilities to produce these devices with the same efficiencies. It, however, gives away control and increases dependencies. It could create problems down the line as future agreements might be less favourable for PMI, and quality might suffer. Additionally, the company might not be able to react to changing market conditions with full flexibility. Thus, it will be important for investors to monitor continuously PMI's efforts of insourcing the manufacturing process of electronic devices. Currently, the focus lays on widening its electronic supplier base with a particular focus on its Asian supplier network.[40]

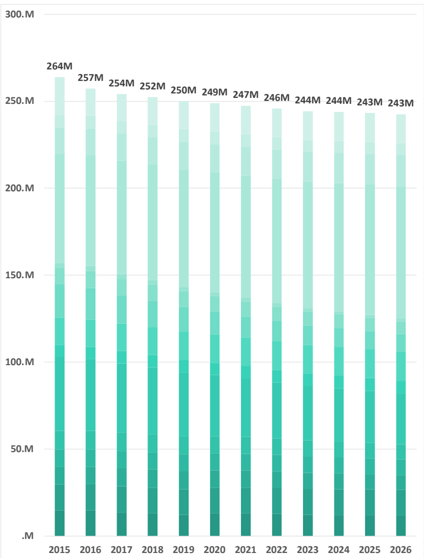

Figure 29: Smokers 2015 - 2026 for PMI's Top-15 Operating Countries
Source: Euromonitor

Value Drivers & Forecasts

The key value drivers of PMI are the number of smokers and their respective average consumption per year, the sales price per unit, PMI's market share and their switching rate from combustibles to RRPs. All these factors are driving revenues for combustibles as well as RRPs simultaneously. Based on a constant market share assumption the number of smokers per region multiplied by the average consumption of users in these region results in the shipment units of PMI. Since all previously mentioned key drivers vary between geographies a

[40] PMI, 2021, Sustainable Supply Chain Management, Link

bottom-up approach was chosen to take geography-specific trends into consideration. This bottom-up approach investigates the key drivers for all countries PMI reports for individually. For all other countries constituting just small markets for PMI weighted averages of its direct neighbour countries were used. This reflects trends well within certain regions while deviations should not have much of an impact as it only accounts for less than one-third of PMIs shipment units. For two-thirds of PMIs shipment units, we thereby were able to replicate growth trends and key value drivers as accurately as possible.

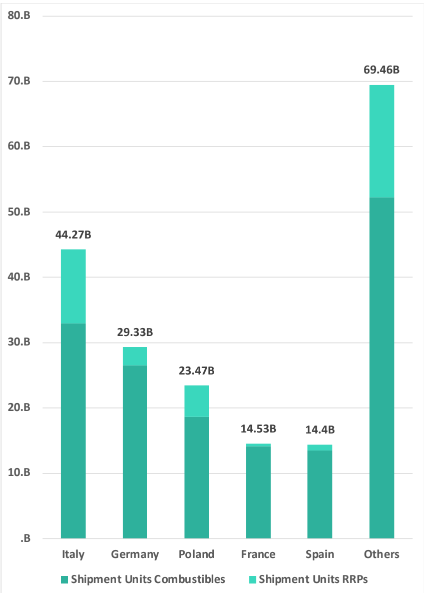

Figure 30: PMI Shipment Units in the European Union
Source: Annual Report

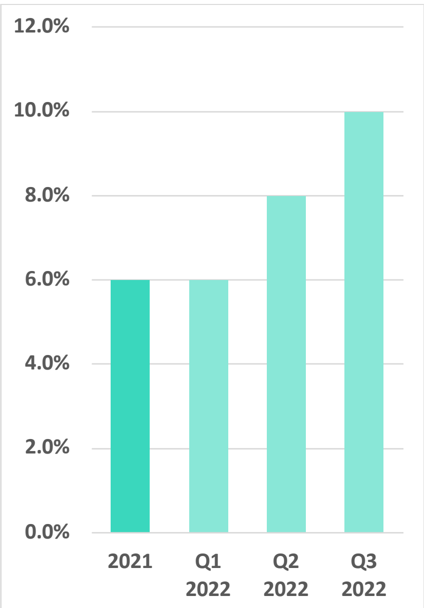

Figure 31: Share of Russia and Ukraine on Net Revenues of PMI
Source: Quarterly Report

European Union

Within the European Union PMI is focused primarily on the premium segment with its flagship brand Marlboro and its Heated Tobacco Units with 16.5% and 6% market share respectively of the total market. Thus, resulting in higher prices compared to all other operating areas of PMI for its combustibles as well as its RRPs. While cigarette prices are stable, just showing minimal price increases each year, prices for RRPs are decreasing significantly with competitors joining the market and pressure for PMI to incentive smokers to migrate to their RRPs. Price movements are moving antagonistic to its user numbers. RRPs are gaining more users with decreasing prices and vice versa for cigarettes. This switch towards RRPs however is favourable for PMI due to greater operating margins for RRPs which offsets the negative effects of the decreasing number of smokers in all European key markets. Overall switching rates are high in the European Union with up to 5% of smokers switching towards RRPs thanks to Italy and Poland as key markets for IQOS. For 2022 RRPs are expected to make up 40% of total net revenues, which puts the European Union in the second-best spot across all geographies. The European Union represents a key market for PMI to reach its goal of becoming majority smoke-free until 2025/2026.

Eastern Europe

With Russia making up two-thirds of shipments units in Eastern Europe the war in the Ukraine has massive impacts on overall revenue. PMI announced its exit from manufacturing and selling in Russia until year-end of 2022. This will result in a loss of roughly 6% of its company-wide net revenues. Russia and Ukraine made up 65% and 5% of shipment units respectively in the Eastern Europe Area. Considering the exit from Russia altogether the analysis of the Russian market is only used as a proxy for neighbour countries. Eastern Europe posed initially a very promising market with RRPs making up 30% of shipment units already and this trend is expected to continue. In the last 5 years, the smoking population declined by 20% or 8M people. Eastern Europe will most likely become PMIs smallest region revenue wise which is unfortunate since it was leading with promising switching rates towards RRPs. As a direct impact of that Emmanuel Babeau, the company's Chief Financial Officer, stated that the goal of becoming majority smoke-free will be reached one year later than previously announced.

Middle East & Africa

Revenues in Middle East & Africa are primarily driven by its biggest markets in Turkey, Saudi Arabia, and Egypt. It's one of only two markets with increasing numbers in the smoking population. This, however, does not translate well into the RRP volume. Switching rates are neglectable but first markets Saudi Arabia and Egypt are tapping into RRPs with shipments of above 100 million units, the minimum amount needed to be reported at PMI. Price levels are similar to most other regions of PMI, although we see a slight shift towards the premium segment with Marlboro gaining significant market share in the last years. A key factor hindering stronger revenue growth is a higher estimated prevalence of illicit trade, especially in the biggest markets Turkey and Egypt.

East Asia & Australia

The East Asia & Australia market really stands out by its high average consumption of cigarettes per smoker. While the number of smokers is declining, the market size remains stable. This may also have to do with East Asia as a pioneer for RRPs. Switching rates are stable and persistent around 5%. Japan is the first country in which IQOS has more shipments than combustibles. Net revenues of RRPs are already making up 45% of total net revenues for that region. Unfortunately for PMI, the East Asian and Australian market are from a regulatory perspective a bit tougher with increasing excise taxes in Japan and Australia.

South & Southeast Asia

In South & Southeast Asia, PMI focuses heavily on its combustibles with RRPs not taking off yet in any of their markets in that region. Without any noticeable presence of RRPs, the sales prices as well as the switching rates are staying relatively stable and no great changes in the market are seen. One key driver changing and on a downward trend since 2015 is the average consumption per smoker. This effect on PMIs net revenues is however offset by an overall growing smoking population, especially in Indonesia. Overall, the South & Southeast Asian market is yet a very stable and consistent market partially due to the absence of HTUs.

Americas

The American Business is the smallest area in net revenues, also due to the fact that PMI is not selling the United States after its spin-off from Altria. With the Mexican's market growing smoking population and the adverse effect in Argentina we are seeing different trends within that economical area. However, market sizes remained very stable in both regions. BAT and PMI together are controlling the American market (excl. U.S.) very much with 40% market share respectively.[41] Despite that and their respective approach towards a smoke-free future, the adoption of RRPs is up until 2022 neglectable. This is partially due to a sales ban in Argentina for IQOS devices but also due to PMI not rolling out IQOS across America completely yet. Adoption rates and net revenues may grow strongly with PMI rolling out RRPs completely as interest especially in younger generations seems to be there, according to studies.[42]

Wellness & Healthcare

PMI's Wellness & Healthcare product is treated separately from its core operations and geographies. It firstly reported revenues in 2021 of $101 million and is expected to grow to $265 million in 2022. This reflects mainly revenues of the acquired companies Fertin Pharma A/S and Vectura Group PLC. From 2022 onwards these revenues are expected to grow with the overall wellness and consumer healthcare market with growth rates between 4-9%. The global consumer healthcare market is anticipated to grow to $400 billion in 2027.[43]

Valuation

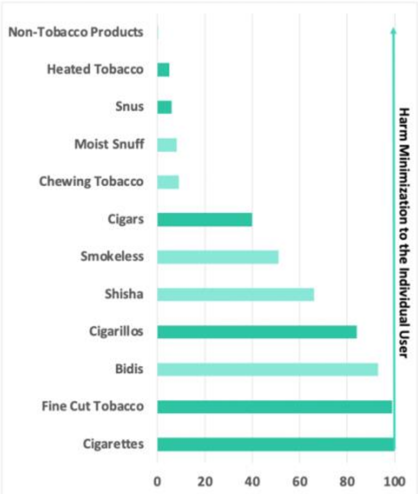

Figure 32: Relative Risk Assessment (PMI & SWM products in bold)
Source: Tobacco Transformation Index 2022

Before jumping into the valuation a few clarifications regarding the measures used across product segments within the subsequent parts. Following conversions were used within PMI reports as well as within this equity research report: one cigarette equals one heated tobacco unit; 0.73g make-your-own tobacco; 0.60g make-your-own volume tobacco; 0.75g pipe tobacco; 0.60g roll-your-own tobacco; one cigarillo or one cigar respectively.[44]

Revenue Forecast

For the revenue forecast and all further projections a time horizon of ten years until 2031 was chosen with an extended forecasting period of five years extending the forecasting period until 2036. The length of this time horizon was chosen to completely reflect the revenue shift from PMI towards reduced-risk

[41] Euromonitor, 2022, Company Shares of Cigarettes in Latin America
[42] PAHO, 2018, Tobacco Control Report of the Americas 2018
[43] Euromonitor, 2022, Consumer HealthCare Market Size
[44] PMI, 2022, Annual Report and Studies

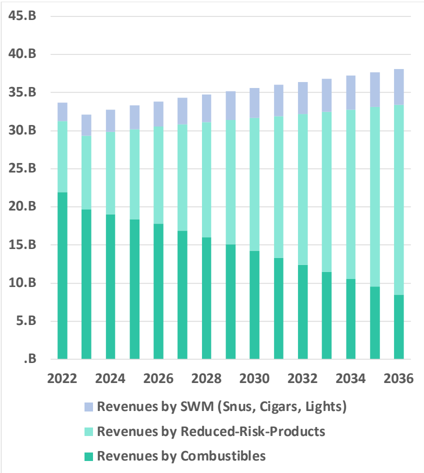

Figure 33: Forecasted Net Revenue Streams by Product Segment
Source: Analysts

products. Within this time horizon, it was broadly distinguished between the growth until 2026, the year in which PMI aims at becoming majority smoke-free, and its development thereafter. This will be reflected in the respective assumptions. As PMI is operating in a non-cyclical industry there were no adjustments to seasonality taken. The projections are split across operating geographies and product segments. As PMI reports annual sales on a country level for its biggest markets an approach was chosen that forecasts the revenue per country for its 15 biggest markets individually and for other regions according to its closest neighbour countries. This way individual developments and trends per country and region could be taken into consideration. This provides overall the most realistic forecast. These 15 markets accounted in 2021 for 65% of combustible revenues and 73% of RRP revenues while other regions accounted for 35% and 27% respectively. While forecasts were made on country-level, some assumptions were made on a regional level (e.g., European Union). Besides a segmentation in geographies, the revenue forecast was split for each country and region into its combustible and its RRP product segment.

Net revenues of PMI were historically relatively stable but slightly increasing within the last years despite unfavourable market trends for PMI. This is particularly due to the rapid growth of its RRPs. While the combustible products show a decreasing trend in revenues throughout the last five years until 2021 of -2.44% annually the RRP segment has grown by 20.15% annually in the same period. Thereby, its share on total revenues developed from 12.66% in 2017 to a staggering 29.12% in 2021. This trend is expected to continue.

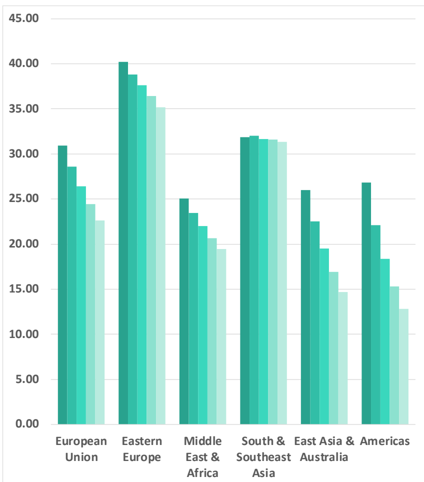

Figure 34: Smoking Prevalence for PMI's Operating Regions 2005- 2025
Source: WHO

The following calculations were made per country simultaneously if not stated otherwise. Dependent on market size and the number of smokers we were able to calculate an estimate of how many cigarettes one customer of PMI smokes per year. We assumed that PMI's customers show similar behaviour to other smokers in the market. To make this number more tangible we converted it into average units smoked per day. Dividing in the next step the shipment units of PMI in that country by the average amount of units smoked per year we were able to get a rough estimate of the size of its customer base. With these calculations, we got a good picture of the developments of the most important factors and drivers of our revenue within the period between 2015 and 2021. As we were lacking market size estimates for 2022 and beyond the average consumption per smoker had to be estimated based on overall sentiment within that country and the past development of that KPI. Based on our judgement of these influences we let the average consumption grow by -1%, 0%, or 1% depending on whether we anticipate a negative, neutral, or positive trend. Since this factor has changed relatively modestly for most countries in the past these

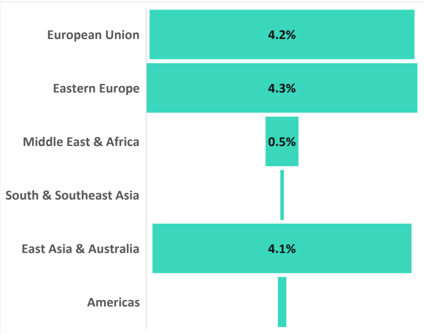

Figure 35: PMI Avg. Switching Rates 2019-2022 from Combustibles to RRPs
Source: Analysts

small growth rates were chosen. Knowing the average consumption per customer, customer numbers had to be anticipated to conclude PMI's shipment size. The size of the overall smoking population is projected using macro- and socio-economic data analysis by Passport/Euromonitor until 2027. From 2027 onwards we expect the smoking population to grow with the CAGR of the tobacco smoking prevalence trends per country. These trends have been monitored by the WHO since 2005, are forecasted until 2025 and are showing very constant CAGRs since then. For most countries, these show a declining smoking prevalence as the historical numbers have shown as well. Next to the growth rates of average consumption overall and the smoking population, conversion rates from combustibles to RRPs were estimated as these decrease PMI's combustible customer numbers and increase RRP customer numbers. Historical numbers have been shown to vary between regions drastically. The Eastern Europe regions showed an average rate of 4.30% between 2019-2022, while the South & Southeast Asia area only has shown rates of 0.06% on average. The only thing all regions had in common was the increasing number of RRP users and respective switching rates towards these products within the last years. Calculated switching rates can only be understood as estimates since dual use of products, reverted users, and insufficient research on switching behaviour due to the immaturity of the market limit the accuracy. First studies in Japan and Italy, however, have shown that 93% or 90% of IQOS users have been regular tobacco users at the time of starting using RRPs. So far, we have seen little adoption of non-smokers. Thus, we project RRP user numbers only to be affected by customers switching from combustibles and overall smoking population growth trends. Until 2026 we expect a constant growth in switching rates of 5% which is in line with growth rates in previous years as PMI is very much on its way to reaching its goal of becoming majority smoke-free until 2026. We additionally project that PMI will boost its conversion rates to a minimum of 2% per year until 2026 through incentive programs or marketing spending. In order to achieve its goals, we believe PMI will try to actively shape its conversion rates because they will also need to make sure they grow their RRP user traction before competitors are cutting into their market share. We predict that this minimum conversion rate will grow to 4% by 2031 and 6% thereafter. With greater awareness, the rate of people switching will naturally increase. As mentioned before, PMI will also incentivize users as they strive to become completely smoke-free in first countries 10-15 years from now.[45] Natural tailwinds of an increase in conversion rates are the rollout of RRPs in all markets, since they are end of 2021 only available in 71 markets, and the spreading awareness

[45] Harvard Business Review, 2020, How Philip Morris Is Planning for a Smoke-Free Future, Link

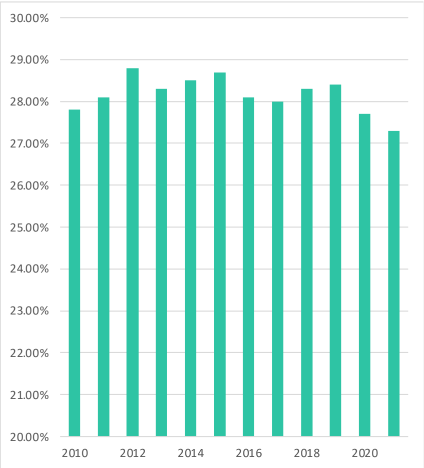

Figure 36: PMI Market Share 2010-2021 excl. China and U.S.
Source: Annual Report

Figure 37: EBIT Margins 2021 by Geography
Source: Annual Report

since as of the end of 2020 PMI projected that only 36% of its customers are aware of the benefits of its IQOS products.[46] Thus, we predict that next to the minimum conversion rate the growth rate of the conversion rate will grow from 2027 onwards annually by one percentage point leading to a 15% growth rate in 2036. All the above assumptions related to the shipment units are subject to one mutual rationale: the assumption of constant market share of PMI. The market share of PMI is not expected to change within the forecast period which lets their customer numbers grow mostly in line with market movements and sociographic trends. This assumption is based on several factors including marketing constraints in the tobacco industry, high entry barriers, and great brand loyalty. The high entry barriers regarding regulation and increasing marketing constraints led to a lack of relevant challenger brands leaving the current market players with their respective market shares. The near absence of marketing has prevented brand switching and enhanced brand loyalty. Particularly in the premium segment in which PMI operates brand loyalty usually exhibits higher levels. PMI's reported market share has since 2010 only moved between 27.3% at its lowest and 28.8% at its highest, excluding the China and U.S. market. Overall, it poses a CAGR of -0.2% since 2010, showing no long-lasting adjustments to its market share. This is consistent with our assumptions and observed market dynamics.

The tobacco industry has considerable pricing power due to its oligopolistic market structure. The combination of an addictive product with very few substitutes on the market due to few market players controlling the market ensures steady demand levels. This results in PMI products generally being price inelastic. The WHO claims that a price increase of 10% will negatively affect the demand by 4% and 5% in high-income countries and low- to middle-income countries respectively.[47] Pricing decisions are thus rather actively driven by PMI and its competitors than by the customer side. We assumed that pricing for combustibles will slightly rise by 1% until 2026 and annually increase by 0.2% percentage points thereafter. Factors driving these price increases are firstly PMI's interest to offset lower units sold by price increases and secondly PMI's interest in incentivizing users to migrate to RRPs. These price increases seem realistically executable since PMI will deal in the combustible sector increasingly with heavier smokers who resist switching to other products, showing higher price inelasticity, as they will be the last ones to switch towards RRPs. The RRPs we expect to decline in price by 2% annually until 2026 with the growth rate improving by 0.2% percentage points annually thereafter. This leads to PMI achieving steady market prices from 2036 onwards. This initial higher decline in

[46] PMI, 2021, Studies on Access to Smoke-Free Products, Link
[47] WHO, 2015, Report on The Global Tobacco Epidemic

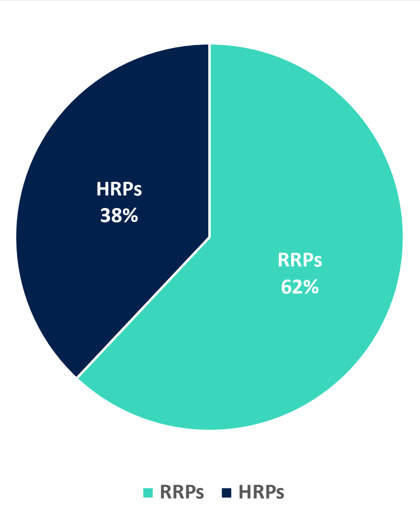

Figure 38: 2019-2021 Average Marketing Expenditures Split for BAT, Altria, PMI, SWM, Imperial, JTC
Source: Tobacco Transformation Index 2022

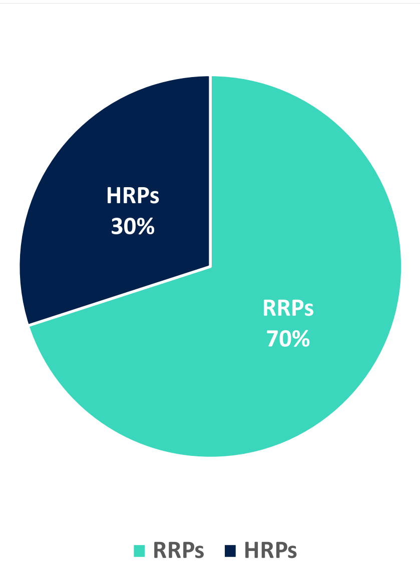

Figure 39: 2019-2021 Average R&D Expenditures Split for BAT, Altria, PMI, SWM, Imperial, JTC
Source: Tobacco Transformation Index 2022

prices is due to increasing competitive pressure with several companies including PMI trying to capture great market share while the market is still in an early phase. Additionally, we see PMI decreasing the prices to close the price gap to the combustible product segment. It is anticipated that PMI and its competitors will proactively reduce this price gap to dissuade regulators from closing the price gap through higher taxation. The assumption that the price changes are smooth over time, and we do not see sudden price movements related to particular events is expected since tobacco companies are known for protecting customers from significant price increases that may tempt them to quit. Instead, price adjustments are passed onto the clients in smaller steps throughout a longer period.[48]

Financial Projections

While PMI reports a marginal increase in gross profit margins from 66% to 71% from 2017 to 2021 the EBIT margins only increased from 40% to 41%. This is an indication of the slight relative shift in costs from the cost of sales towards other operating expenses. This has to do with R&D and marketing expenses becoming more and more important while pioneering new products. COGS now make up 50% of total costs. From 2022 onwards we expect this new percentage breakdown to continue. No further cost shifts are expected thereafter as the hot phase of R&D and marketing is over, and PMI transitions into a phase of constant deployment of R&D resources.

The cost of sales reportedly consist of raw materials, namely tobacco leaves, and other direct materials, shipping costs and labour and manufacturing costs including costs of devices. Based on the historical cost split into these four mentioned categories (35% tobacco, 30% labour and manufacturing, 28% direct materials, 8% shipping) one can derive that roughly 0.91 grams of tobacco were used per cigarette. Assuming wastages in the manufacturing process and that not all total tobacco was used only for cigarettes but for other products, this estimate roughly aligns with the 0.8 grams disclosed by the OECD.[49] Assuming the same amount used for Risk-Reduced Products like HEETS a decrease in tobacco used is forecasted due to lower volumes produced offset by growing tobacco prices. Due to global cost inflation and supply chain interruptions due to COVID-19 and the war in Ukraine an annual 2% increase is expected for all materials used except tobacco. Tobacco costs overall remained relatively flat since 2017 and are anticipated to stay flat until 2024 according to World Bank Data. Thus, tobacco prices are only expected to grow by 1% annually. Expenses

[48] Z.D. Sheikh, J.R. Branston, A.B Gilmore, 2021, Tobacco Industry Pricing Strategies
[49] OECD, 2022, Tobacco Consumption, Link

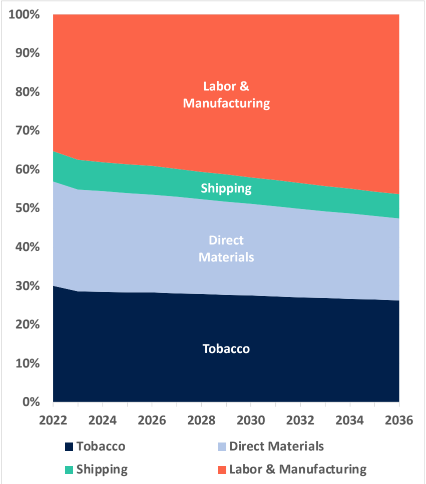

Figure 40: Forecasted Distribution of COGS for PMI excluding. SWM
Source: Analysts

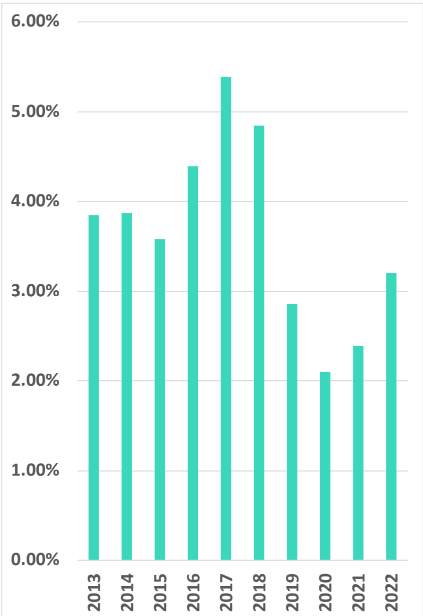

Figure 41: Capex over Net Sales Ratio PMI
Source: Analysts

for tobacco thus stay stable over the forecasting period. As do direct materials as they are assumed as a ratio of tobacco costs since both raw materials are used in line with one another. Total shipping costs, accounted for as costs per unit, will slightly decrease due to the previously mentioned lower unit volumes at stable costs per unit. In adverse to that labour and manufacturing costs are expected to increase despite savings through increased efficiency shown by the dismission of 11,000 employees during the last four years. These savings were and are supposed to be offset by an increase in manufacturing complexity due to the deviation away from cigarettes to more complex products and the energy cost inflation. The cost of sales remain overall very stable as efficiency measures and lower volumes balance out with rising prices.

With Philip Morris' change in its strategy and product mix, capital expenditures were inevitable. PMI's Capex since 2013 mostly underpin capacity expansion initiatives, particularly for RRPs and respective new equipment needed. Initial investments of annually roughly $1 billion have been taken spikings in 2017 and 2018. Since then, PMI slowed down on their Capex. The Capex over Net Revenue ratio halved from 5% to 2.5% with an increase expected in 2022 bringing it to slightly more than 3%. Going forward we believe that Capex will grow with the net revenues since no further big lifts are expected with the heavy initial investments already being taken and new equipment already bought. General similarities in production and distribution additionally indicate that no further massive investments are needed and that moderate growth rates for Capex seem logical. Depreciation and amortization are anticipated to grow as a ratio of the Capex since higher Capex will directly result in higher depreciations and vice versa. The average Capex of the last year is used as a reference since depreciation should not be overinfluenced by singular outliers but rather be represented by the most recent average of capital expenditures. PP&E is growing modestly over the projected period with a CAGR of 3.20%.

PMI managed to lower its working capital requirements over the last years, mainly due to net effects on inventory, accrued liabilities and other current assets.

Regarding inventories, this primarily reflects the build-up of finished goods and other raw materials in the supply chain due to the COVID-19 pandemic in 2020 which are now being slimmed down again. Despite this, we observe PMI lagging behind its competitors, requiring 62% more days to sell its products compared to the average of peers. Especially the amount of finished goods inside the inventory highlights the need for sales efficiency and production process optimization. In the long run, we expect PMI to improve on these factors as

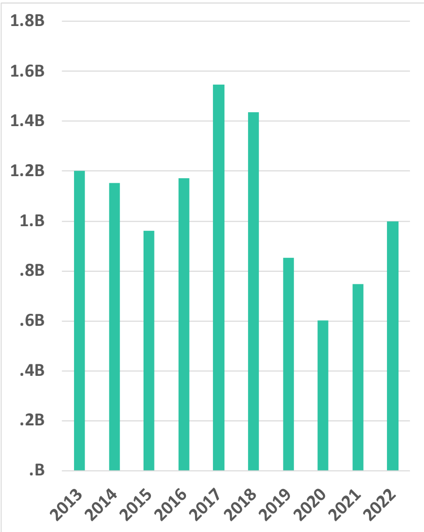

Figure 42: Capital Expenditures PMI
Source: Analysts

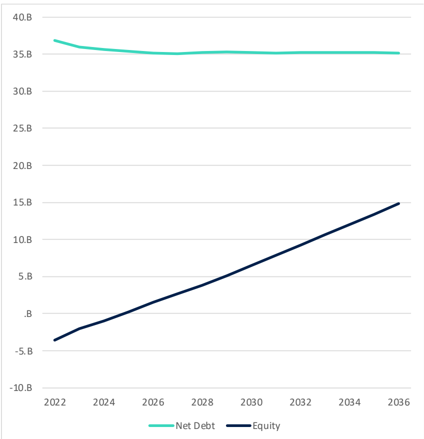

Figure 43: Net Debt to Equity of PMI
Source: Analysts

current resource optimization and operating efficiency measures are being deployed under PMI´s sustainability efforts. As such, the average holding period is expected to approximate 322 holding days although still falling back on its peers as the more complex internationalization of PMI impedes to improve a lot.

Furthermore, a positive impact on working capital can be related to higher trade payables primarily due to higher IQOS instrument purchases in 2021. Moreover, recently there has been great improvement in building up a better supplier network and favourable contractual conditions which led to an increasing payable period of 140 days up from 85 days in 2019. This can be stated as an above-average performance as only BAT tops this with an average payable period of 327 days. For the future, we see this to enhance in a positive direction mainly due to greater bargaining power and network-building measurements which will allow the average payable period to stabilize at 140 days.

On the other hand, higher trade accounts receivable can be primarily attributed to lower utilization of factoring arrangements to sell trade accounts receivable with cumulative trade receivables sold totalling $11.8 billions and $11.5 billion for 2021 and 2020, respectively. Normally PMI sells short-term trade receivables under two types of arrangements to financial institutions on an ongoing basis without recourse in order to optimize cash and liquidity management and reduce credit risk. Although this loss was insignificant over the previous three years, it is recorded as a loss on sale of trade receivables within marketing, administrative, and research expenses. This loss represents the difference between both the carrying value of trade receivables sold and the amount of cash generated. The lower factoring utilization rate is further reflected in a slightly higher average collection period which increased from 37 days in 2018 to 40 days in 2021. Although PMI clearly manages its receivable collection better than its main competitors, i.e., BAT, JTI, IB and KG&T, looking at ITC and Altria, there could be potential for improvements. Nevertheless, we expect PMI`s collection period to not differentiate much from the past. As such, average collection period will slowly be adjusting back to its 2018 figure with 37 days.

Operating cash is anticipated to account for 3% of revenues. In order to meet its short- and long-term liquidity needs for its many contractual obligations and commitments, including principal payments, accounts payable and accrued liabilities, purchase obligations for inventories as well as for operating lease liabilities and liabilities related to transition tax, PMI is keeping significant sums of cash. As such, its cash to sales ratios is twice to three times higher than the median of its competitors.

Furthermore, there is no change in treasury shares expected through repurchases. Even though PMI announced in mid-2021 a three-year repurchase program of up to $7 billion, it later in May 2022 announced the suspension of that same repurchase program due to its acquisition plans with SWM. Before that, there were no repurchases done in 2022.

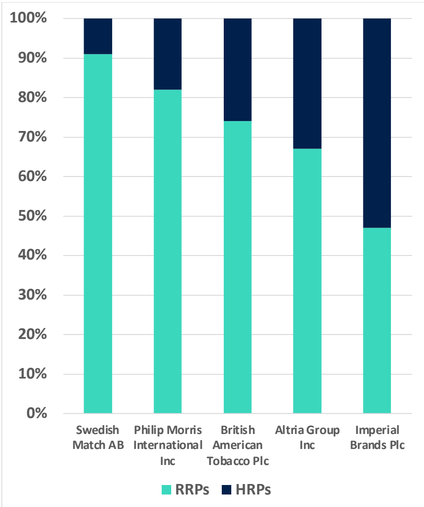

Figure 44: 2021 Capital Allocation Split between RRPs and HRPs
Source: Tobacco Transformation Index 2022

Swedish Match Acqusition

With the acquisition of 93.1% of SWM's shares, the consolidation method will be used to account for PMI's interest in SWM. Thus, SWM's income statement and balance sheet were forecasted. For 2022 to 2024 estimates published by SWM were expected. As they are based on the projections of eleven separate experts and analysts covering SWM we assessed them as credible. With a CAGR of 13.61% from 2017 to 2022 net sales are definitely on an upwards trajectory. From 2024 sales are expected to grow with the snus market of 5.5%, SWM's core product segment. From 2028 onwards this growth rate is anticipated to decline annually by 0.5% percentage until reaching 3% growth in perpetuity. Cost of sales and SG&A expenses are growing as a percentage of revenue as they were also historically increasing in line with net revenues and no changes in their composition are expected.

With SWM's high EBIT margins of above 40%, PMI added an additional profit driver to its portfolio. SWM has increased its profitability every year since 2016. That results in overall higher core results and offsets nicely the exit from Russia which affected 6% of PMIs net revenues. As an extra it allows PMI to reach its goal to become majority smoke-free in 2027, which is only one year after their expectations. In 2026 they are expected to miss that goal by 3 percentage points. Net income attributable to minority interest is expected to grow with the net income due to the 6.9% ownership in SWM that does not belong to PMI. Within the consolidation of the balance sheets, goodwill and non-controlling interest had to be adjusted. The goodwill was calculated to be the difference between the price paid for these 93.1% and the book value of equity for SWM that PMI would own. Due to SWM's negative book value of equity at acquisition, goodwill projections have made a big leap. Non-controlling interest has undergone a genuine jump as well as we added the fair market value of the Non-Controlling Interest – 6.9% of the fair value of SWM. The fair market value was inferred from the price paid by PMI for the acquired 93.1%.

WACC / Cost of Capital

Since it is not anticipated that the capital structure will shift dramatically, the Discounted Cash Flow Method (DCF) is an appropriate method to estimate the

Figure 45: Unlevered Free Cash Flow Forecast
Source: Analysts

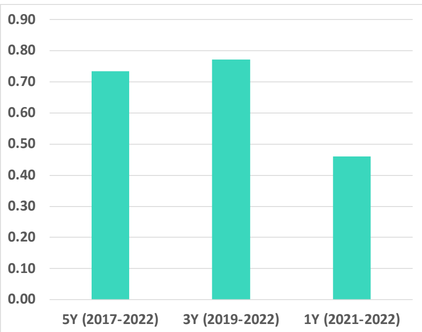

Figure 46: PMI's Betas over different time horizons
Source: Analysts

share price of PMI. Accordingly, the weighted average cost of capital (WACC) must be derived to discount the anticipated FCFs. The Cost of Equity were calculated in accordance with the CAPM model. As the risk-free rate the 10Y U.S. Treasury Yield is used as of 01.12.2022. U.S. T-Bills were used as they are theoretically free of risk since they are backed by the U.S. government and the U.S. government debt market being the largest and most liquid market globally leads to a fairly priced market. The market risk premium was derived from Damodaran, last updated on Jan. 05, 2022, for the U.S. market. Calculations determining the beta were done regressing against the MSCI World (in USD) and using a period of maximum five years. All betas over a period of respectively one, three, or five years were between 0-1 strengthening the picture of PMI as a defensive stock showing less volatility than the market. The beta over three years of 0.77 depicted the lowest R-squared and thus was chosen for further cost of equity calculations. The upper and lower bounds are 0.71 and 0.84 respectively. Peers showed similar but slightly lower betas. The median of PMI's peer was projected at 0.61 with Japan Tobacco International depicting an outlier at 0.34. With this, cost of equity of 6.95% were calculated.

Fitch affirmed PMI's A Rating on Nov. 10, 2022, after its quarterly results and succeeded bidding offer to SWM. According to Damodaran, the link between interest coverage ratios and ratings results in a default spread of 1.14% for U.S.-based non-financial A-rated companies. Together with a taxation of debt of 21%, this results in a cost of debt of 3.81%. The WACC calculated is 6.36%.

Further sensitivity analysis was conducted as the WACC plays a vital role in our DCF valuation and is subject to several assumptions regarding beta, debt structure, and market premiums. Especially with a focus on the risk-free rate, depicted by the 10Y U.S. Treasury Bond, as this one has undergone relatively strong volatility in recent months from between 3.49 and 4.22 just within the period of November to the beginning of December.

DCF Valuation / Intrinsic Valuation

For the intrinsic valuation of PMI, the Discounted Cash Flow Model (DCF) was used. DCF Valuation provides the most accurate portrayal of the company's underlying fundamental value. As such, this method is best at determining the true worth of a business. Thus, the unlevered Free Cash Flows are discounted by the WACC, and the terminal value is calculated with the WACC of 6.36% and terminal growth rate of 1.47%. The terminal growth rate has stabilized in the last five years of the extended forecasting period. The terminal growth rate was determined by multiplying the RONIC with the Reinvestment Rate. The RONIC was used since due to the change in PMI's business model and its ongoing transformation the future growth is expected to be directly dependent on incremental invested capital. We expect that future investments have different returns from the existing investments. ROIC and RONIC, therefore, differ from one another. Adding non-core operations and subtracting minority interests and net debt as of 2023 to the core enterprise value of $215,703 million results in an equity value of $173,869 million translating into a share price of $112.16. The terminal value depicts an overall 54% of PMI's enterprise value. Due to this and its reliance on the terminal growth rate and WACC, the sensitivity of the equity value to these indicators was observed and analysed (seen in Appendix).

Sensitivity Analysis

The sensitivity of the Equity Value on the WACC and the growth rate in perpetuity shows especially the dependence on an appropriate WACC. A deviation of the terminal growth rate by 0.1 percentage points only affects the expected share price to increase or decrease respectively by $2.88 at its best keeping the WACC constant. However, a deviation of the WACC by 0.2 percentage points increases or decreases the share price by $8.96. Investors, therefore, might want to keep an eye on the development of the WACC going forward and the risk-free rate as the WACC is highly dependent on the development of the risk-free rate itself. As described above current market conditions are increasing the volatility of the risk-free rate currently.

Additionally, the sensitivity of PMI's revenues to the switching rates was examined as it determines not only the number of people switching but moreover the period until which we see a major shift in user behaviour. This analysis was done for each of the six geographies for 2025, 2030, and 2035 respectively. The

Sensitivity Analysis of Equity Value as Share Price										
		Terminal Growth Rate								
		1.07%	1.17%	1.27%	1.37%	1.47%	1.57%	1.67%	1.77%	1.87%
WACC	5.56%	130.41	132.45	134.60	136.84	139.19	141.67	144.26	147.00	149.88
	5.76%	123.67	125.50	127.41	129.40	131.49	133.68	135.98	138.39	140.93
	5.96%	117.48	119.12	120.83	122.62	124.48	126.43	128.47	130.60	132.84
	6.16%	111.78	113.26	114.79	116.39	118.06	119.80	121.62	123.52	125.51
	6.36%	106.51	107.85	109.23	110.67	112.17	113.73	115.36	117.06	118.83
	6.56%	101.63	102.83	104.09	105.39	106.74	108.14	109.60	111.13	112.72
	6.76%	97.09	98.18	99.32	100.49	101.72	102.98	104.30	105.67	107.10
	6.96%	92.85	93.85	94.88	95.95	97.06	98.21	99.40	100.64	101.92
	7.16%	88.90	89.81	90.75	91.72	92.73	93.77	94.85	95.97	97.14

Figure 47: Sensitivity of Equity Value (as Share Price) to WACC and Terminal Growth Rate
Source: Analysts

results varied only slightly between the geographies. The effects were the highest in 2025, as further in the future a 1% increase or decrease in switching rates affects a smaller customer base only. In 2025 an increase or decrease in switching rates by 1% led to an increase or decrease in net revenues of approximately 1% mostly. For 2030 and 2035 the effect of an increasing or decreasing conversion rate became neglectable.

The factors the revenue projections are most sensitive to are the pricing assumptions of PMI's portfolio mix. Looking at the sensitivities of net revenues in

PRICE SENSITIVITY OF NET REVENUES 2025 TO INTIAL GROWTH RATE

Combustible Pricing YoY Growth \ RRP Pricing YoY Growth Rate until 2026	-2.80%	-2.60%	-2.40%	-2.20%	-2.00%	-1.80%	-1.60%	-1.40%	-1.20%
0.60%	-1.67%	-1.43%	-1.20%	-0.96%	-0.72%	-0.48%	-0.24%	0.00%	0.24%
0.70%	-1.49%	-1.25%	-1.02%	-0.78%	-0.54%	-0.30%	-0.06%	0.18%	0.42%
0.80%	-1.31%	-1.07%	-0.84%	-0.60%	-0.36%	-0.12%	0.12%	0.36%	0.60%
0.90%	-1.13%	-0.89%	-0.66%	-0.42%	-0.18%	0.06%	0.30%	0.54%	0.78%
1.00%	-0.95%	-0.71%	-0.48%	-0.24%	0.00%	0.24%	0.48%	0.72%	0.96%
1.10%	-0.77%	-0.53%	-0.30%	-0.06%	0.18%	0.42%	0.66%	0.90%	1.15%
1.20%	-0.59%	-0.35%	-0.11%	0.12%	0.36%	0.60%	0.84%	1.08%	1.33%
1.30%	-0.40%	-0.17%	0.07%	0.31%	0.54%	0.78%	1.02%	1.27%	1.51%
1.40%	-0.22%	0.01%	0.25%	0.49%	0.73%	0.97%	1.21%	1.45%	1.69%

Figure 48: Price Sensitivity of Net Revenues 2025 to the Initial Growth Rate
Source: Analysts

PRICE SENSITIVITY OF NET REVENUES 2030 TO GROWTH OF GROWTH RATE UNTIL 2030

Combustible Pricing Growth Rate of Growth Rate (in % points) \ RRP Pricing Growth Rate of Growth Rate (in % points)	-0.60%	-0.40%	-0.20%	0.00%	0.20%	0.40%	0.60%	0.80%	1.00%
-0.25%	-6.09%	-5.03%	-3.95%	-2.86%	-1.75%	-0.62%	0.52%	1.68%	2.85%
-0.15%	-5.66%	-4.60%	-3.52%	-2.42%	-1.31%	-0.19%	0.95%	2.11%	3.29%
-0.05%	-5.22%	-4.16%	-3.08%	-1.99%	-0.88%	0.25%	1.39%	2.55%	3.72%
0.05%	-4.79%	-3.72%	-2.65%	-1.55%	-0.44%	0.68%	1.83%	2.98%	4.16%
0.15%	-4.35%	-3.28%	-2.20%	-1.11%	0.00%	1.13%	2.27%	3.43%	4.60%
0.25%	-3.90%	-2.84%	-1.76%	-0.67%	0.44%	1.57%	2.71%	3.87%	5.04%
0.35%	-3.45%	-2.39%	-1.31%	-0.22%	0.89%	2.02%	3.16%	4.32%	5.49%
0.45%	-3.00%	-1.94%	-0.86%	0.23%	1.34%	2.47%	3.61%	4.77%	5.94%
0.55%	-2.55%	-1.49%	-0.41%	0.68%	1.79%	2.92%	4.06%	5.22%	6.39%

Figure 49: Price Sensitivity of Net Revenues 2030 to Growth Rate of Growth Rate
Source: Analysts

2025 on the initial growth rates of the prices, however, we see low sensitivities to these input factors. Net revenues in 2025 are only changing by a maximum of 0.5% if RRP pricing growth rates change by 0.4 percentage points ceteris paribus or if combustible pricing growth rates change by 0.2 percentage points. But net revenues are more sensitive to changes in the expected annual change in growth rates from 2027 onwards. Here, net revenues in 2030 are expected to change by above 2% if the respective growth rates change by 0.4 percentage points or 0.2 percentage points.

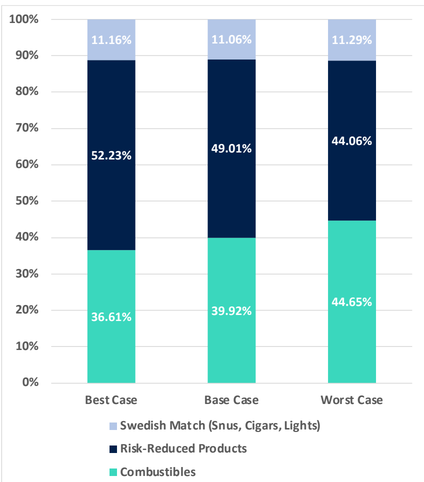

Figure 50: Comparison of Scenario Analysis
Source: Analysts

Scenario Analysis

Adding to the sensitivity analysis a scenario analysis was conducted. The focus lays particularly on projecting a different speed in customer transformation or PMI's abilities to act on that customer transformation resulting in slower or faster adoption of RRPs and other smoke-free products. For that worst-case, base-case, and best-case scenarios were projected and compared. For each scenario different switching rates, growth rates for combustible and RRP prices, growth rates of SWM, and material price changes were assumed.

In the best-case scenario, we see initially and going forward higher switching rates as a sign of customers adopting faster to smoke-free products and PMI pushing its customer transition more than expected. Furthermore, we see a slower consolidation of the RRP market and lighter sales price decreases for RRPs and greater price increases in combustibles. Overall, a higher pricing power for PMI is assumed. For the worst-case scenario on the other hand a

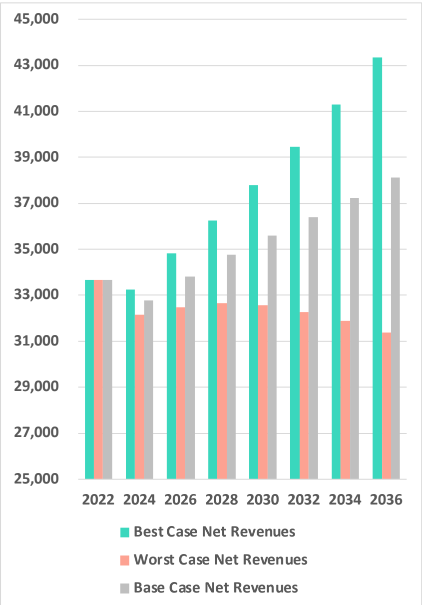

Figure 51: Comparison of Scenario Analysis in Revenues
Source: Analysts

slower adoption to RRPs was expected resulting in lower switching rates and higher price decreases in RRPs for PMI in order to make smoke-free products more attractive to its customers.

The recommendation in a best-case scenario stays at Buy, as a total return of 46.3% is anticipated. In the worst case, the recommendation would switch to Sell as a negative return of -4.9% is expected. Share prices would adjust to $144.26 and $91.91 respectively

This shows that an ideal scenario has a far more severe outcome than a worst-case scenario has on PMI. This could be because in the event of a failure to transform customer demand or a lack of internal transformation of its own into the RRP product segment, PMI will only fall back on its historical core business of cigarettes. Since the cigarette business is relatively stable and market players have a great deal of control over pricing even when the market is struggling, the worst-case scenario does not affect PMI as severely. Nevertheless, will a declining market cut into PMI's combustible business. However, with ideal market development in PMI's favour and PMI leveraging these advantageous market conditions the potential is immense. Especially the price development of RRPs needs to be kept an eye on as this determines the profitability of RRPs and shows if RRPs can do more than just replicate cigarette operating margins. This also shows the industry's major economic advantages, which, when transferred to smoke-free products, can be a powerful driver of shareholder returns.

Relative Valuation – Transaction Multiples

Moreover, transaction multiples play a distinctly different role among the various valuation methods, as they show investors the value of a particular asset based on recent trends. These help to understand multiples and premiums paid in an industry.

Multiple Calculation	EOY 2022			
	Average	1st Quartile	Median	3rd Quartile
EV/Sales	4,7x	2,9x	4,9x	6,4x
EV/EBITDA	11,3x	8,3x	10,9x	14,1x
EV/EBIT	12,2x	9,4x	11,6x	15,2x

Figure 52: Calculated Transaction Multiples as of EOY 2022
Source: Own Analysis

In order to get the respective multiples for the tobacco industry, one must evaluate the latest acquisitions in the sector. Moreover, we tried to consider companies with similar business characteristics like products and services as well as geographic exposure. As such, we derived a list of acquisition announcements from the last two decades including transaction value and some transaction multiples e.g., TV/EBITDA, TV/EBIT, TV/Revenue, TV/Book and TV/EV. However, we only consider the most recent nine acquisitions as they occurred in the last decade as we suspect older transaction not to reflect the status quo in the market environment of the tobacco industry. Furthermore, we did not consider two out the remaining nine acquired companies as their Transaction Value do not reflect the actual size of PMI.

Enterprise Multiples (in USD million)	EOY 2022			
	Average	1st Quartile	Median	3rd Quartile
based on EV/Sales	157.705	99.124	166.471	214.803
Equity Bridge	(39.929)	(39.929)	(39.929)	(39.929)
= Equity Value of PMI	117.776	59.195	126.543	174.875
based on EV/EBITDA	169.778	125.050	163.203	211.118
Equity Bridge	(39.929)	(39.929)	(39.929)	(39.929)
= Equity Value of PMI	129.849	85.121	123.274	171.190
based on EV/EBIT	164.373	126.734	155.382	204.426
Equity Bridge	(39.929)	(39.929)	(39.929)	(39.929)
= Equity Value of PMI	124.444	86.806	115.454	164.498

Figure 53: Application of Transaction Multiples on PMI
Source: Own Analysis

In a next step, we transformed the TV multiples into EV multiples using the respective TV/EV multiple in order to later apply them on PMI's figures and to get a gasp of how PMI would be valued accordingly. Although, we decided to not consider the TV/Book multiple as PMI's equity book value is currently negative and as such would not provide us with a valid valuation. This resulted in a total of three valuation multiples, namely EV/Sales, EV/EBTIDA and EV/EBIT, for seven companies which we then took to compute different quartiles and the average which we applied on PMI's sales, EBITDA and EBIT. After applying the multiples, we lastly had to deploy the equity bridge such that we arrive at the searched Equity Value of PMI. With this, the valuation ranges from $115,454 millions to $126,543 millions when only considering median multiples.

Relative Valuation – Trading Multiples

To both validate and complete our results, we have therefore also evaluated PMI against its peers. The notion behind this valuation approach is that companies operating in the same sector which show similarities in terms of size and portfolio should also be comparable in terms of valuation. As such, we considered BAT, IB, Altria and ITC, although leaving out JTI and KT&G mainly due to their size as well as their concentrated geographic exposure. Although Altria also showcases intense market concentration, its portfolio resembles very much the one of PMI.

Figure 54: Calculated Trading Multiples for Peers as of EOY 2022
Source: Own Analysis

In a next step we gather financial data for the peer companies, e.g., Market Cap, Net Income, Book Value, Enterprise Value as well as Sales, EBITDA and EBIT in order to compute different multiples based on these. However, we did not consider BV-multiples as PMI displays a negative book value which in fact would not make sense to apply then. Consequently, we are evaluating four different trading multiples, namely Price/Earnings, EV/Sales, EV/EBITDA and EV/EBIT.

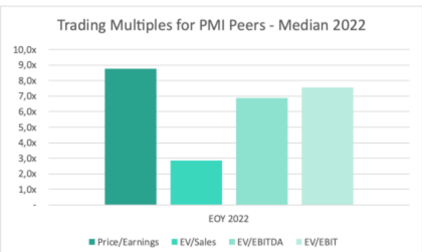

Figure 55: Calculated Median Trading Multiples of Peers as of EOY 2022
Source: Own Analysis

It must be stated that changes in the capital structure typically have an impact on P/E ratios, however adjusting P/E multiples for differences in leverage reduces accuracy. Therefore, the proposal to adjust for variations in leverage between comparable enterprises is not supported by these data. On either side, because enterprise value includes both debt and equity, changes to the capital structure have no appreciable effect on the EV/EBITDA multiple. Finally, applying these multiples on PMI's figures as well as further applying the equity bridge in the amount of $39,929 million on the EV-multiples, we observe a wide scale of potential prices ranging from $56,217 million to $84,437 million. Although comparing it to the current market cap of around $160 billion, we find this to valuation method to significant underestimate the true value of PMI. An important reason for the relatively high market valuation of PMI can be associated to the positive outlook regarding RRPs and the recent acquisition of SWM. In fact, it

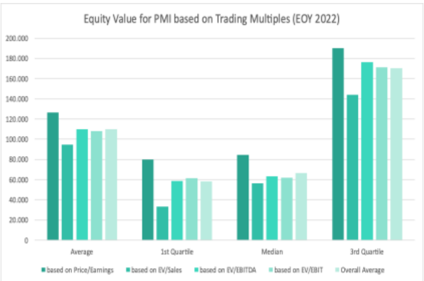

Figure 56: Application of Calculated Trading Multiples on PMI as of EOY 2022
Source: Own Analysis

would be challenging to factor in the anticipated long-term margin improvement of PMI's transition into a valuation based on multiples because analysts who use P/E multiples or EV/EBITDA multiples often do not consider subsequent years.

Recommendation

Concluding our in-depth analysis of PMI, we come to the recommendation that investors should buy the stock as we expect it to generate a total return of above 10%. Our final price target is derived 90% from the expected share price of our DCF analysis and 10% from the average of our comparable transaction multiples.

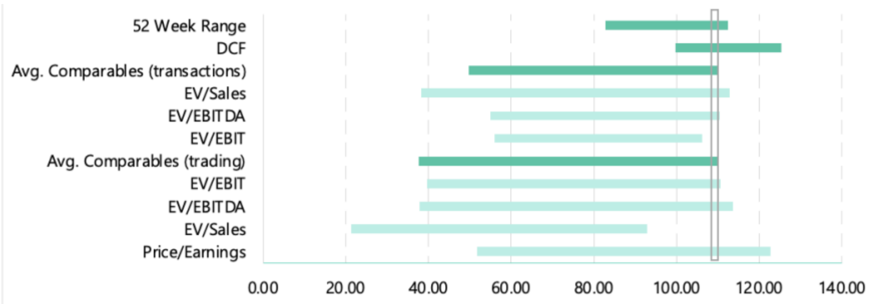

Figure 57: Football Field, Share Price in USD
Source: Analysts

We arrived at this split after careful consideration; the DCF is more comprehensive and looks to the future, but it is subject on a number of assumptions. We did not include the trading multiples as they are not expressive for PMI as they do not factor in the predicted long-term margin gains of the company's new program and business plan improvements to the same extent. Considering an investment as of 01.12.2022 at an initial share price of $102.46, this would yield a total expected return - including a dividend payment of $5.36 – of 10.79% arriving at a target price of $108.16.

The tobacco industry is facing its greatest disruption of this decade and we feel that PMI has responded well by investing heavily in heated tobacco. The company has staked a significant amount of money on HTUs, investing almost $8 billion in new product categories and $18 billion in acquisitions as such playing a pioneering role in bringing the category to market. PMI's investment gives them early category leadership and positions the company for long-term success. PMI has demonstrated its ability to adapt to changing market conditions through acquisitions and organic growth. The key acquisition of SWM is further proof of Philip Morris recognizing their need to transform not only product wise but also towards a B2C model with more customer touchpoints, direct customer contact and increased brand loyalty through a wide portfolio mix tying the customers closer to its brand.

Appendix

Income Statement

CONSOLIDATED INCOME STATEMENT																		Extended Forecasting Period				
in $ millions	2015A	2016A	2017A	2018A	2019A	2020A	2021A	2022E	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F
CORE OPERATION																						
Core Net Revenues			**28,748**	**29,625**	**29,805**	**28,694**	**31,304**	**33,672**	**32,072**	**32,777**	**33,298**	**33,816**	**34,300**	**34,753**	**35,183**	**35,595**	**35,997**	**36,391**	**36,799**	**37,221**	**37,658**	**38,108**
Revenues by Combustibles			25,108	25,529	24,218	21,867	22,188	21,909	19,647	19,039	18,400	17,788	16,876	15,982	15,096	14,210	13,317	12,408	11,476	10,516	9,522	8,493
Revenues by Reduced-Risk-Products			3,640	4,096	5,587	6,827	9,116	9,305	9,686	10,798	11,797	12,757	13,973	15,147	16,300	17,447	18,604	19,784	20,998	22,251	23,549	24,889
Revenues by SWM (Snus, Cigars, Lights)			/	/	/	/	/	2,457	2,739	2,939	3,101	3,271	3,451	3,624	3,787	3,938	4,076	4,198	4,324	4,454	4,588	4,725
Cost of Goods Sold			(9,645)	(9,851)	(9,615)	(8,661)	(9,128)	(10,012)	(9,344)	(9,449)	(9,550)	(9,662)	(9,729)	(9,797)	(9,864)	(9,930)	(9,995)	(10,058)	(10,125)	(10,196)	(10,272)	(10,351)
Gross Profit			**19,103**	**19,774**	**20,190**	**20,033**	**22,176**	**23,659**	**22,728**	**23,328**	**23,747**	**24,154**	**24,571**	**24,956**	**25,319**	**25,665**	**26,002**	**26,333**	**26,674**	**27,025**	**27,387**	**27,756**
Gross Profit Margin			66%	67%	68%	70%	71%	70%	71%	71%	71%	71%	72%	72%	72%	72%	72%	72%	72%	73%	73%	73%
Operating Expenses			**(7,522)**	**(8,397)**	**(9,659)**	**(8,365)**	**(9,302)**	**(10,216)**	**(9,510)**	**(9,780)**	**(10,089)**	**(10,205)**	**(10,233)**	**(10,271)**	**(10,369)**	**(10,490)**	**(10,607)**	**(10,721)**	**(10,839)**	**(10,962)**	**(11,088)**	**(11,218)**
Marketing, Adminsitration & Research			(6,647)	(7,408)	(8,695)	(7,384)	(8,304)	(8,654)	(8,198)	(8,510)	(8,779)	(8,913)	(9,038)	(9,154)	(9,265)	(9,371)	(9,475)	(9,577)	(9,682)	(9,792)	(9,905)	(10,021)
Depreciation & Amortization			(875)	(989)	(964)	(981)	(998)	(1,563)	(1,312)	(1,269)	(1,310)	(1,292)	(1,195)	(1,117)	(1,104)	(1,119)	(1,132)	(1,145)	(1,157)	(1,170)	(1,183)	(1,197)
Operating Income			**11,581**	**11,377**	**10,531**	**11,668**	**12,874**	**13,443**	**13,219**	**13,548**	**13,658**	**13,949**	**14,338**	**14,685**	**14,949**	**15,175**	**15,395**	**15,612**	**15,834**	**16,064**	**16,299**	**16,538**
Operating Income Margin			40%	38%	35%	41%	41%	40%	41%	41%	41%	41%	42%	42%	42%	43%	43%	43%	43%	43%	43%	43%
Taxes			(2,761)	(2,421)	(2,478)	(2,480)	(2,704)	(2,819)	(2,771)	(2,840)	(2,863)	(2,924)	(3,005)	(3,078)	(3,133)	(3,180)	(3,226)	(3,272)	(3,318)	(3,366)	(3,415)	(3,465)
Core Result After Tax			**8,820**	**8,956**	**8,053**	**9,188**	**10,170**	**10,624**	**10,447**	**10,708**	**10,795**	**11,025**	**11,333**	**11,607**	**11,816**	**11,995**	**12,169**	**12,340**	**12,516**	**12,698**	**12,884**	**13,073**
NON-CORE OPERATION																						
Revenues by Wellness and Healthcare			0	0	0	0	101	265	288	305	320	335	350	366	383	401	419	439	459	480	502	525
Pension and other employee benefit costs			(78)	(41)	(89)	(97)	(115)	(84)	(97)	(125)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)
Equity investments and securities income/loss			(59)	(60)	(149)	(16)	(149)	(150)	(181)	(211)	(242)	(273)	(304)	(335)	(366)	(397)	(428)	(459)	(490)	(521)	(551)	(582)
Share of net profit/loss in associated companies and joint venture			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxes			(1,865)	(163)	65	(27)	(99)	(38)	(40)	(38)	(54)	(57)	(60)	(63)	(67)	(71)	(75)	(79)	(83)	(87)	(92)	(97)
Non-Core Result After Tax			**(2,002)**	**(264)**	**(173)**	**(140)**	**(262)**	**(6)**	**(30)**	**(69)**	**(39)**	**(59)**	**(77)**	**(95)**	**(113)**	**(130)**	**(146)**	**(162)**	**(177)**	**(191)**	**(204)**	**(217)**
FINANCIAL OPERATION																						
Interest expenses, Net			(914)	(665)	(570)	(618)	(628)	(1,304)	(1,344)	(1,386)	(1,378)	(1,562)	(1,574)	(1,587)	(1,610)	(1,738)	(1,852)	(1,856)	(1,885)	(1,890)	(1,894)	(1,958)
Taxes			320	140	120	130	132	274	282	291	289	328	330	333	338	365	389	389	396	397	397	411
Financial Result After Tax			**(594)**	**(525)**	**(450)**	**(488)**	**(496)**	**(1,030)**	**(1,062)**	**(1,095)**	**(1,089)**	**(1,234)**	**(1,244)**	**(1,254)**	**(1,272)**	**(1,373)**	**(1,463)**	**(1,466)**	**(1,490)**	**(1,493)**	**(1,497)**	**(1,547)**
OTHER COMPREHENSIVE INCOME			1,024	(1,647)	791	(1,780)	1,525	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL COMPREHENSIVE INCOME			7,247	6,519	8,221	6,780	10,937	9,620	9,356	9,543	9,667	9,732	10,011	10,258	10,431	10,492	10,560	10,712	10,850	11,013	11,183	11,309
MINORITY INTERESTS			306	304	586	574	522	479	471	484	494	501	518	533	545	552	559	570	580	592	603	613
NET INCOME ATTRIBUTABLE TO PMI			6,941	6,215	7,635	6,206	10,415	9,141	8,885	9,059	9,173	9,232	9,494	9,724	9,886	9,940	10,001	10,142	10,270	10,422	10,579	10,696

Cash Flows

Cash Flow Statement																				
in $ millions	2017A	2018A	2019A	2020A	2021A	2022E	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F
CORE OPERATION																				
NOPLAT	8,820	8,956	8,053	9,188	10,170	10,624	10,447	10,708	10,795	11,025	11,333	11,607	11,816	11,995	12,169	12,340	12,516	12,698	12,884	13,073
Growth Rate		1.5%	-10.1%	14.1%	10.7%	4.5%	-1.7%	2.5%	0.8%	2.1%	2.8%	2.4%	1.8%	1.5%	1.5%	1.4%	1.4%	1.4%	1.5%	1.5%
Depreciation & Amortization	875	989	964	981	998	1,563	1,312	1,269	1,310	1,292	1,195	1,117	1,104	1,119	1,132	1,145	1,157	1,170	1,183	1,197
Δ PP&E		(7,201)	570	266	197	(390)	(40)	(107)	(75)	(113)	(229)	(320)	(345)	(342)	(339)	(336)	(339)	(341)	(344)	(346)
Net Capex	875	8,190	394	715	801	1,953	1,351	1,376	1,385	1,405	1,424	1,437	1,449	1,461	1,471	1,481	1,496	1,511	1,527	1,543
Δ NWC		8,017	296	(1,611)	(342)	798	(813)	(306)	(131)	(57)	(144)	(13)	(13)	(36)	(11)	38	40	42	45	47
Δ Other non current assets		9,467	(1,493)	(1)	1,515	15,211	(146)	61	45	45	42	39	37	35	35	34	35	37	38	39
Δ Other non current Liabilities		603	145	18	53	0	(38)	0	0	0	0	0	0	0	0	0	0	0	0	0
Core Free Cash Flow	**8,820**	**(15,126)**	**9,965**	**11,084**	**9,247**	**(5,776)**	**11,329**	**10,845**	**10,805**	**10,924**	**11,206**	**11,261**	**11,447**	**11,654**	**11,806**	**11,932**	**12,102**	**12,278**	**12,457**	**12,641**
NON-CORE OPERATION																				
Non-Core Result	(2,002)	(264)	(173)	(140)	(262)	(6)	(30)	(69)	(39)	(59)	(77)	(95)	(113)	(130)	(146)	(162)	(177)	(191)	(204)	(217)
Δ Non-operating assets		4,529	3,369	1,871	(1,565)	885	940	1,104	1,154	1,046	1,097	1,095	1,093	1,149	1,098	1,095	1,095	1,097	1,098	1,098
Δ Non-operating liabilities		13,295	1,294	968	(2,197)	59	(546)	194	151	151	142	135	131	127	126	125	129	133	137	140
Non Core Free Cash Flow	**(2,002)**	**8,502**	**(2,248)**	**(1,043)**	**(894)**	**(832)**	**(1,516)**	**(979)**	**(1,042)**	**(954)**	**(1,032)**	**(1,054)**	**(1,075)**	**(1,152)**	**(1,118)**	**(1,132)**	**(1,143)**	**(1,155)**	**(1,165)**	**(1,175)**
UNLEVERED FREE CASH FLOW	6,817	(6,624)	7,717	10,042	8,353	(6,608)	9,814	9,866	9,763	9,970	10,175	10,206	10,372	10,502	10,688	10,800	10,959	11,123	11,292	11,466
FINANCIAL OPERATION																				
Financing Result	(594)	(525)	(450)	(488)	(496)	(1,030)	(1,062)	(1,095)	(1,089)	(1,234)	(1,244)	(1,254)	(1,272)	(1,373)	(1,463)	(1,466)	(1,490)	(1,493)	(1,497)	(1,547)
Δ Net Debt		26,055	(977)	39	(868)	12,627	(952)	(315)	(215)	(282)	(30)	127	56	(33)	(63)	44	6	7	(13)	(75)
Δ Equity		(10,739)	1,140	(1,032)	2,423	4,598	1,556	1,087	1,207	1,279	1,111	1,179	1,276	1,396	1,398	1,335	1,374	1,377	1,400	1,465
Comprehensive Income	6,223	8,166	7,430	8,560	9,412	9,587	9,356	9,543	9,667	9,732	10,011	10,258	10,431	10,492	10,560	10,712	10,850	11,013	11,183	11,309
Financing Cash Flow	**(6,817)**	**6,624**	**(7,717)**	**(10,042)**	**(8,353)**	**6,608**	**(9,814)**	**(9,866)**	**(9,763)**	**(9,970)**	**(10,175)**	**(10,206)**	**(10,372)**	**(10,502)**	**(10,688)**	**(10,800)**	**(10,959)**	**(11,123)**	**(11,292)**	**(11,466)**
CHECK	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE

Balance Sheet

CONSOLIDATED BALANCE SHEET											
in $ millions	2015A	2016A	2017A	2018A	2019A	2020A	2021A	2022E	2023F	2024F	2025F
CORE INVESTED CAPITAL				24,082	22,170	20,274	21,197	37,597	36,715	36,577	36,567
TOTAL ASSETS				**29,311**	**27,814**	**27,695**	**28,438**	**45,418**	**44,129**	**44,141**	**44,244**
Current Assets				**12,643**	**13,209**	**13,357**	**12,782**	**14,160**	**12,978**	**12,822**	**12,804**
Operating Cash				889	894	861	939	1,010	962	983	999
Inventories				8,804	9,235	9,591	8,720	9,438	8,557	8,302	8,294
Trade Receivables				2,950	3,080	2,905	3,123	3,675	3,418	3,493	3,465
Prepaid expenses and accrued income				0	0	0	0	19	21	22	24
Income tax receivables				0	0	0	0	18	20	21	23
Non-Current Assets				**16,668**	**14,605**	**14,338**	**15,656**	**31,258**	**31,151**	**31,319**	**31,440**
Property, Plant & Equipment				7,201	6,631	6,365	6,168	6,558	6,598	6,705	6,781
Goodwill				7,189	5,858	5,964	6,680	21,704	21,704	21,704	21,704
Other Intangible Assets				2,278	2,113	2,019	2,818	2,961	2,808	2,866	2,908
Net Operating Assets				0	3	(10)	(10)	(10)	(9)	(10)	(10)
Right-of-use assets				0	0	0	0	45	50	54	57
TOTAL LIABILITIES				**5,229**	**5,644**	**7,421**	**7,241**	**7,821**	**7,414**	**7,564**	**7,677**
Current Liabilities				**4,626**	**4,896**	**6,655**	**6,422**	**7,002**	**6,632**	**6,783**	**6,896**
Accounts Payable				2,068	2,299	2,780	3,331	3,435	3,184	3,251	3,297
Accrued Liabilities				732	666	782	811	784	736	761	784
Income Taxes				576	796	1,091	1,025	1,055	997	1,016	1,030
Employment Costs				764	1,011	1,155	1,113	1,113	1,062	1,062	1,062
Net Core Derivatives				419	(16)	710	29	32	30	30	31
Product Warrants				67	140	137	113	114	102	101	101
Current provisions				0	0	0	0	59	65	70	74
Accrued expenses and deferred income				0	0	0	0	148	166	178	187
Other current liabilities				0	0	0	0	262	292	313	330
Non-Current Liabilities				**603**	**748**	**766**	**819**	**819**	**781**	**781**	**781**
Employment Costs				603	748	766	819	819	781	781	781
NON-CORE INVESTED CAPITAL				(8,766)	(6,691)	(5,788)	(5,156)	(4,330)	(2,844)	(1,934)	(932)
TOTAL ASSETS				**4,529**	**7,898**	**9,769**	**8,204**	**9,089**	**10,029**	**11,133**	**12,287**
Current Assets				**974**	**969**	**1,540**	**1,168**	**1,198**	**1,109**	**1,121**	**1,189**
Other Receivables				614	637	856	817	822	756	761	825
Other Current Assets				360	332	684	351	376	353	359	364
Non-Current Assets				**3,555**	**6,929**	**8,229**	**7,036**	**7,890**	**8,920**	**10,012**	**11,098**
Deferred Income Taxes				977	1,153	1,410	895	980	936	958	974
Equity Investments				1,269	4,635	4,798	4,463	5,158	6,223	7,288	8,352
Other Non-Current Receivables				0	0	0	0	74	83	89	94
Other Non-Current Assets				1,309	1,141	2,021	1,678	1,678	1,678	1,678	1,678
TOTAL LIABILITIES				**13,295**	**14,589**	**15,557**	**13,360**	**13,419**	**12,873**	**13,067**	**13,218**
Current Liabilities				**8,069**	**9,259**	**9,848**	**9,543**	**9,107**	**8,547**	**8,689**	**8,800**
Accrued Liabilities				6,294	7,383	7,750	7,547	7,098	6,509	6,621	6,700
Net Non-Core Derivatives				(8)	45	218	38	38	38	38	38
Dividends Payable				1,783	1,831	1,880	1,958	1,971	2,001	2,031	2,061
Non-Current Liabilities				**5,226**	**5,330**	**5,709**	**3,817**	**4,312**	**4,326**	**4,378**	**4,419**
Net Pension and Postretirement Plans				2,473	2,874	3,695	1,859	1,859	1,859	1,859	1,859
Deferred Income Taxes				898	908	684	726	916	895	922	943
Income Taxes & Other Liabilities				1,855	1,548	1,330	1,232	1,232	1,232	1,232	1,232
Other Non-Current Liabilities				0	0	0	0	23	26	28	29
Provision for pensions and similar obligations				0	0	0	0	218	243	261	276
Non-current provisions				0	0	0	0	64	71	76	80
NET DEBT				(26,055)	(25,078)	(25,117)	(24,249)	(36,876)	(35,925)	(35,610)	(35,395)
TOTAL ASSETS				**5,704**	**5,967**	**6,419**	**3,557**	**4,712**	**4,517**	**4,620**	**4,697**
Excess Cash				5,704	5,967	6,419	3,557	4,636	4,412	4,508	4,578
Foreign exchange derivatives to hedge bond loans				0	0	0	0	77	105	113	119
TOTAL LIABILITIES				**31,759**	**31,045**	**31,536**	**27,806**	**41,588**	**40,441**	**40,230**	**40,092**
Current Liabilities				**4,784**	**4,389**	**3,368**	**3,023**	**5,562**	**5,266**	**5,370**	**5,446**
Current Debt				4,784	4,389	3,368	3,023	5,549	5,250	5,353	5,429
Current Lease Liabilities				0	0	0	0	14	15	17	17
Non-Current Liabilities				**26,975**	**26,656**	**28,168**	**24,783**	**36,026**	**35,176**	**34,860**	**34,646**
Long Term Debt				26,975	26,656	28,168	24,783	39,018	39,576	39,727	39,848
Debt Repayments				0	0	0	0	(3,018)	(4,435)	(4,904)	(5,242)
Non-current lease liabilities				0	0	0	0	26	35	38	40
EQUITY				(10,739)	(9,599)	(10,631)	(8,208)	(3,610)	(2,054)	(967)	240
TOTAL EQUITY				**(10,739)**	**(9,599)**	**(10,631)**	**(8,208)**	**(3,610)**	**(2,054)**	**(967)**	**240**
Common Stock, no par value				0	0	0	0	0	0	0	0
Additional Paid-in Capital				1,939	2,019	2,105	2,225	2,225	2,225	2,225	2,225
Retained Earnings				31,014	30,987	31,638	33,082	36,526	38,069	39,196	40,394
Noncontrolling interests				1,720	1,978	1,936	1,898	3,052	3,065	3,025	3,034
Less: Treasury Stock (cost of repurchased stock)				(35,301)	(35,220)	(35,129)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)
Less: Accumulated other comprehensive loss				(10,111)	(9,363)	(11,181)	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)

CONSOLIDATED BALANCE SHEET							Extended Forecasting Period				
in $ millions	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F
CORE INVESTED CAPITAL	36,668	36,795	37,141	37,510	37,851	38,214	38,622	39,036	39,456	39,883	40,315
TOTAL ASSETS	**44,474**	**44,686**	**45,093**	**45,520**	**45,917**	**46,334**	**46,794**	**47,263**	**47,741**	**48,228**	**48,723**
Current Assets	**12,876**	**12,818**	**12,865**	**12,910**	**12,930**	**12,973**	**13,063**	**13,158**	**13,258**	**13,363**	**13,473**
Operating Cash	1,014	1,029	1,043	1,055	1,068	1,080	1,092	1,104	1,117	1,130	1,143
Inventories	8,294	8,253	8,237	8,223	8,186	8,174	8,210	8,250	8,292	8,338	8,386
Trade Receivables	3,519	3,485	3,531	3,575	3,617	3,658	3,698	3,740	3,783	3,828	3,873
Prepaid expenses and accrued income	25	26	28	29	30	31	32	33	34	35	36
Income tax receivables	24	25	26	28	29	30	30	31	32	33	34
Non-Current Assets	**31,598**	**31,868**	**32,228**	**32,610**	**32,987**	**33,361**	**33,731**	**34,105**	**34,483**	**34,864**	**35,250**
Property, Plant & Equipment	6,894	7,123	7,443	7,788	8,130	8,469	8,806	9,144	9,485	9,829	10,175
Goodwill	21,704	21,704	21,704	21,704	21,704	21,704	21,704	21,704	21,704	21,704	21,704
Other Intangible Assets	2,950	2,989	3,024	3,058	3,091	3,123	3,155	3,188	3,223	3,258	3,295
Net Operating Assets	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(11)	(11)
Right-of-use assets	60	63	66	69	72	75	77	79	82	84	87
TOTAL LIABILITIES	**7,806**	**7,892**	**7,952**	**8,010**	**8,065**	**8,120**	**8,172**	**8,227**	**8,285**	**8,345**	**8,408**
Current Liabilities	**7,024**	**7,110**	**7,170**	**7,228**	**7,284**	**7,338**	**7,391**	**7,446**	**7,503**	**7,564**	**7,627**
Accounts Payable	3,371	3,403	3,413	3,423	3,434	3,446	3,458	3,472	3,487	3,503	3,521
Accrued Liabilities	793	801	808	815	822	829	836	843	851	858	866
Income Taxes	1,044	1,056	1,067	1,078	1,089	1,099	1,110	1,121	1,132	1,144	1,156
Employment Costs	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062	1,062
Net Core Derivatives	31	31	31	32	32	32	33	33	33	33	34
Product Warrants	100	99	97	96	94	93	91	90	89	88	86
Current provisions	78	82	87	90	94	97	100	103	106	110	113
Accrued expenses and deferred income	198	209	219	229	238	246	254	261	269	277	286
Other current liabilities	349	368	386	403	420	434	447	461	475	489	503
Non-Current Liabilities	**781**	**781**	**781**	**781**	**781**	**781**	**781**	**781**	**781**	**781**	**781**
Employment Costs	781	781	781	781	781	781	781	781	781	781	781
NON-CORE INVESTED CAPITAL	(36)	918	1,877	2,840	3,861	4,833	5,804	6,770	7,734	8,695	9,653
TOTAL ASSETS	**13,333**	**14,430**	**15,524**	**16,617**	**17,767**	**18,864**	**19,960**	**21,055**	**22,152**	**23,250**	**24,348**
Current Assets	**1,149**	**1,161**	**1,171**	**1,181**	**1,249**	**1,265**	**1,280**	**1,294**	**1,309**	**1,325**	**1,341**
Other Receivables	782	789	797	803	867	881	892	903	915	927	939
Other Current Assets	368	371	375	378	381	384	388	391	395	398	402
Non-Current Assets	**12,184**	**13,269**	**14,353**	**15,436**	**16,518**	**17,599**	**18,680**	**19,761**	**20,842**	**21,924**	**23,007**
Deferred Income Taxes	990	1,005	1,019	1,032	1,045	1,058	1,070	1,082	1,095	1,109	1,122
Equity Investments	9,417	10,482	11,546	12,611	13,676	14,740	15,805	16,870	17,934	18,999	20,064
Other Non-Current Receivables	99	105	110	115	119	123	127	131	135	139	143
Other Non-Current Assets	1,678	1,678	1,678	1,678	1,678	1,678	1,678	1,678	1,678	1,678	1,678
TOTAL LIABILITIES	**13,369**	**13,512**	**13,647**	**13,778**	**13,905**	**14,031**	**14,156**	**14,285**	**14,418**	**14,555**	**14,695**
Current Liabilities	**8,908**	**9,007**	**9,101**	**9,192**	**9,283**	**9,375**	**9,469**	**9,566**	**9,665**	**9,768**	**9,873**
Accrued Liabilities	6,778	6,845	6,907	6,967	7,024	7,083	7,143	7,206	7,271	7,338	7,407
Net Non-Core Derivatives	38	38	38	38	38	38	38	38	38	38	38
Dividends Payable	2,092	2,123	2,155	2,188	2,220	2,254	2,287	2,322	2,357	2,392	2,428
Non-Current Liabilities	**4,462**	**4,505**	**4,546**	**4,586**	**4,622**	**4,656**	**4,687**	**4,719**	**4,753**	**4,787**	**4,822**
Net Pension and Postretirement Plans	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859	1,859
Deferred Income Taxes	964	985	1,005	1,024	1,042	1,059	1,075	1,092	1,108	1,126	1,144
Income Taxes & Other Liabilities	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232
Other Non-Current Liabilities	31	32	34	35	37	38	39	41	42	43	44
Provision for pensions and similar obligations	291	307	322	337	350	362	373	384	396	408	420
Non-current provisions	85	89	94	98	102	106	109	112	115	119	123
NET DEBT	(35,113)	(35,083)	(35,210)	(35,266)	(35,232)	(35,169)	(35,213)	(35,220)	(35,227)	(35,214)	(35,139)
TOTAL ASSETS	**4,774**	**4,846**	**4,914**	**4,978**	**5,040**	**5,100**	**5,158**	**5,218**	**5,280**	**5,345**	**5,411**
Excess Cash	4,649	4,714	4,775	4,833	4,889	4,944	4,997	5,052	5,110	5,169	5,230
Foreign exchange derivatives to hedge bond loans	125	132	139	145	151	156	161	166	171	176	181
TOTAL LIABILITIES	**39,887**	**39,929**	**40,124**	**40,244**	**40,272**	**40,269**	**40,371**	**40,437**	**40,507**	**40,558**	**40,550**
Current Liabilities	**5,521**	**5,589**	**5,653**	**5,713**	**5,771**	**5,829**	**5,886**	**5,946**	**6,007**	**6,071**	**6,137**
Current Debt	5,503	5,570	5,632	5,692	5,749	5,806	5,862	5,921	5,982	6,046	6,110
Current Lease Liabilities	18	19	20	21	22	23	24	24	25	26	27
Non-Current Liabilities	**34,366**	**34,340**	**34,471**	**34,531**	**34,501**	**34,440**	**34,485**	**34,492**	**34,499**	**34,487**	**34,413**
Long Term Debt	39,977	40,112	40,242	40,365	40,479	40,583	40,675	40,770	40,868	40,968	41,072
Debt Repayments	(5,653)	(5,816)	(5,818)	(5,883)	(6,029)	(6,195)	(6,244)	(6,334)	(6,425)	(6,540)	(6,720)
Non-current lease liabilities	42	44	47	49	51	52	54	56	57	59	61
EQUITY	1,519	2,630	3,808	5,084	6,480	7,878	9,213	10,587	11,963	13,364	14,829
TOTAL EQUITY	**1,519**	**2,630**	**3,808**	**5,084**	**6,480**	**7,878**	**9,213**	**10,587**	**11,963**	**13,364**	**14,829**
Common Stock, no par value	0	0	0	0	0	0	0	0	0	0	0
Additional Paid-in Capital	2,225	2,225	2,225	2,225	2,225	2,225	2,225	2,225	2,225	2,225	2,225
Retained Earnings	41,664	42,765	43,933	45,197	46,582	47,967	49,289	50,650	52,013	53,399	54,850
Noncontrolling interests	3,043	3,053	3,064	3,075	3,087	3,099	3,112	3,125	3,139	3,153	3,167
Less: Treasury Stock (cost of repurchased stock)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)	(35,836)
Less: Accumulated other comprehensive loss	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)	(9,577)

Sensitivity Analysis

Influence of Cost of Debt and Cost of Equity on WACC

		Cost of Equity							
		6.15%	6.35%	6.55%	6.75%	6.95%	7.15%	7.35%	7.55%	7.75%
Cost of Debt	3.01%	5.56%	5.72%	5.88%	6.05%	6.21%	6.37%	6.53%	6.69%	6.86%
	3.21%	5.60%	5.76%	5.92%	6.08%	6.25%	6.41%	6.57%	6.73%	6.89%
	3.41%	5.63%	5.80%	5.96%	6.12%	6.28%	6.45%	6.61%	6.77%	6.93%
	3.61%	5.67%	5.83%	6.00%	6.16%	6.32%	6.48%	6.65%	6.81%	6.97%
	3.81%	5.71%	5.87%	6.03%	6.20%	6.36%	6.52%	6.68%	6.85%	7.01%
	4.01%	5.75%	5.91%	6.07%	6.23%	6.40%	6.56%	6.72%	6.88%	7.05%
	4.21%	5.78%	5.95%	6.11%	6.27%	6.43%	6.60%	6.76%	6.92%	7.08%
	4.41%	5.82%	5.98%	6.15%	6.31%	6.47%	6.63%	6.80%	6.96%	7.12%
	4.61%	5.86%	6.02%	6.18%	6.35%	6.51%	6.67%	6.83%	7.00%	7.16%

Influence of Beta and Risk-Free Rate on WACC

		Beta							
		0.57	0.62	0.67	0.72	0.77	0.82	0.87	0.92	0.97
Risk-Free Rate	3.28%	5.29%	5.46%	5.63%	5.80%	5.98%	6.15%	6.32%	6.49%	6.66%
	3.38%	5.38%	5.56%	5.73%	5.90%	6.07%	6.24%	6.42%	6.59%	6.76%
	3.48%	5.48%	5.65%	5.82%	6.00%	6.17%	6.34%	6.51%	6.68%	6.86%
	3.58%	5.58%	5.75%	5.92%	6.09%	6.26%	6.44%	6.61%	6.78%	6.95%
	3.68%	5.67%	5.84%	6.02%	6.19%	6.36%	6.53%	6.70%	6.88%	7.05%
	3.78%	5.77%	5.94%	6.11%	6.28%	6.46%	6.63%	6.80%	6.97%	7.14%
	3.88%	5.86%	6.04%	6.21%	6.38%	6.55%	6.72%	6.90%	7.07%	7.24%
	3.98%	5.96%	6.13%	6.30%	6.48%	6.65%	6.82%	6.99%	7.16%	7.34%
	4.08%	6.06%	6.23%	6.40%	6.57%	6.74%	6.92%	7.09%	7.26%	7.43%

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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.

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